Revised Preliminary Edition

Learning Critical Thinking Skills Beyond 21st Century For Multidisciplinary Courses

A Human Right Perspective in Education

Zehlia Babaci-Wilhite

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Zehlia Babaci-Wilhite
University of California – Berkeley and San Jose State University

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Chapter 1: Integrating Language and Culture As Human Rights in STEAM (Science, Technology, Engineering, Arts and Mathematics)

Zehlia Babaci-Wilhite, University of California Berkeley and San Jose State University, USA

In this chapter I will examine how the introduction of the Arts into the teaching of Science, Technology, Engineering and Mathematics (STEM) subjects represents a new model of education that improves science learning and satisfies human rights criteria for education based on the language of instruction. I will argue that the incorporation of the Arts into an open and investigate process, based on the "inquiry-based approach", using local languages and cultural references will improve learning and strengthen human rights. This model is particularly important in educational systems which today use dominant languages and culture in their instruction, disregarding local languages and local knowledge. In contrast to conventional approaches to education, I argue that teaching is more effective when it is based in local languages and culture which includes the Arts. Therefore I introduce a pedagogical model that expands the traditional STEM method to include language as culture including the Arts based on UNESCO's convention on the Protection and Promotion of the Diversity of Cultural Expressions emphasizes the importance of linguistic diversity as part of cultural diversity (2005).

I will conclude with a discussion of the importance of national and international efforts aimed at promoting collaborative learning as well as a pedagogical model that expands the traditional STEM to Science, Technology, Engineering, Arts and Mathematics (STEAM) and contributes to Linguistic Rights in Education. This would include the introduction of digital narratives into the classroom and a virtual and international collaboration across the Language and Art-Science divide. These narratives are grounded in both local and global language and culture which include a diversity of knowledge within the Linguistic Rights framework in Education. This model of teaching gives Human Rights its rightful place in the model of education.

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Carol Anne Spreen and Chrissie Monaghan, New York University, USA

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Elizaveta Bagrintseva, University of Oslo, Norway

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interpret the existing rights, who were the right possessors, violators or rights defenders, and what kind of rights were to be protected at a certain time. The overview is based on the literature existing on the philosophy and history of human rights, as well as the primary sources, such as philosophical tractates and legal regulations.

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Jabari Mahiri, University of California, Berkeley, USA

This chapter explores how leadership to ameliorate inequitable practices and structures within academic institutions can be realized by enacting powerful discourses to challenge and change dominant ones. The author uses a personal leadership narrative that covered 25 years of his work in a higher education institution to illustrate ways that conceptual and behavioral change was able to be stimulated to increase the organization's diversity and inclusion of underrepresented faculty and students. It reveals the importance of struggling for leadership in these institutions despite and because of their historical roles in perpetuating inequities. Key words: Leadership, Equity, Diversity, Discourse.

Chapter 5: On the Need for Cross-Cultural and Multi-Disciplinary Critical Thinking

Anand Vaidya, San Jose State University, USA

Contemporary critical thinking education in the US and the UK, and those countries that follow their dominant model, is focused on an insular and close-minded view of critical thinking. The standard model does not provide students with an introduction to critical thinking through either non-western sources or developments from the mind sciences. In this paper I present an argument for restructuring critical thinking education so as to be inclusive of non-western ideas about critical thinking as well as research on implicit and cognitive bias from the sciences of the mind, such as behavioral economics, social psychology, and cognitive science. The overall aim of this work is to provide a corrective for critical thinking education based on the epistemic injustice of colonialism on rhetoric of rationality.

Chapter 6: Field Theory: Critical View to Analyze Social World

Mario Sacomano Neto, Federal University of São Carlos, State of São Paulo, Brazil

This chapter explores the field theory as an alternative theoretical background to analyse the social world critically, especially institutions, economy, and organizations. Complementary to the macro and micro level of analysis, field theory offers a meso-level order because the field is delimited by the values and forms of capital that support disputes about orders, positions, and resources. Firstly, this chapter explains some similarities and differences about fields, from different perspectives: institutional theory (Dimaggio and Powell, 1983), reflexive sociology (Bourdieu, 1985) and economic sociology (Fligstein and Mcadam, 2012). Secondly, the chapter offers some deep explanations about the fields from Fligstein and McAdam (2012) perspective. In this sense the chapter explores the main concept of fields theory: 1) strategic action fields; 2) incumbents, challengers, and governance units; 3) social skills and the existential functions of the social; 4) the broad field environment; 5) exogenous shocks, mobilization and the onset of contention; 6) episodes of contention and 7) settlement. This level of analysis explores how actors create and reproduce stable words and sustain meso-level social orders. In this sense, all the discussion about field contributes to a reflexive and critical view about social life and its dynamics

Chapter 7: Critical Thinking and Thought Control

David A. Turner, Beijing Normal University, China

This chapter takes a look at critical thinking and the possible tools that can be used to improve it. It argues that "critical" does not always mean what it means in the phrase "critical thinking". We often think of a person who is being "critical" as being negative, finding holes in arguments, and opposing the statements or argument that they are faced with. In the phrase "critical thinking", the word "critical" means much more than that; it means seeing the positive side as well, and balancing the pros and cons. It might be better to talk about "evaluative thinking", or "appreciative thinking". But the best advice we have is that the best thinking is slow thinking, when you put off making any firm decisions until all of the evidence is in.

This chapter argues that good, critical thinking involves more than one way of looking at an issue. It involves taking a statement, an argument or a policy, and looking at all the positive things about it as well as all the negative things. It involves trying to think about the issue

differently, to gain some novel and creative insights into what it means. It involves recognising where our knowledge or relevant facts is deficient, and how we might go about finding out what we need to know to make a wise judgement. And it involves recognising our emotional responses and managing the extent to which we allow them to influence our final evaluation. Good critical thinking involves all those different aspects, and achieving a balance between them in arriving at our views. But a balance can only be achieved if we can recognise when we are taking each of those separate approaches, and what part each is playing in our thinking. So excellent critical thinking depends, above all, on our being able to recognise how we are thinking, from minute to minute.

This chapter uses one set of tools for thinking about critical thinking, based on Edward de Bono's *Six Thinking Hats*, to offer some tools and techniques that can help in bringing different ways of being critical into clear focus. With some practice, critical thinking can be improved, and become an automatic practice.

One of the advantages of employing such techniques is that they can help in the development of critical thought. But beyond that, once you have evaluated an idea, the critical thinker will be better able to defend her decision, because she has looked at the issue from all sides, and will know what kinds of arguments will be ranged against her. And this should lead to better social decisions, as well as better individual decisions.

Chapter 8: Experiential Knowledge and Social Learning to Make Energy Consumption Sustainable

Harold Wilhite, University of Oslo, Norway

If the global society is to avoid severe climate disruptions, there is an urgent need to reduce energy use and carbon dioxide emissions; however, the argument in this chapter is that energy and climate policies currently in place and the theories that inform them are not sufficiently robust to deliver significant reductions. One of the presumptions of current policy is that deductive arguments and motivational information directed at individuals on the benefits of reducing energy consumption and how to go about it will be sufficient to engender deep changes in societal energy use. In this chapter I argue that this implicit view of society consisting of the sum of atomized individuals who make decisions based on cognitive reflection is insufficient. This view ignores cultural learning and individual life experiences that form a powerful knowledge set about how to achieve energy-dependent practices such as thermal comfort, mobility and cleanliness. In order to make the significant changes in everyday practices this experiential knowledge will have to be acknowledged and addressed. I propose that social practice and social learning theory have potential to renew research agendas on energy sustainability because they allow for a deeper understanding of how experiential knowledge affects behavior and how social learning environments can be important to initiating and

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Ubiratan D'Ambrosio, University of São Paulo, Brazil

In this chapter I conceptualize culture, progress, conquest, colonialism and the dynamics of cultural encounters from an unbiased, open-minded, autonomous and critical point of view, not subordinated to historical, philosophical and methodological schools or lines. I recognize and give voice to individuals and to the invisible society, but not ignoring organized social groups, nationalities and ideologies, indeed, trying to understand their formation, emergence and consolidation. Historical, as well as philosophical and ideological remarks, are contextualized in time and space.

Based on these concepts, I give examples of how ways and means of understanding, explaining, dealing with cosmic, natural, environmental, socio-cultural and personal facts and phenomena evolved.

Chapter 10: The Synchronicity of Arts and Mathematics

Gregory Johnson, California College of Arts and Crafts, USA

This chapter is a discussion of the premise that there is a correlation between art and mathematics from an instructional as well as a practical aspect. The premise is supported by analysis of the mathematical framework of visual art and review of historical and contemporary empirical research into the linkage of disciplines. The chapter contains historical evidence and discussion of cultural bias as well as anecdotal observation of the author's artwork. The conclusion is that art can be used as a tool in understanding quadratics, abstract principles, and the relationship of geometry to real world potentialities. STEAM is a modern designation of the developing human educational models understanding its natural cultural significance through art can make it more accessible. Recognizing the legitimacy of art in an interdisciplinary setting is important in establishing an egalitarian connection to STEAM learning. Art is a means to making this connection and demystifying mathematics as separate from the mundane or as a product of the elite.

Chapter 11: Digital Storytelling for Academic Literacy: Culturally Responsive Multimodal Composition Course Design

Viet Vu, Yenda Prado, Soobin Yim and Phuong Ngoc Le, University of California, Irvine, USA

Successfully teaching writing to learners with diverse profiles in U.S. schools is one of our nation's greatest educational challenges (Murphey, 2014). The increasing role of digital media in schools *and* society adds to this challenge. On one hand, differences in access to and use of technology threaten to amplify existing social and educational gaps (Warschauer & Matuchniak, 2010). On the other hand, if used well, technology can potentially ameliorate achievement gaps (Zheng, Warschauer, & Farkas, 2013). Current approaches to use of technology with underserved students, which typically focus on remediation, have not delivered on their promise to address these gaps (Warschauer & Matuchniak, 2010). To overcome these challenges, we introduce a course design that uses multimodal composition and digital storytelling (DST) in a college writing course. We discuss how the integration of DST into a multimodal composition course functions as a culturally responsive pedagogical strategy servicing the academic literacy needs of diverse 21st century learners.

Chapter 12: Humanistic Literacy

Zina Besirevic, University of California Berkeley, USA

This chapter discusses the conceptual premise and the practical applications of "Humanistic Literacy." From a theoretical point of view, Humanistic Literacy focuses on developing critical analytical skills necessary for culturally sensitive and transnationally conscious learning and teaching. This model blends research informed theoretical perspectives of human rights, Human Development and Capabilities Approach, and cross-cultural, socio-moral development, in order to offer critical thinking tools, suited to the challenges of the 21st century multiculturalism. It relies on research from psychology, international relations, economics, anthropology, and philosophy. The chapter discusses how applying a lens of human rights, and Human Development Index to the analysis of a range of complex social justice issues, facilitates a deeper, more comprehensive understanding of our world, and develops an ability to think and work in a multidisciplinary way. The chapter also discusses how Humanistic Literacy develops, and why literacy grounded in the notions of human rights and human dignity is essential to multicultural education. From a practical point of view, the Humanistic Literacy model provides a range of tools and evidence-based research and teaching practices, rooted in critical pedagogy and developmental psychology, that enable students and educators to effectively and thoughtfully navigate across cultural, social and age boundaries. The model offers guidance on developing

human rights and dignity-based curricula and assessment tools, as well as designing research rooted in, or oriented to human rights.

Chapter 13: Integrative, Interdisciplinary Strategies to Enhance Global Literacies

Gerald W. Fry and Rosarin Apahun, University of Minnesota, USA, Udon Rajabhat University, Thailand

The initial part of the chapter presents the current context of globalization and accelerating intercultural interconnectivity. Professor Stanley Tambiah (2000) at Harvard argues that diaspora studies are among the most cutting edge in the social sciences. Sadly students around the world lack the global literacies to prepare themselves for this increasingly multicultural world. A new compelling insightful book by Paul Pillar (2016) highlights why those in the U.S. misunderstand the rest of the world. While the U.S. stands out in this regard, this lack of understanding of "the Other" is widespread and there clearly is a "crisis of representation", particularly as it relates to the West's understanding of the Islamic world (Edward Said, 2012; Tuhiwai Smith, 2012). Underlying this chapter are two key Thai language constructs. The first is the Thai word *sueksa* (to educate). Going back to its Sanskrit roots, it literally means to become capable (HRH Princess Maha Chakri Sirindhorn, 2018). This concept not only underlies this chapter but all the sessions of this book, in that young people need to acquire the many key literacies emphasized in this volume to become capable and have the critical skills needed for the 21st century. The Princess (2017) also emphasizes the importance of visuals in promoting global literacy. A second Thai concept, *khit pen* (to be able to think) was developed by the late Dr. Kowit Vorapipatana, the "father of Thai adult and non-formal education" and the only Thai in the Alternative Education Hall of Fame. As he defined and elaborated *khit pen*, it means to be able to think critically, problem solve, and have wisdom in applying knowledge creatively for change (Callaway, 1976). This theme also relates directly to the overall thrust of this volume. The next section and the heart of the chapter are *multiple case studies* (Yin, 2018) of diverse strategies to enhance global literacies. These case studies are examples of rigorous integrative, interdisciplinary learning emphasizing critical analytical skills. The cases are from informal, nonformal, and formal education. The chapter will conclude with synthesizing the key critical 21th century global literacy skills and capabilities that will be enhanced through the learning involved in the innovative case studies presented.

Chapter 14: Precursors to Teaching Critical and Cultural Literacy

Margaret Kumar, University of Melbourne, Australia

The trajectories of Critical and Cultural Literacy in Western higher education institutions are wide and far ranging. At a global level, there is a cumulative movement towards what I term, the patterning of two learning behaviours in literacy. The first occurs in Critical Literacy. Learning behaviours here range from knowledge and content acquisition; to foregrounding the critical-ness of academic skills to reading and writing. There is a concerted shift towards teaching students coupled with strategies for acquiring a fluency of the English language. Closely linked to this is to teach skills to enable the student to build their 'bank' of English language vocabulary and incorporate these words into their written work. The second patterning of learning behaviour occurs in Cultural Literacy. There is a sparse body of literature that discusses at a general level what has become evident in higher education institutions. This is that of a growing student population that is educationally, culturally and socially diverse. An impending question arising from this is: how are higher education institutions addressing the diverse Cultural Literacy in the teaching and learning processes of Critical Literacy. Using an auto-ethnographic, reflexive positioning, the focus of this chapter is to discuss insights and strategies gained in Critical and Cultural Literacy through the teaching of Academic Writing to a diverse student population that come from a multifaceted educational, cultural and social background. This is done by employing key concepts from New Knowledge Systems and Postcolonial Theory to derive a 'Strands of Knowledge' framework which leads to an activity that is 'staggered' to accommodate students at all levels. It is envisaged that from this discussion, further dialogue will take place to enhance the practice of Critical and Cultural Literacy in the teaching of and learning for students from multi-system backgrounds.

Chapter 15: Language and Culture in Global Literacy

Zehlia Babaci-Wilhite and Sam Mchombo, University of California, Berkeley, USA

The continued use of English, French and Portuguese for educational purposes in Africa monopolizes the control of national educational policies and goals. This article explores the constraints of these linguistic choices through the cultural agency of the United Nations report issued end of January 2014 about falling education standards in the world. The report pointed out that a quarter of a billion children worldwide are failing to learn basic reading and math skills in an education crisis that costs governments $129 billion annually. The report made a far more dismal observation about education in sub-Saharan Africa. For that region the report noted that four in 10 African children 'cannot read a sentence'. This article involves an extensive review of theory and practices regarding the consequences of local languages in school for learning in order to explore the relationship between language choices and the context of learning. After several field visits over a period of many years, involving observation in classrooms and interviews, the findings examine how the use of local language affects the learning in Africa. The study finds that the use of colonial languages as languages of schooling, has been influenced by the still powerful notion throughout Africa that learning in a foreign

language will promote development and modernization. Local languages and local curriculum need to be valued and children need to be prepared in order to be reflective, critical, knowledgeable and mobile in the world, which will support African development.

Chapter 1: Integral Education: Language and Human Rights in STEAM

Zehlia Babaci-Wilhite

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Introduction

In this chapter I will examine how the introduction of the Arts into the teaching of Science, Technology, Engineering and Mathematics (STEM) subjects represents a new model of education that improves science learning and satisfies human rights criteria for education. I will argue that the incorporation of the Arts into an open and investigate process, based on the "inquiry-based approach", using local languages and cultural references will improve learning and strengthen human rights. This model is particularly important in educational systems which today use dominant languages and culture in their instruction, disregarding local languages and local knowledge. In contrast to conventional approaches to education, I argue that teaching is more effective when it is based in local languages and culture which include the Arts. Therefore I introduce a pedagogical model that expands the traditional STEM method which includes the Arts. I will conclude with a discussion of the importance of national and international efforts aimed at promoting collaborative learning as well as a pedagogical model that expands the traditional STEM to Science, Technology, Engineering, Arts and Mathematics (STEAM) and contributes to Human Rights in Education. This would include the introduction of digital narratives into the classroom and a virtual and international collaboration across the Art-Science divide. These narratives are grounded in both local and global culture and they include a diversity of knowledge within the Human Rights framework in Education. This model of teaching gives Human Rights its rightful place in a new model of education.

The Universal Declaration of Human Rights (1948) represents one of the great advances of global civilization (Alfredsson & Eide, 1999). Education in many developing countries today is decontextualized, in that it is not conducted in the local language and does not promote critical thinking or intellectual inquiry. I argue that education based in a local language and local curriculum should be regarded as part of Human Rights in education (Tomasevski, 2006; Spreen & Vally, 2006, Babaci-Wilhite, 2012). Education has the potential to empower students if the method of teaching provides both intellectual nourishment and a personal sense of self-respect.

This in turn would bring greater self-confidence to both teachers and learners. I agree with Ingrid Robeyns (2006) who writes that in order for a government to insure everyone the full benefit of an education, they must provide not only a well-developed curriculum, along with sufficient teaching materials, but also that teachers be well-trained and, importantly, well-paid. Education is fundamental in developing human capability and creating individual opportunity in today's world. Crucial to quality in education is the incorporation of the United Nations Development Programme (UNDP) principles of "Common Understanding": indivisibility, equality, participation and inclusion (UNDP 2006, pp. 17–18). These principals are an intimate part of the social, political, cultural, religious and artistic life of people (Geo-JaJa, 2013; Bostad, 2013; Babaci-Wilhite, 2014) and support the argument that the safeguard of a culture´s original language should be considered a Human Right (Skutnabb-Kangas, 2000; Babaci-Wilhite, 2015). UNESCO's convention on the Protection and Promotion of the Diversity of Cultural Expressions emphasizes the importance of linguistic diversity as part of cultural diversity (2005) and that should apply to the education sector. In an increasingly interdependent world, it is important to facilitate the mastery of all subject matter (Babaci-Wilhite & Geo-JaJa, 2014). The language and cultural policies in education for all countries should also be context-sensitive and in addition permit countries to remain partners in the global society. In this chapter, collaborative learning is posed as a way to start the implementation of new ideas in Education, which should be regarded as a process intended to enhance new ways of learning.

This chapter highlights how Arts contribute to student participation and how fostering teamwork and collaboration for innovation and creativity in the field of STEAM subjects in classrooms and beyond provide accessibility and enhance understanding. This chapter draws on a workshop where I provide a model of how Arts can be a tool for bringing to light questions on diversity, as well as power-relations between non-dominant (minorities) and dominant cultures through what Inga Bostad (2016) calls "an investigative pedagogy". The method used in the workshop involves engaging two sets of students, one from Norway and the other from the United States both of whom illustrate the creative use of Arts to establish collegiality and collaboration.

Rethinking STEM subjects

This chapter draws on research on the teaching of STEM subjects as well as on a review of the research on problems with learning of science and mathematics that arise from decontextualized teaching and learning. This chapter will give attention to several aspects of the problem with the aim of improving the quality of learning through different literacies using localized languages in education and local curriculum, both of which would facilitate the use of Arts. The Arts is an expression of culture; therefore, localized language and culture should be acknowledged in the curriculum. The term localized language is used to mean a language that is associated with the culture and traditions of the place in which it is spoken. In earlier work, I have argued that a

new model of teaching and learning based on the Seeds of Science/Roots of Reading (S/R)[1] has been shown to improve the learning process. The model has been adapted to the cultural context of each country acknowledging the local languages and evaluations have shown that students exposed to this approach made significant learning improvements based on measures of science understanding, science vocabulary, and science writing (Pearson et al., 2010). Science inquiry implies that learners search for evidence in order to make and revise explanations using critical thinking in efforts to learn about the natural world (Babaci-Wilhite, 2017).

Academic approaches to literacy tend to regard literacy as an end into itself, ignoring structures that undercut disciplinary learning, comprehension, critical literacy and strategic reading. The inquiry-based approach goes beyond this superficial conceptualization of literacy, drawing heavily on the work of several educational theorists. David Pearsons (2007) and Jacqueline Barber's approach (2005) to the role of language and literacy in the learning of science emphasizes the importance of the theory of inquiry, which John Dewey (1939, 2007) defines as a development of ideas. Furthermore Dewey (ibid) argues that the theory of inquiry is one of the most essential skills that can help clarify the learning process and develop skills for inquiry in the context of decision-making. Jabari Mahiri and Jeremiah Sims (2016, p. 57) argue that, through a critical pedagogical approach, students would develop competency in STEM and identify connections to STEM.

In line with the philosophy of Paulo Freire´s (1970) inclusive education through the integration of formal and non-formal knowledge, teaching should give value to local knowledge in non-"Western" contexts rather than oppressing it. Freire's theory has implications for the language used in schools, especially in societies with vulnerable communities. Given that inquiry-based learning leads to better results, it makes sense that a localized language of a type with which students are familiar would facilitate a better understanding of a scientific process. Science is intimately connected to the lives of people and their native language should be a part of their method of learning. Language plays a critical role in cognitive learning and in the development of critical thinking (Ngugi, 1986; 1994). Drawing on scholars who address imagination and reimagining communities, we argue that acknowledging local knowledge and localized languages in educating for science literacy, as well as emphasizing inquiry-based learning leads to improve teaching and learning. This can make a positive contribution to achieving quality education in STEM subjects because it acknowledges the importance of language and culture – and thus the Arts.

A methodology to improve STEM Literacy

Improving STEM learning can be addressed by beginning with the effort to improve literacy, which facilitates inquiry. Barber (2005) argues that inquiry is curiosity-driven and involves a

[1] A science curriculum model developed by the Lawrence Hall of Science and the Graduate School of Education at UC-Berkeley (USA) labelled "Seeds of Science Roots of Reading", was field-tested over several years in many states in the USA. The Co-Founders of this model are David Pearson and Jacqueline Barber. For more information, see http://www.scienceandliteracy.org/ [accessed 7 October 2017].

great deal of reading. An in-depth inquiry calls upon critical and logical thinking that allows readers to correctly interpet the information gathered (ibid). Therefore, Pearson and Barber´s approach to improving literacy by emphasizing inquiry as a real-world approach can lead to better results for both students and science itself (ibid). Pearson and Barber's teaching model, in which students learn scientific concepts while they are taught how to read, write and discuss (Pearson et al., 2010) involves students searching for evidence to support their ideas. Through firsthand (hands-on) and secondhand (text) investigations, students also engage in critical thinking to learn how to create explanations based on the evidence found. This teaching model addresses the ways that reading, writing, and discourse can be used as tools to support inquiry-based learning. It also addresses the benefit of reading, writing and discussion when they are part of an inquiry-based science. This has greater potential of improvements in the teaching and learning of science and students gain a deeper understanding of their subject where language plays a key role in quality education. Furthermore, each positive outcome in the student's course of development reveals the complex web of activities needed to bring about the change. These principles of learning address the connections between early, intermediate and long-term outcomes and the expectations about how and why the proposed interventions bring them about (Cervetti et al., 2007). This inquiry-based approach aims for deep conceptual understanding, an implementation of a program of planning and evaluation, and a shared cross-disciplinary understanding of the long-term goals and on how they would be reached, as well as what can be used to measure progress along the way. This approach requires teachers to be clear about their long-term goals, identify measurable indicators of success, and to be knowledgable about practices that meet linguistic needs, such as using graphic representations of abstract concepts (Pearson et al., 2013). The approach puts an emphasis on literacy through texts, routines for reading, word-level skills, vocabulary, and comprehension instruction. It corrects a serious problem in much of STEM teaching today, which results from bringing universal scientific principles to students through non-local contextualization and non-local examples.

A model with an emphasis on cultural contextualization through the Arts and the local Language of Instruction (LoI) has great potential for improving STEM learning (Babaci-Wilhite, 2016). Such a model of instruction leads to meeting the expectations of higher goals in literacy and science by providing students with clear instruction, opportunities for practice and greater independence through their increased literacy, all this to understand and communicate about the natural world. In the classroom, the teacher needs contextualized materials and teachers' guides that describe when to introduce different modes of learning such as doing, talking, reading, and writing. These guides also include detailed information on scientific subjects, instructional suggestions and clear guidelines for what can be expected in a student's progress as they gain knowledge of specific scientific concepts that serve to create a meaningful picture of their world. By using a Multi-Modal Approach made up of different learning modalities, (doing, talking, reading, writing) students gain an understanding of basic concepts by carrying out experiments, reading about them, and by writing about their newly gained knowledge. For instance, students in coastal areas might read about shorelines, then investigate sand, gather evidence from sand and write a text about its properties, the whole of which leads to an understanding of the original source of the sand. Learners discuss their work (in their language), eventually forming expert groups focusing on particular sand samples. They read about

shorelines, then do, talk, read again, all followed by doing more, talking further, writing to develop this, then talk again and finish what they will have begun to write (Barber, 2005). Again, multiple modalities provide opportunities for learners to apply, deepen, and extend their knowledge of the learned concepts (Pearson et al. 2013). Furthermore, learners engage in discourse, both written and oral, with the goal of communicating their evidence-based explanations. Secondarily, they then carry-out a re-evaluation of their explanations and revise them based on their research. This is in opposition to the usual approach that simply adds literacy tasks onto a science curriculum, without connecting those additional tasks directly to the advancement of the understanding from the initial investigation and does not provide explicit instruction on how to read and write science texts (Pearson et al., 2010). Recent studies have shown that learners exposed to such models made significantly greater gains in measures of scientific understanding, vocabulary, and writing (Cervetti et al., 2012). A model that links firsthand experiences, discussions, and writing to the ideas and language in informational texts not only fosters development of core science knowledge and literacy skills, but is also crucial to improving STEM literacy, where the local contexts of everyday life contrast sharply with the North American and European contexts (Afflerback et al., 2008). This approach resolves the problems of teaching and learning science associated with poorly trained teachers and inadequate teaching aids and facilities. A major challenge in STEM education is how to support teachers in understanding and enacting inquiry-based instruction, as well as integrating the Arts into the classroom curriculum which will be discussed below.

Reimagining the value of language and knowledge through the Arts

Pearson et al. (2010) point out the connection between word knowledge and conceptual knowledge by emphasizing that when science words are taught as concepts applied in a particular context to other science words and concepts, word knowledge is consistent with conceptual knowledge. Since this practice of a method of education that is based on contextualization by using the local LoI, it leads to a rethinking of all aspects of education, both formal and informal education in and out of school. Education must therefore acknowledge culture through the Arts. This includes the non-material aspects of life such as language, together with social and historical identities. Education should address both the needs of the local people and the country in which they live, just as any life-long and live-long learning process.

Education using non-localized languages and concepts cannot transmit a society's values and knowledge from one generation to the next; on the contrary, education has involved a deliberate attempt to change those values while replacing traditional knowledge by the knowledge from an alien, or foreign, society (Geo-JaJa, 2013). To motivate the mind, one has to take into consideration variations that exist indubitably in different societies, differences in knowledge and different ways of teaching, in other words, used to achieve quality education. If education is conceived of as imparting knowledge about the world, then schooling should be regarded as only one aspect of education, since it does not cover all forms of knowledge,

whether formal or non-formal varieties of education. According to Freire (1970), much of the knowledge that forms the basis for schooling has its origins in another place and another time: "Knowledge emerges only through invention and re-invention" (Freire, 1993, p. 53). Students who catch on to this form of learning are more likely to be successful in school, even if they might actually have less knowledge, in the broad sense of the word, compared to those who do not attend school. However, education is most often equated with schooling, which does not take into account the knowledge gained outside the classroom. Therefore, it is time to think of what is actually out there, outside the classroom in order to rethink the value of local knowledge.

Evidence from countries around the world demonstrates that the best way to learn science is through the local language. Paraphrasing Wolff (2006), "Language is not everything in education, but without language, everything is nothing in education". Acknowledging this insight means that local languages are important in order to both convey higher levels of knowledge and function as bridges to languages of wider communication. Having several languages within one classroom gives us the opportunity to explore the benefits of bilingualism and multilingualism. As Ngugi (2017)[2] writes, "Multilingualism is the oxygen of culture - and monolingualism, the carbon monoxide of culture".

According to Samoff (2007, p. 60) "effective education reform requires agendas and initiatives with strong local roots". In other words, local, or as it is more precisely known, indigenous knowledge, should be included in the curriculum. Storytelling is a way to safeguard local or indigenous knowledge, which can then be shared, among other means, through contemporary digital media. Digital storytellling is one among a number of means allowing for the Arts to be brought into the classroom via written text and images that are composed for the screen for 21st century students subject to learning through improved approaches to literacy and language acquisition. Inspired by DIGICOM, a professional program to train in-service teachers in the use of digital storytelling, in collaboration with colleagues at the University of California, Irvine[3], and as part of a 21st century model of education, I have tried implementing digital storytelling and human rights into the curriculum (2017)[4]. What follows are some of the conclusions I have taken away from my experience with this model of improvements to STEM by adding the Arts in order to bring local contexts and language to those of a global variety.

Collaboration for a renewed perspective on human rights

In most educational models today, the knowledge and information taught in school curricula are decontextualized. An educated person is expected to master facts, propositions, models and

[2] Personal correspondance with Babaci-Wilhite on March 26th, 2017.
[3] I implemented that project while teaching "21st Century Literacies" in Winter and Spring 2017 at the University of California, Irvine in collaboration with Professor Mark Warschauer.
[4] Extented to a collaborative project between the University of California, Berkeley through a digital media in collaboration with Dr. Viet Vu, University of California, Irvine.

cognitive skills that are separate from any particular context in which they were learned. Stanton Wortham & Kara Jackson (2012) argue that the many approaches to education we know of today differ in how well they increase a learner's knowledge. Some approaches emphasize the typical learner as a passive recipient of information. Others encourage the learner to be more pro-active in their education, to pursue inquiry, ask questions, and discuss with teachers and peers.

Traditional education involves the transmission of isolated bodies of knowledge. Schools can survive as institutions given how both this form of stable knowledge and a particular reasoning of a scientific culture come to underly it, thereby bringing alleged value to other contexts, those then outside of the school where the knowledge learned might—as well—be applied. Thus, because that context of an "unscientific" way does not appear to be integral to a given knowledge or skill, isolated bodies of knowledge often hold little meaning for anyone outside the community. This means that the knowledge learned here is less useful outside the classroom given the decontextualized, insular nature of the knowledge being passed on; there is generally little opportunity for students to question the claims on which the knowledge is based.

Globalization creates great convenience of aims through the links it creates between production, communication and technology, primarily through the use of English but something is lost in this great cultural leveling. In contrast, STEAM learners gain a better understanding of the concepts they are studying when they are taught in their local language instead of a foreign language (Brock-Utne, 2016; Babaci-Wilhite, 2016; Mchombo, 2016). To develop conceptual knowledge students need help in linking scientific concepts to their everyday environmental and cultural experiences, and this, in order to assimilate new and unfamiliar science words and concepts so as to learn how to use concepts in context (Bravo et al., 2008).

Lucia Bigozzi et al. (2002) establish that the main difference between a deep and lasting learning and a learning that is purely oral and superficial is that the former approach offers the ability to justify the data learned. Berit Haug (2014) argues that when Norwegian students were asked to explain how their newly learned knowledge serves them, none were able to respond, since the students had developed no capacity for inquiry. She states that students needed further clarification and explanation to develop a higher level of conceptual knowledge. This shows that knowing definitions and being able to use Science concepts in short answers is but one of the first steps to be taken in moving towards developing a greater conceptual understanding of this world (Bravo et al, 2008). In order for learners to develop a stronger conceptual understanding of their field of study, teachers must include enough time for inquiry-based discussion about their empirical findings and how they connect to established Science.

Through a Pre-Service Teacher Collaboration integrating Technology, Culture and Human Rights[5], our team[6] developed significant conceptual frameworks and novel pedagogical competencies needed to effectively integrate innovative technologies, diverse cultures, and human rights perspectives into comprehensive designs of learning experiences for middle and high school students. The project aimed to enhance teaching competence through critical thinking within education and explore how to best prepare teachers to be most effective in

[5] Sponsored by Peder Sathærn Foundation at the University of California, Berkeley (USA) in collaboration with the Univeristy of Tromsø and the Norwegian Center for Human Rights (Norway).
[6] With Jabari Mahiri, Kirsten Stien, Lanette Jimerson and Lisbeth Rønningsbakk.

designing and implementing instruction for their students, all aiming to meet the challenges of a world of rapid technological change in the domains of information access where learning tools have been made none too largely available through digital devices. It offers an original alternative to most approaches orienting instruction set out to prepare new teachers to become professional practitioners.

Beyond teaching students what amounts to content knowledge of particular disciplines, this new exigency is to systematically develop student abilities to think creatively, critically, and comprehensively while understanding how to access, research, and utilize traditional disciplinary knowledge in conjunction with continually emerging digital sources of knowledge (Mahiri, 2011). These are skills which students need in order to understand how to work toward solutions of problems actually rooted in complex local and global problems, each of which we refer as 21st century skills to be learned if understood through 21st century literacies. We engaged better equipped students with academic knowledge, technical competence, and research skills, each of which is needed for them to critically address the challenges of a rapidly changing and increasingly complex, inter-connected world. This model of learning allowed for accessing, researching and utilizing traditional disciplinary knowledge. Furthermore, it facilitated understanding of emerging knowledge sources by working toward solutions for complex global challenges. We believe that the kind of education teachers need must be framed by a philosophy of global awareness that must be translated into a systematic method of investigative pedagogy in order to guide their delivery of learning in schools. This is true insofar as we do not want students to give answers alone given how we want them to find the right kind of questions as they relate to not just science by itself but to their own existence, language, and approaches to the world (Bostad, 2016)[7].

Through virtual intellectual exchanges, we focused on increased understanding of diverse cultural perspectives, conjoined with the power of human rights perspectives, all made to inspire and engage both the pre-service teachers and their future students in rigorous learning. Importantly, development of competencies in using appropriate technologies was central to the success of collaborations between the University of Tromsø and the University of California at Berkeley's pre-service teachers. This project has been innovative in how it intricately links technology, diverse cultures, cross-cultural communication, and human rights perspectives as interdependents of one world. In attempting to improve learning and make it more relevant to real-world issues and challenges, we have explored and documented viable roles for digital technology in the actual processes of learning for both teachers and students. It has enabled cross-cultural and cross-continental communication between collaborating partners. This project has enhanced our understanding of a significant issue across societies – how to best prepare teachers to be effective in preparing their students to meet the challenges of a changing world. We believe this model offers an original alternative to most approaches used to prepare new teachers for becoming professional practitioners, since it attempts to improve learning by making it more relevant to real-world issues and challenges. This collaboration has brought us to a collaborative model based on how we may further explore and document viable roles for

[7] Proposal to Peder Sathærn´s Grant with gratefulness and thankfulness for the generous grant from 2016-2017 renewed until July 2018.

digital technology. This has thus acknowledged the importance of cross-cultural and cross-continental communication, which facilitate the development of a new phase producing digital stories. To summarize the outcomes, we made a short video illustrating our collaborative process, one including workshops, virtual meetings and our mini-conference[8].

One of the worskhops addresses the integration of Arts into STEAM teaching with the purpose of promoting creativity and innovation as well as understanding the power relations between dominant and non-dominant languages in teaching and learning at all levels in education. This change in focus from STEM to STEAM needs a strong emphasis on interdisciplinary collaboration. We have provided tools and strategies for organizing and managing interdisciplinary learning and teaching based on a team collaboration of pre-service students, researchers and artists.

Arts Activities to Facilitate Group Collaboration

Arts in an academic context or in any other area that involves group dynamics or collaborative interaction can serve as an insight into process, if not "the scientific method", as such. This is especially true when dealing with the need to overcome cultural or linguistic barriers. Since the Arts by their very nature appear as cross-disciplinary and thus universally neutral, they can be utilized in a variety of ways. One method used in our workshop has illustrated the creative use of the Arts in order to further produce results of inproved learning and increased knowledge by virtue of collegiality and collaboration on the parts of both teachers and students. I outline below the methodology used in our workshop.

The students were divided into groups consisting of equal numbers; and each student was given a sheet of paper and drawing materials. They were instructed to make a random mark/figure on the paper. At ten-minute intervals, the drawings were passed to the student on the right, that student then added her/his symbol to the previous students work as they saw fit. The drawings were passed sequentially in this manner at ten minute intervals until the drawing with all the additional inputs arrived at its originator. The originator then had twenty minutes to complete the drawing by incorporating the additions in a manner that they deemed appropriate. In order to level the playing field, the first round of drawing was done with the ***non-dominant hand*** while the finishing work was done with the ***dominant hand***. In this activity the hand could be replaced by the language used, thereby serving to make students understand the power relation implicit to any time a student uses a different language other than the local one.

After completion, there was a period of discussion and commentary on the exercise. This was followed by a display of the finished artwork. This activity had many consequences, since there was no set of guidelines as to how each person made their additions. It is most noteworthy that no guidance gave space as well as agency for creativity. Some students attempted to compliment others' drawings; while some used the new drawing as a starting point for another direction; and some students were relatively neutral in their approach. Moreover,

[8] See link: https://www.youtube.com/watch?v=2Y9BiAJf8Gs&feature=youtu.be

students became aware of differences in perception and approaches by their collaborators. Finishing the work(s) allowed the originator of each piece to express ownership that will have begun as a common undertaking, while recognizing the unique and isolated contributions of collaborators sharing in the elaboration of an enterprise all could prize.

In the discussion, students noticed the flexibility and creativity of their peers, just as they were pleased with the results both in the actual finished work and the collaborative exercise, that is, the process. This activity reflects on how the Arts can be a tool for bringing to light questions on diversity, as well as power-relations between non-dominant and dominant cultures through "an investigative pedagogy".

Conclusion

In this chapter, I have reviewed the importance of rethinking a curriculum grounded in local context through a localized language helping to facilitate the integration of the Arts into STEM, thereby adding something of essential import that has been conspicuously absent from STEM education. I have argued that this would improve learning and thus satisfy our global yearning for Human Rights as dignifying as respected, honored, and commonplace. Such an approach emphasizes the importance of indigenous concepts articulated in their natural environment.

Education is more than schooling; therefore science cannot be taught without contextualized inquiry. When STEM content is addressed through a combination of inquiry and literacy activities, students learn how to activate, read, write, and talk STEM simultaneously. These literacy activities support the acquisition of STEM concepts and inquiry skills inside and outside of the classroom. Furthermore, recent studies discussed in this chapter emphasize the connection between word knowledge and conceptual understanding. Therefore, the synergy between STEM and literacy rests upon the understanding that an active level of word knowledge in STEM (understanding of words as they are situated within a network of other words and ideas) can be described as conceptual knowledge.

The frameworks applied for word knowledge and link-making are effective in terms of enhancing conceptual learning actively engaged in making the links. It appears clear that, in order to enable inquiry, language facilitates the learning process, just as it supports students in attending to their preparation for engaging with the world in a greater variety of ways. Such a model, which represents an opportunity to apply a well-tested inquiry-based science model to the teaching of science, leads to improved STEM literacy, scientific knowledge, and personal efficacy of applications for students, and this as it brings about greater professional efficacy for teachers who venture to include it in their delivery of knowledge as a form of freedom(s).

This renewed pedagogy would examine the whole inquiry cycle in different stages, including the pedagogy of digital literacy and how this could be planned for so as to utilize it in teaching. Collaboration could strengthen the teaching of STEAM subjects and allow teachers to engage learners in discussions that build on evidence collected through investigation. This process makes them more aware of what to seek and research in learners´ responses, not forgetting if not ignoring how to act upon these very salient elements of any language in contexts attending to what may better promote conceptual understanding. This then contributes to human rights in education as it improves teachers and learners' confidence in their skills with

respect to STEM; quite simply, it facilitates their ability to apply knowledge to projects in their community. Drawing language and cultural perspectives into educational models makes more accessible both teaching and learning in classrooms context(s). I believe that collaborative projects which include the Arts' activities offer an original alternative to preparing new teachers for becoming professional practitioners. It can help students to access and understand diversity in dominant and non-dominant languages.

A model that embraces and builds on STEM and integrates visual Arts through technology and films - especially the connection between word knowledge and conceptual knowledge through Human Rights in everyday perceptions of scientific phenomena - is the way forward for STEM-STEAM education.

Post-Reading Questions

1. When is teaching more effective argued in this chapter?
2. According to Alfredsson & Eide, what does the Universal Declaration of Human Rights represents?
3. What are the UNDP principles of "Common Understanding"?
4. What does the workshop provided in this chapter brings light to?
5. How does John Dewey define the theory of inquiry?
6. According to Dewey what does the theory of inquiry can help clarify?
7. What does one has to take into consideration to motivate the mind?
8. How does Ngugi describe bilingualism and/or multilingualism?
9. What does students need to develop conceptual knowledge?
10. Is Education more than schooling?

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Chapter 2: Learning Rights: Pedagogical Encounters with Critical Human Rights Practice

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America's Human Rights Crisis and the Urgent Need for Human Rights Education and Advocacy

Youth are confronted almost daily with powerful images of the erosion of respect for rights through news and social media and their own lived experiences. For students in the United States, these phenomena are not happening in a far-away country by an authoritarian regime, but throughout their own cities and states by a democratically-elected president and his administration. At the time of writing, President Trump has issued a zero-tolerance directive separating migrant parents from their children at the United States border, and the United States had announced its withdrawal from the United Nations Human Rights Council. These came after months of bombastic tweets by the President, calling migrants "vermin," and applauding the Immigration Customs Enforcement (ICE) for "eradicating the worst criminal elements"—in reference to migrants their actions against migrants. How might educators in K-12 and higher ed address these current events in the classroom? How can students gain both knowledge as well as the practical tools necessary to make meaningful change in their communities?

Education is never politically or ethically neutral (Monchinski, 2010). In this chapter we outline and discuss the theory and pedagogy behind critical human rights education praxis (CHRE) and explore the ethical and moral dimensions of learning and enacting rights in Trump's America. CHRE that addresses politically charged but socially relevant issues flies in the face of contemporary schooling, where curricula built in service of standardized testing too often means the bracketing off of what matters most in kids' lives. Doing so is a disservice not only to students in our classrooms, but also to the societies in which students live and take part. After all, citizenship cannot be learned in the abstract, but must be enacted through experience and participation. (Monaghan et al, 2017)

In what follows, we first discuss broadly the education contexts in which we have worked with secondary and higher education on CHRE programming. We then provide a brief review of existing literature on human rights and social justice education and explain how we have sought to build upon it in our own work and scholarship. Next we outline different models of CHRE programming that we have developed and implemented and conclude by discussing the different opportunities and challenges they present.

Changing Demographics in U.S. Schools

School communities are growing increasingly diverse, and students from numerous countries with varying knowledge and experiences are reshaping the educational landscape. Across the United States nine percent of public school children are identified as language minority/ESL learners, and there are over 20 languages spoken in public schools (IES, 2018). In the communities where we began our work, the most commonly spoken foreign languages were: Spanish, Mandarin, Mai-Mai (a Somali language), Swahili, Arabic, Krahn (a Liberian language), and Farsi. However, many school personnel did not know much about—or more importantly, did not know how to address—the past experiences refugees and immigrants face in their country of origin, and how these might impact their lives and learning outcomes in the United States. We found that most teachers had little capacity or support—beyond providing English as a Second Language (ESL) instruction—to address the social needs and cultural considerations for working with this varied group of children from communities around the world.

Community members were also often unaware of the situations (e.g. armed conflict, economic deprivation) that had compelled resettlement or migration. In fact, outright discrimination against and exclusion of refugees and migrants seemed to be widely shared sentiments. Previously when we held public events or shared promotional materials and activities related to our courses, especially those that featured education rights for marginalized groups like migrant students, we were confronted with hateful and often racist online vitriol about "wasting taxpayer dollars on foreigners", using schools "to promote a left-wing agenda" and calls to shut down activities or programming for our students.

While local community organizations offer an array of approaches and services aimed at addressing individual needs (i.e. tutoring or legal advice), they are, by and large, not coordinated or part of a larger advocacy strategy aimed to address increasingly anti-immigrant rhetoric and policies. These limitations have practical implications. The fear among migrants of ICE officials deporting family members who have for years lived and worked in the United States is pervasive. It has been a sobering experience recently to see the limited impact of community organizations' outreach efforts intended to support and protect the rights of children and their families in and out of school.

Many refugee/migrant school children, as well as their parents and teachers, have never heard of the many international human rights treaties that set forth the right to education, specifically the ways in which human rights should be protected in education, or means to define how education should be organized so as to facilitate the full enjoyment of all human rights. Given the current anti-immigration policy of the current administration this knowledge is critical, and even for some, life saving.

Similar to the refugee and immigrant children whom they teach, many educators are also unaware of international human rights treaties that are set forth in the universal right to education, specifically the normative and practical ways in which education acts as a multiplier for other rights, or how human rights should be protected in education. (Tomesevski, 2006) In the United States, at the federal level there is no legally recognized right to education, the US did not ratify many of the international human rights treaties, such as the Convention on the Rights of the Child. As a result, absence of legal status often constitutes the most widespread legal obstacle to the enjoyment of the right to education for many children in the US. The US has also failed to sign on to other international legal instruments that focus on the "adaptability of education" (such as the Hague Recommendations regarding the Education Rights of National Minorities) or Article 13 of the ICESCR (ICESCR, 1966) .This lack of recognition of basic rights, starting with the right to registration at birth and the right to the acquisition of citizenship, often preclude children from exercising their right to education. Rights-based statistics and information on children's discriminatory experiences in schools necessitate translating human rights law into a local language and context that can be understood and advocated for through education and support networks, not just by providing statistics or legal frameworks.

By failing to engage these youth in positive or purposeful ways (e.g. that embrace their culture, language, history, experience – or embrace their human dignity) most schools miss an important opportunity to practice human rights in education. In our case creating a school culture that embraced a rights-based framework must go beyond merely enrolling and including migrant kids in schools, it also needs to ensure that funding would be available for teacher-training programs on English language learning (EL). It should also institute safeguards to ensure that EL are not taught by unqualified and inexperienced teachers. Much like its predecessors (multicultural or civics education) HRE must be pushed beyond broad notions of democracy or symbolism of diversity and equality, and the rhetoric of laws and rights, and instead be informed by the lived experiences of those whose rights have been and continue to be violated in an unequal and asymmetrical world. Human rights is most powerful as a learning tool when it centers on local action and tools for social transformation as its end goal.

Critical Pedagogy and Action as Human Rights Praxis

One central premise of our growing body of work is that education plays a key part in social change, and it should be as Monchinski suggests, "geared towards more democratic, participation and egalitarian forms of life, while stressing the need for healthy and positive relationships between individuals" (Monchinski, 2010, p.1). Through describing the evolution of our teaching human rights over the last decade, we show how critical pedagogies that recognize the importance of human rights can help challenge unspoken ethical assumptions that push against positive and empowering relationships in schools and classrooms. These courses begin to illustrate "the kinds of knowledge produced and the informal and non-formal learning that takes place in the course of action" (Choudry, 2015, p.1) that differ from contemporary schooling experiences. From scripted reading programs to high stakes testing, from the commodification of

grades and "charter innovation," we suggest that structures and processes in schools often work against ensuring education as a fundamental right, providing access to other rights (Spreen, 2018). These examples of our teaching and learning approaches over the years illustrate what makes critical human rights pedagogies different from traditional classroom practices, and even from dominant contemporary HRE approaches.

CHRE, importantly, provides critical conceptual tools to inform, imagine, and bring about social change and tries to address inequality head on. In this way, critical pedagogies can give human rights education teeth by furthering the realization and importance of action. The forms of CHRE discussed in this chapter are concerned with "exposing the contradictions, cracks and fault lines in structures and systems that produce and reproduce inequality, injustice and environmental devastation" (Choudry, 2015, p. 1) which require practices and strategies that are grounded in critical historical perspectives, as well as emerging notions of rights grounded in the contextual realities of learners or as a "praxis of hope" (Spreen & Vally, 2012; Thapliyal, et als, 2013). Based on this fundamental pedagogical understanding we show how knowledge and learning of human rights and activism are produced collectively and in interaction with others.

In a recent study of HRE approaches Bajaj (2011) distinguishes three different outcomes-based models of HRE that differ in content, approach, and *action*. Specifically we start from Bajaj's *HRE for Transformative Action* illustrating how HRE should be taught in a way that critically considers the continued social, economic and political inequalities that persist (both locally and globally) in communities. We go beyond this definition to illustrate how it can also provide a platform for not only "becoming aware of injustices.", but for learning about what one can do and what role one can play in order to bring about positive social change.

Children today face a new set of challenges in a world that more globally connected yet ever more unequal, divided and asymmetrical. And due to the narrowing of the curriculum and the over-emphasis on rote learning for standardized testing, too many schools are failing to engage young people in meaningful learning. As Suarez-Orozco and Sattin explain, "youth the world over need more cultural sophistication, better communication and collaboration skills, and higher-order cognitive skills for thinking, as well as metacognitive skills to reflect on their own learning" (Suarez-Orozco & Satin, 2012, p. 2). In a world of increasing complexity and diversity – the lack of fit between traditional teaching and learning of abstract concepts and lofty declarations versus *what education needs to be* in order to help students address global complexities (such as forced migration due to war or political violence; discrimination based on racism, sexual orientation, Islamaphobia or xenophobia; gender-based violence) head on, is the departure point for our investigation.

In this chapter we demonstrate how our approach to CHRE practice prepares students to explore human rights and then learn to act as responsible citizens in an increasingly complex world (Chickering, 2003; Hutcheson, 2011, Tilak, 2008). Our definition builds on concepts of social justice, which consider civic learning as responsible activism that recognizes the individual's connections to social issues in their own community and throughout the world (Davies, 2006; Rhoads & Szelényi, 2011; Schattle, 2009). Our work illustrates how this approach embraces anti-oppressive pedagogies such as anti-racist pedagogy, social justice pedagogy, critical pedagogy, multicultural education, and further lays out how this strand of emancipatory global citizenship education aligns closely with the broader goals and ideals of human rights-

based education. The following section describes a teaching and research initiative that we have built over nearly a decade.

From Global Citizens to Human Rights, Activism, and Action

This project evolved over a ten-year period, beginning in 2008 with a focus on *human rights in education* and specifically the *right to education*. Three iterations: 1) community based action research and advocacy course with graduate students, law students and undergrads; 2) a high school-university course with year-long action research projects; and 3) a university-school-community collaboration in two different settings, one suburban and one urban, focused on using critical pedagogies in formal and informal education programming. Each of these approaches created learning spaces that helped students challenge dominant understandings about human rights, empowered them to hold the state and society accountable, and despite what laws say, helped students imagine and act on what society should look like. Across all three courses concepts of power, ideology, and hegemony were introduced and explicated for their relevance to CHRE, and then set apart from the dominant positivist approaches and epistemological frameworks for learning about citizenship and rights in schools. Classroom provided a space for "ideas, insights and visions produced in the course of people collectively trying to change things and reflecting on their experiences" (Choudry, 2015, p.1), the knowledge about systems of power and exploitation developed as students find themselves as experts on rights violations and abuses by governments and society.

Community-based Action Research

In the fall of 2008 we created an interdisciplinary, field-research course on comparative perspectives on human rights and education for graduate students, law students and undergraduates that focused on understanding and examining human rights and education both locally and internationally. Co-taught with faculty from the law school and the Legal Aid Justice Center, the course was designed to prepare students to work together collaboratively by participating in site visits to local community service organizations, schools, and homes; to conduct interviews with staff/community members, families, and children; and to organize community members who could serve as cultural and linguistic translators and identify needs and interests for improving educational services. Lectures and readings on education and human rights were supplemented by practical skills of academic community engagement and several sessions were devoted to preparing students on the ethics and practices of conducting community-based research in culturally diverse settings. Action-oriented research was a critical dimension of the course because it involved individuals, community organizations, social service providers and numerous local advocates throughout the research design, data collection

and presentation/dissemination of findings[9]. Importantly, students helped develop a manual on Rights in Education for workshop participants, and then presented their preliminary report findings (from course case studies) with action items to carry out over the coming years.

A central part of the course was a two-day international *Human Rights in Education Symposium* with legal scholars and education advocates working on human rights education in different countries throughout the world (including: India, Pakistan, Suriname, Guatemala, South Africa, Colombia and the US). In this symposium, we invited faculty, students, high school teachers, students and administrators, and public service organizations working with migrant communities in the area to examine both the broad underpinnings of international human rights and the specific components of education rights, and then considered these as they related to the experiences of marginalized and under-served youth in different parts of the world (i.e. children in emergency or post conflict situations, girls access to schools, educational issues for indigenous communities, the disabled and language minority groups, access to and discrimination in schools for migrants and refugees).

Building on symposium, during the following year we organized a second workshop on the *Right to Education for Refugees*. The workshop brought together more than 70 students, parents, immigrant/refugee/migrant advocates, social service providers, lawyers and educators, to discuss the successes and challenges of ensuring the right to education in the local community. Workshop sessions included stories and documentary films developed by local migrant students and their families, and presentations by teachers, social service agencies, legal advocates, and community-based immigrant and refugee organizations. The focus was on understanding and advocating for rights in education in the US, particularly in the local schools. It included a discussion of local opportunities to create culturally responsive curriculum and address more equitable learning opportunities for all students. During the symposium we shared research findings from previous course, developed and distributed a manual that came out of the course *Rights in Education in Virginia*, and then created action items for participants to carry out over the coming years. We broke into working groups and used adapted versions of Action Aid's "Rights Respecting Schools" guidelines and self-evaluation tool "How does your school environment promote children's rights?" to discuss issues that were most pressing in the community. The current *Becoming a Global Citizen* course and related ongoing research were one of the main action items identified by the participants in the workshop.

High-School/University Action Research

Our first combined high school and university course *Becoming a Global Citizen*, launched in 2011 and was designed to facilitate critical inquiry into notions about global citizenship and human rights through community-based action research and teaching approaches that included university (graduate and undergraduate), high school students and teachers learning together. The "untracked" elective course combined refugee and migrant students (from Africa, the Middle East, Europe, Asia and Latin America) with a diverse group of American students (who

[9] (For a more detailed description of the first few years of our program please see Spreen, et als, 2018; Monaghan, et als 2017; Spreen & Monaghan, 2016; Monaghan & Spreen, 2015a, 2015b).

were from various racial and ethnic backgrounds and ranged from honors/Advanced Placement, general and special education classes to college students). Initially this was done for political reasons: we wanted to enroll a diverse group of learners from across the high school and have them learn together with university-based students. The high school teachers and administrators also felt that a course on "human rights" would alienate the lower tracked and English Language Learners because HRE was viewed as "too difficult and legalistic." Human rights were also seen by some students as "owned" by the honors and advanced-tracked students who were part of an Amnesty club at the school, and who by and large ignored the migrant and refugee kids at the school. Interestingly, as the project evolved over the last few years, we also began to recognize the ways that "human rights" in and of themselves were not a sufficient entry point for engaging the school or as a vehicle for tackling some of the issues of global injustice and inequality students experienced, so *global citizenship for transformative action* took on a different and expanded meaning in our work.

In this unique classroom, human rights education then was combined with civic action and studies of global citizenship to serve as principles for learning about social change. Approximately 5 class sessions were devoted to preparing students on the ethics, protocols and practices of conducting community-based research in culturally diverse settings, 5 classes included supervised field visits to key community organizations, and the remaining sessions were focused on small group research visits to the different related sites (schools, community settings, homes, meetings).

The course centered around citizenship, social justice, and human rights through engaging with "real-world" problems and carrying out action research campaigns in the community. In bringing together a group of students with different racial, ethnic, class, and linguistic backgrounds, as well as different legal and social status, this course aimed to both reveal and break down many of these existing socially-constructed categories (e.g. refugee/migrant, legal/undocumented, exchange/ESL, elite or honors/at-level, general/ special education, black/white) allowing students to recognize and ultimately challenge these categories and their social and economic salience.

For those of us on the research team, our hope was that these benefits would extend far beyond our classroom, into the high school and broader community and potentially advance democratic citizenship to ideas and actions beyond U.S. borders. In designing the course, we wanted to break down the discontinuities between inside and outside of school and encourage cognitive dissonance amongst the students through in-class readings, experiential activities and reflective discussions that provided a foundation for weekly sustained engagement.

Critical Pedagogies in Learning Spaces

Over the next few years we deepened and expanded our approach. Throughout the academic year, students together learned about core themes of human rights, citizenship, and social justice through readings, films, and experiential lessons. In the first part of the semester they studied various organizations, declarations and efforts to promote human rights, and were introduced to the tenets of the Universal Declaration of Human Rights (UDHR) and several treaties that mobilize persons and resources to action when rights are violated. Through media,

documentaries, interviews and guest lectures, students began to explore the relationship between human rights and education through engaging with a range of issues including but not limited to: stereotyping and discrimination, immigration, climate change, and freedom of expression. As they developed a language and vocabulary to understand rights, personal stories and narratives shared by students in the class expanded their understanding and enabled them to connect abstract concepts of human rights, democracy and citizenship to personal experience and towards practical applications.

Through oral historical approaches students started to evaluate how global citizenship is constructed through "real life" explorations which are then converted into stories that contain shared and "vital" experiences that transcend national boundaries. For example, one student who had never shared his story previously with anyone spoke about his harrowing 3,000-mile journey on foot alone from the DRC/Congo to South Africa, and then his legal migration as a refugee from South Africa to the US through the IRC. Another student spoke about his traumatic journey with his family across the US-Mexican border. Others mentioned very specific experiences around racial, ethnic or religious discrimination and explained how they were treated by others, but specifically police, immigration officials or even military police in both their home and host countries. Throughout the year students were challenged to consider the ways in which they come to know and understand themselves, each other, the world around them, and their own ability to act as responsible global citizens and agents of change. In determining the content for the course, we developed a curriculum that integrates elements critical pedagogy: recognizing the importance of uncertainty, context, attentiveness, open-mindedness, and emphasizes multiple perspectives. We also incorporated "off-the-shelf" units, lesson plans, and activities (and even visits) from staff at three nationally recognized human rights-oriented education programs: Amnesty International, Facing History, and Voice of Witness/Valencia 826.

Much like other HRE programs, the course addressed core themes of human rights and citizenship through readings, films, and experiential lessons. Specifically, students learned about organizations, declarations and efforts to promote human rights and were introduced to the tenets of the UDHR and several treaties that mobilize persons and resources to action when rights are violated. Students then went beyond this content-based understanding of HRE to explore the relationship between human rights and social justice through engaging with a range of issues including but not limited to: stereotyping and discrimination, anti-immigration policies and sentiments, concerns about environmental sustainability and climate change, and notions around surveillance and freedom of expression.

The course was designed to provide a systematic analysis of poverty and structural inequality as it intersects with the right to education. Throughout the semester examined the broad underpinnings of international human rights and the specific components of education rights domestically, and then examined these issues as they related to the educational experiences of refugee and immigrant children in the US. As part of the organizational framework for the course we drew on the important work and resources of organizations like the Right to Education (RTE) Project in the United Kingdom (www.right-to-education.org), RTE draws heavily on a global movement of education advocates and is linked with a wide variety of partners, including ActionAid International, the Global Campaign for Education and Amnesty

International. Through this framework, we sought to understand and offer research approach to examine the intersections of education rights and educational inequality as they impacted refugee, immigrant, and undocumented children in and out of schools.

Our second iteration of the course, *Human Rights Education and Activism*, utilized many of the same readings and in-class activities as the previous course. However, rather than partner with one high school program, undergraduate and graduate students had weekly placements at different human rights programs for youth. For example, some students volunteered with an organization that works with high school students to produce documentary films that capture human rights violations in their own communities. Other students volunteered each week at an afterschool writing program for elementary through high school students, which while not explicitly focused on human rights, allowed undergraduate and graduate students to provide one-on-one tutoring to students who often did not receive the help they needed in school, build relationships with students, and subsequently consider not only why these students did not get the help and resources they needed, but also how they could help advocate for those resources. Other students in the course designed and implemented a human rights curriculum with two local middle school teachers which integrated #Black Lives Matter[4] and other social justice themes.

Ways Forward

In terms of contributing to social action and transformation each of these courses and our evolving approach opened up possibilities for future collaborations between the university and the local community that are both academically and socially engaged, illustrating what Monchinski helpfully calls an "ethics of care" (2010). For example, students across built relationships that extended beyond the classroom, visiting each other at home and meeting families, assisting with babysitting/childcare, tutoring and offering college advice, attending each other's graduations, not to mention the Facebook community that is now thriving. This approach to CHRE underscores how purposeful collaborative efforts between universities and local public schools can be central to efforts to facilitate transformative learning by helping students critically engage with "real world issues" that resonate at the core of young peoples lives and are simultaneously local and global. Many modes of inquiry based on participatory action research and social action projects have most often been associated with the understandings of the "local" but are limited in their capacity to explain "the global," a phenomena which is still being imagined, or rather, is still in production (Bajaj, 2011; 2017; Spreen et als, 2018). Conversely, by focusing on modes and practices of "social action" through the eyes and experiences of a diverse group of students (that span age, gender, location, national origin, cultural, linguistic or social backgrounds) we show how it can be a powerful way of exploring new approaches to human rights education serving a transformative role.

By looking at education through the broad lens of a CHRE approach, we can begin to think differently about the role of education and activism in social transformation - learning and teaching to create new values and attitudes about living in a diverse and global society and ensuring and protecting rights.

Education is a human right, and there is a moral imperative for all people, irrespective of citizenship or national legislation, to enjoy universal human rights. Internationally, the right to education is specifically guaranteed through numerous treaties and conventions promoting principles that give credence to rights within and rights through education. Through CHRE we can consider ways that school-communities can use the knowledge, resources, and experiences, that is, the rich diversity of communities comprised of refugees, migrants, and citizens of varying economic, cultural, and social backgrounds to address inequality, support and protect rights, and promote non-discrimination. We can also begin to think anew about intersections between education and social change, including some of the most pressing issues and concerns facing children in American schools today: deportation, separation, harassment, —particularly as public support for immigrants, and public funding of social services like schooling, health care, and other services has dwindled. Education can be a place that urges us to re-imagine society, one in which diversity is celebrated rather than maligned and where there is broad support for upholding principles of human dignity and human rights.

Post-Reading Questions

1. Issues around second language acquisition and immigration status offer differential access to learning and support services, and also create compounded forms of vulnerabilities for migrant students. What are some of the rights of immigrants, undocumented migrants, and refugees that schools need to be aware of and uphold? The article also suggests it is important for schools to go beyond merely providing English as a Second Language (ESL) instruction—it must also address the social needs and cultural considerations for working with an increasingly varied group of children from communities around the world. How can using a rights-based framework address students' social-emotional and cultural/linguistic needs?
2. What are some of the ways in which schools can share with the broader school community lessons about human rights, particularly the right to education and other rights that impact some of the community's most marginalized members? How can schools be a "safe space" to protect, promote, and ensure rights for all?
3. List and map the local advocacy organizations in your community that work to support migrant and minority rights. What kinds of relationships exist between these organizations and schools? Within and across these different organizations? Are they government-supported or community-based? How does funding shape their priorities/concerns?
4. Identify and list organizations, declarations, and tenets of the UDHR, along with other resources used to mobilize and promote human rights. Explain how students can go beyond the content-based, "declarationist" understanding of human rights to explore the relationships between human rights and social justice. How can the HRE approach promote students' emotional, as well as intellectual, civic engagement?
5. What are some of the ways schools can create a culture that embraces a rights-based framework that is informed by the lived experiences of students whose rights have been and continue to be violated? What are the kinds of activities that could provide a space

for sharing student experiences without targeting or signaling out students who have been marginalized, discriminated against, or excluded? How can schools create inclusive environments that are also respectful and reciprocal?

6. Describe some of the structures and processes in schools that often work against ensuring education as a fundamental right. According to the authors, what makes critical human rights pedagogies different from traditional classroom practices, and even from other dominant contemporary/traditional HRE approaches?
7. Action-oriented research was described as a critical dimension of the courses because it involved individuals, community organizations, social service providers, and numerous local advocates throughout the research design, data collection, and presentation/dissemination of findings. What knowledge and/or practical tools can students develop through action research projects? What skills are necessary for students to begin making meaningful change in their communities?
8. Learning in diverse spaces (across age groups, organizations, in and out of school, etc.) provided a platform to discuss a range of issues that were relevant to students and link them to global struggles. What are some of the global/local struggles that could be the focus of learning modules in a rights-based curriculum?
9. What are some of the local resources/strategies/organizations and agencies that students could draw upon to create rights-based curricula and provide more equitable learning opportunities for a wide range of students? How can families (parents and caretakers) be involved in and informed about rights in education?

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Chapter 3: Human Rights: Conceptual Origins and Evolution

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> "Lack of historical sense is the family failing of all philosophers… the whole of teleology is constructed by speaking of the man of the last four millennia as of an eternal man towards whom all things in the world have had a natural relationship from the time he began. But everything has become: there are no eternal facts, just as there are no absolute truths."
>
> Friedrich Nietzsche, "Human, All Too Human", 1878

Pre-Reading Questions

- How do history studies contribute to critical thinking?
- How would you define human rights? When do you think human rights were created and by whom?
- Which rights or human rights principles do you think are the most important?
- Do you believe in moral principles, common for the whole humanity?
- What is a chronology? Do you think a chronological approach is a suitable way of the critical analysis?

Introduction

As Friedrich Nietzsche noticed and, which I tend to agree with and consider applicable for various spheres of scholarship, the historical context is often not accentuated, when discussing the development of certain theoretical concepts. At the same time, historical research is one of the essential approaches to critical studies (Taylor, 1989). Analyzing the origins of concepts and truths that are claimed to be fundamental today means questioning the dominant affirmations

and pursuing the all-around independent knowledge on the subject. This is the approach that I offer for questioning the assumptions about human rights within the contemporary discourse.

The notion of human rights has its origins in the works written thousands of years ago. However, what is important to understand, is that the perception and use of the term changed radically over time, being adapted to the contextual realities of the authors who referred to them. In order to define what human rights are and what are the origins of the issues surrounding them, such as the universality of human rights or their possessors, one should ask how are international human rights different from the preceding approaches, and where do we find their foundation? It is a challenging task to put the history of human rights into one chapter, so here I concentrate only on the main stages of the development of the notion of human rights, using original historical sources, as well as secondary literature on the topic.

First Civilizations: Ideas of Fundamental Rights and Universalism

"Human rights…are both justifiable moral claims and contested political realities" (Hayden, 2001, p. XV). The definition of every aspect of human rights is, thus, politically charged. The majority of human rights theoreticians find the origins of human rights in "Western" philosophical tradition (Hayden, 2001). They refer to philosophers of Greek and Roman Antiquity (Mahoney, 2007), "Christian ideal of peace" (Lidén & Syse, 2015) and European and North-American Enlightenment (Hunt, 2008) as the theoretical foundation of modern human rights. The minority of authors trace the beginning of the idea of human rights up to the very first civilizations (Ishay, 2008).

One of the most important regulations of human rights is the right to fair trial, closely related to the fundamental right to liberty (Sayers, 2014). The first historical document that regulates the work of judges is Babylonian Hammurabi's Code, created more than three thousand years ago (Issar, 2014). The very first five articles of the Code rule on the importance of beyond-doubt proofs for the convicting verdict and warn judges about the importance of fair trial, the accordance of the punishment to the crime committed and potential dismissal of corrupted judges. Another important source of our contemporary understanding of human rights lays within the Hebrew Bible (Ishay, 2008). It does not only insist on the importance of fair witnessing, the absence of personal interest of judges in the considered cases, but also enounces the principle of non-discrimination – an alien shall be judged under the same regulations as a native (Mahoney, 2007, p. 4).

Micheline Ishay gives another example of the ancient idea of rights – Indian "Arthashastra" is aimed to serve as an instruction for the ruling kings (2008). The core principles were impartiality of judges and the special treatment of "minors, the aged, the sick, the deliberated, the insane, the starving, and pregnant women" (Ishay, 2008, p. 29). Such an

approach could be defined as one more precursor of today's principle of non-discrimination[10]. Chinese political elites were one of the first in the international community to openly claim the incompatibility of basic human rights, as presented within the fundamental UN instruments, with their cultural tradition (Otto, 1997). At the same time, the Confucian view of society also contributed to the development of the idea of human rights. According to him, established moral norms define rights and duties of the community members and allow the community to prosper in peace (Sim, 2004).

Having given all these examples, it is important to notice that none of the scholars claim that modern human rights were born thousands of years ago. Babylonian laws provided for famous formulas "an eye for an eye" and "a tooth for tooth", the laws of Hebrew Bible were created and interpreted by the servants of God not in the name of peaceful coexistence of all humans, but for "the fear of God" (Ishay, 2008, p. 29). "Arthashastra" did not exclude torture from the ways of truth-seeking and Confucian tradition does not recognize the primordiality of individual autonomy (Sim, 2004). However, claiming that the idea of human rights began in Ancient Greece, Rome or was born with Christianity would not be less problematic and would contradict the existing historical sources.

Greek and Roman Antiquity: The Concept of Natural Rights

All of the scholars, whose works I use for this historical and conceptual overview of human rights, recognize the primordial importance of natural law/natural rights theory for the formation of contemporary understanding of human rights (Hayden, 2001; Ishay, 2008; Mahoney, 2007). Natural rights are defined as rights integral to all human beings from birth. However, the idea of pre-modern natural law is the one, which "would be required or permitted by the ideally best law for one's situation - that is, the law one would discover through the use of natural reason if one were perfectly reasonable and had possession of all the relevant facts…" (Beitz, 2009, p.51)[11]. This is the case of Greek and Roman tradition of rights.

Traces of the idea that certain laws are legitimized by Nature could be found already in the first philosophy school ever known - Ionian School (VI century BC), mainly discussing the nature of matter. At the same time, the theoretical discourse on natural law as interpreted by the philosophers with the best reflecting abilities and the most profound knowledge on the issue, i.e. Greek philosophers, could result from "a new colonial horizon": it was exactly the time of the expansion of Greek colonies in the Mediterranean and Black sea (Lettevall & Petrov, 2014). Plato (ca. 428 – 347 BC) in his "Republic" in the form of dialogues with Socrates (ca. 470-399 BC) discussed the definition of justice. It could be said that Plato's idea of justice has two dimensions – personal and social (Plato & Jowett, 2016). Justice is a virtue both for an individual and a

[10] The principle of non-discrimination does not only mean the absence of differential treatment of people who appear to be in the same situation, but also in the absence of differential treatment, if the situations of individuals are radically different (OHCHR & International Bar Association, 2003).

[11] The concept of modern natural rights, as the rights one possesses by the fact of being born a human, independently of one's situation, will be discussed further.

society, it is a necessary condition for healthy citizens and a harmonious society as a whole. What is important to consider in terms of Plato's role in the formation of the idea of human rights, is the idea that justice as a virtue of the state corresponds to the justice of a human being. Aristotle's (384 – 322 BC) idea of justice has a lot in common with Plato's vision[12]. In his "Politics" Aristotle claims that justice serves the common good of the citizens, which equals the advantage of the state (Aristotle & Lord, 2013). "Justice is the bond of men in states" and the very existence of the state is the necessary condition for human existence as "political animals" by nature (ibid.)[13].

As for Roman philosophy of justice and rights, the example of Cicero[14] (106 – 43 BC) is being referred to in the literature (Beitz, 2009; Hayden, 2001; Ishay, 2008; Mahoney, 2007). As a lawyer, he has the whole work devoted to the idea of natural law – "De Legibus" ("On the Laws"). Just like his Greek predecessors, Cicero sees the nature of justice as corresponding to the nature of a human (Cicero, Rudd, & Powell, 1998). However, he goes further than the Greeks – in his works he suggests that justice was established by Nature, common for all humans and all nations, united by the ability to reason. Cicero was one of the first to identify that, despite the differences of vocabulary, the same ideas of justice, peace and common good were part of every culture: "For there is but one essential justice which cements society, and one law which establishes this justice. This law is right reason, which is the true rule of all commandments and prohibitions". ("On the Laws, Book I, XV).

Middle Ages: Rights and Religion

Through the late Antiquity the idea of natural law comes to the early Middle Ages. One of the first famous Christian theologians, Augustine of Hippo, was born in a Berber family in Northern Africa[15] (Mendelson, 2016). In his works, Augustine often refers to the notion of the "divine" or "eternal" law, which dominates the sovereign rights and, thus, limits them[16] (Dyson, 2005). Augustine does not claim that people possess rights by birth, but, most importantly, he emphasizes the existence of the laws established by God in the hearts of all human beings through the divine "impression". These laws, stated in Christian Holy Scripture are the ones, which limit the power of state authorities in their treatment of individuals (St. Augustine & Cunningham, 2015, p. 391).

The era of Antiquity ended in 476, the year which is known as the date of the official fall of the Western Roman Empire, when the last Roman emperor was deposed by a barbarian ruler.

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[12] Aristotle himself was a student of Plato's school (Hayden, 2001, p. 24).

[13] This idea is further developed in his most well-known work on ethics - "Nicomachean Ethics", which offers Aristotle's response to the ontological question of how one should live. Following the logic of "Politics", he argues that the just treatment of the state is one of the main human virtues and, for the sake of the whole community, it must prevail over the civil rights of a citizen (Aristotle & Williams, 1869).

[14] Roman lawyer, statesman, translator and philosopher. The adherent of Stoicism, the philosophical movement, which contribution to the ideas of natural law and cosmopolitanism will be discussed further.

[15] In his works, he often emphasizes the importance of African legacy for theology (Hollingworth, 2013).

[16] This idea is very alike with the contemporary understanding of the role of human rights in the state.

Not only political, but also cultural connections between the Roman territories were dramatically weakened and classical Latin was lost (Wright, 2006)[17]. However, the idea of natural law found its continuation through the works of St. Augustine in the legal thought of the XII – XIII century (Mahoney, 2007).

In the mid-XII century the first collection of Canon law was created by Gratian, a monk from Bologna. He did not only compile all the existing canon laws from various sources, including the works of Augustine of Hippo, but discussed the existing discrepancies in the texts and offered different interpretations of the norms. Such an approach to law can be considered revolutionary: while respecting the fundamental rule that all rights evolve from God, the openness to the interpretations signifies the birth of the "subjective understanding of "ius" … a faculty or power in accordance with right reason, associated with free choice and synderesis[18]…" (Tierney, 1997, p. 64, cited in Mahoney, 2007, p. 7)[19]. Thomas Aquinas (c. 1225 – 1274), Doctor of the Church, theologian and theoretician of canonist law, in his reflections on various kinds of law often refers to the works of St. Augustine, as well as to Aristotle (Hayden, 2001). Just like his predecessors, Aquinas claimed that just law evolves from natural reason as a capacity of all human beings (Saint Thomas Aquinas, 2014).

The aforementioned theories played an important role in the Catholic philosophy of Middle Ages. Works of St. Augustine, Gratian and St. Thomas were obligatory for theological studies (Piltz, 1981) and, therefore, constituted the essential knowledge of the European clergy. New professional stratum of intellectuals was created and scholasticism served as the main methodical and theoretical foundation in higher education. Unlike theological studies before, scholasticism was aimed at solving philosophical and theological contradictions through disputations and through giving more place to secular philosophy (Kretzmann, Kenny, & Pinborg, 1982). Thus, medieval Universities became arenas for open international discussions on the issues of philosophy, natural law and human rights.

It is important to emphasize that cooperation on education was concerning not only Christians, but also Muslim and Jewish faiths in Europe. Islamic Spain, where three religions coexisted for almost eight centuries, can serve as an exemplary case of what today could be defined as "intercultural education". The city of Cordoba, the capital of Al-Andalus, became the centre of education for Muslim, as well as Jewish and Christian students from Europe. It was also well-known for its libraries with Greek texts, translated in Arabic, Latin and Hebrew (Vaughan, 2003). One of the most outstanding Muslim philosophers, Ibn Rushd, became famous

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[17] Famous Italian scholar Petrarch, who was the first to discover the radical difference between the Antique and Medieval Latin, created the term "Dark Age", which was aimed to emphasize the consequences of the loss of classical culture (Mommsen, 1942).

[18] In scholastic tradition, an integral moral basis of every human being, which directs the person towards good and prevents from taking the path of evil.

[19] As a result of this new approach, Magna Carta, the Charter, which guaranteed the protection of landlords against the unlawful detention by the king[19], was one of the first known legal documents to use the notion of "rights" in the subjective sense, even though these were not the universal natural rights at the foundation of the Charter, but the national custom (Mahoney, 2007, p. 7).

for his commentaries on Aristotle's philosophy[20]. Following Aristotle, Ibn Rushd, otherwise known as Averroes, continued to discuss human abilities to perceive the eternal moral laws (Butterworth, 2007). While Averroes was mainly discussing the aims and interpretation of Islamic laws, Moses ben Maimon, known in Europe as Maimonides, was a Jewish Rabin, whose reflections were mostly concentrated on Jewish laws (Novak, 2008). Maimonides codified Jewish laws and offered his interpretation of the foundations of law (Novak, 2008). He considered that it is through education that the "divine law undertakes to create the internal mechanism of restraint, as well as to provide its adherents with an introduction to the contemplative life" (Galston, 1978, p. 9). Thus, for him education of the members of the community was a necessary condition for the actual manifestation of the divine law.

Philosophy of the Enlightenment: Secularization of Rights

The scope of the paper does not allow for mentioning all the philosophers, who made an important contribution to the foundation of human rights, since the XVII – XVIII centuries were the times which defined the theoretical basis of contemporary human rights. Even though for thousands of years many cultures all over the world had taken part in the development of the notion of human rights, for various reasons, including economic, societal and political change, this essential step forward in theorizing human rights was made in Europe (Ishay, 2008).

Scholastic methods served for offering the solutions for theological contradictions, but only in order to prove the infallibility of Catholic dogma (Marenbon, 2006). Renaissance and the revival of Classical philosophy and science led to the shift of attention from the afterlife salvation to the quality of earthly life, to the world that could be measured and changed in favour of human existence (Kreis, 2016). It was the humanism of Renaissance, which made the educated Europeans ask: What if God is not what we were told God was (ibid)?

In the beginning of the XVI century the works of Martin Luther, a German priest and a professor of theology, became known throughout Europe. Luther questioned the supreme authority of the Pope, the selling of indulgencies as a way to buy God's forgiveness, the material possessions of Catholic Church and, most importantly, the monopoly of the Church on the interpretation of Scripture. Many followed his example, including theologians Huldrych Zwingli from Switzerland and John Calvin from France, as well as many others belonging to Reformation – the movement that influenced every part of Europe (Becker, Pfaff, & Rubin, 2016). After a century of religious wars within and between the states, the Treaty of Westphalia (1648) affirmed the right of each sovereign to choose the religion for their territory. Despite the fact that the treaty did not concern the rights of individuals, it officially recognized the necessity to respect the ideologies, different from Catholic doctrines (Teschke, 2002). It is also highly important to remark that the Treaty of Westphalia institutionalized the end of *Papo-Caesarism*[21] in

[20] The role of Ibn Rushd in medieval Aristotelian philosophy is so important that in the writings of Thomas Aquinas, Aristotle is called "The Philosopher", while Ibn Rushd is "The Commentator".

[21] The dominance of Papal authority over the secular one.

Europe, establishing the principle of international relations, that lays at its foundation today - the principle of sovereignty, non-intervention of external actors in the internal affairs of an independent state (ibid). Consequently, the theory of rights of the Enlightenment was developed in the conditions, where the independency of sovereigns in their internal decisions became the basis for interstate relations.

One of the consequences of Reformation for the discourse of rights was the gradual secularization of the notion of a right and its subjectification (Beitz, 2009). Hugo Grotius (1583 – 1645), protestant Dutch scholar, the witness of religious wars, claimed that the main reason for these conflicts was the dispute over rights (Mahoney, 2007, p. 9). According to Grotius, Catholic doctrine[22] failed to assure the common moral foundation of a "just war" in Europe, a concept that so often served as a pretext for justifying the initiation of conflicts (Grotius & Neff, 2012). Consequently, what Grotius suggested was the establishment of the Law of Nations – certain international rules that sovereign powers can agree on, such as diplomatic relations and the rules of war[23].

Freeing the socio-political sphere from the dominance of religious doctrine, led to the philosophical discussions on the origins and role of sovereign power within the state. Contractarianism, the idea that all political authority derives from the will of the individuals, became one of the main philosophical traditions of the political philosophy of the XVII century (Hayden, 2001). Thomas Hobbes (1588 – 1679) was the first to argue that the institute of governance exists on the basis of "social contract" between humans, whose aim is to avoid harm and protect their property, and the political elite, who offers security and social order. Thus, in order to protect their own rights, people give the right to sanction to the authorities, who create the punitive system for the non-compliance to social order. John Locke (1632 – 1704), offered a different interpretation of the social contract. Locke recognized that the authority of the state power emerges from the will of people, however, not for the promotion of purely egocentric self-interest, but for the protection of the rights of each individual – right to life, liberty and property[24]. Furthermore, another difference between Hobbes and Locke consists in their views on the power that the governor obtains by social contract: for Hobbes this power is absolute, yet Locke recognizes the primordial rights of people over the right of the one who rules[25].

In his turn, French philosopher Jean-Jacques Rousseau (1712-1778) in his famous oeuvre "The Social Contract" aimed to solve the contradiction between the freedom of people, belonging to them by natural law, and their obedience to the authority of the state. He suggested that the existence of government is justified by its role in implementation of the general will of

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[22] The complex of all teachings of the Church, related to faith and morality.

[23] Today the sum of international regulations on armed conflicts is called humanitarian law.

[24] The right to life was already emerging in scholastic literature, right to liberty was first institutionalized in the aforementioned Magna Carta (1215) in terms of the principle of "habeas corpus", but property became the new fundamental right at the age of Enlightenment with the development of capitalism and the protestant idea of the "relentless work" as a way of virtuous life (Ishay, 2008, p. 91).

[25] For this reason, Locke is considered to be the founder of liberalism. Locke himself was a witness of the overthrow of two English kings and the consequent establishment of a Protestant dynasty instead of a Catholic one in 1689, which, in the idea of English parliamentarians, was supposed to eradicate the ideology of the divine nature of power of a sovereign (Mahoney, 2007, p. 16).

the people, who constitute the sovereign. Therefore, people would obey the laws they created themselves: "In this way Rousseau presents a theory of the state that places more emphasis on the collective dimension of human existence than the individualism found in the theories of Hobbes and Locke" (Hayden, 2001, p. 81).

The philosophical system of Immanuel Kant (1724 – 1804) can be seen as the culmination of the discussion on rights at the Age of Enlightenment, the effect at which, in fact, he aimed at (Rauscher, 2017). Kant adheres to the tradition of contractarianism, claiming, however, unlike his predecessors, that the consent to social contract is not a voluntary choice, but results from human reason and rational duty of a person to protect one's own freedom (Dodson, 1991). The protection of freedom, equality and independence of every citizen[26] are the rationale of the existence of the state according to the philosopher. Kant also develops the idea of eternal peace in the world, initiated by Charles-Irénée Castel, l'Abbé de Saint-Pierre in the beginning of the XVIII century[27] (Kant, Ashton, & Miller, 1974). In his "Idea for a Universal History with a Cosmopolitan Purpose" and "Perpetual Peace: A Philosophical sketch" Kant offers his view on the factors which would allow for sustainable peace. As he contends, lasting peaceful relationships among states are possible in the situation of individual republican states coexisting in the form of the international federation or cooperating in terms of a league of states. He offers the system of international relations, which would be based on the mutual trust and independency of states - non-intervention of one state into the internal affairs of another. Further, he mentions "the law of world citizenship", which reminds of a contemporary visa regime (Simmons, 2000). The only "world citizenship law" he mentions is hospitality: the right of a foreigner to arrive on the ground of another state and be treated in a hospitable manner. At the same time, any state has the right to refuse the entry to the foreigner (ibid).

I believe, it is important to emphasize that Kant did not that it was necessary to create an international legal system for human rights protection. In fact, Kant affirmed that the maxims of human rights could be defended by national civil law (Kant & Humphrey, 2003). However, Kant's discourse was highly important for the formation of the language of the international human rights system that we use today (Kant, Denis, & Gregor, 2017). In particular, Kant was the first among the philosophers to make a strong emphasis on the aspect of human dignity as "an absolute inner worth", which lays at the foundation of rights of a person (ibid).

Another revolutionary characteristic of the Enlightenment is that for the first time in human history the ideas of natural rights were actually institutionalized. New printing techniques, the secularization of knowledge and the translation of texts to European languages served the spread of the ideas. People got acquainted with the ideas of philosophers and could bring them to life in a short time. The examples of French and American Revolution[28]

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[26] Kant uses two notions – citizens and members of the state as human beings. Citizenship does not comprise women and children, who only possess passive rights and no right to participate in the formation of particular laws. Obviously, foreigners and stateless people in Kant's view are excluded completely.

[27] L'Abbé was the author of "*Project for Perpetual Peace in Europe*" (1713, 1717), criticized by Rousseau as utopian in the second half of the XVIIIth century.

[28] Polish Constitution, just like the French one, was also established in 1791. However, even though it followed some principles of the political philosophy of the Enlightenment, such as popular sovereignty, it was far more

demonstrated that the main theories of political philosophy of Enlightenment were put into practice less than half a century after these theories were introduced. In 1789, the American Constitution came into force, establishing the creation of a new independent state – the United States of America. The Constitution itself described the principles of functioning of executive, legislative and judicial institutions, but the first ten amendments, known as the Bill of Rights, introduced the main rights of American citizens. The same year, the French Declaration of the Rights of Man and Citizen was signed. Both of these documents were based on the idea of popular sovereignty, and both established the main rules of taxation[29]. Moreover, both documents enlisted the rights to liberty, to fair trial, and to property - the only right affirmed twice in the French Declaration. French Constitution, which included the rules of the Declaration, was approved in 1791. The similarities in French and American constitutional revolutionary traditions are not a coincidence - it is clear that American and European philosophers and political figures were influenced and supported by one another (Hunt, 2007; Ishay, 2008; Mahoney, 2007).

The Long XIX Century: Age of Nationalism and Fight for Civic Equality

The prevalence of national priorities over the international affairs in political thought of the end of the XVIII century led to the dominance of nationalist ideology within political sphere in Europe for the next hundred years. Nevertheless, what was uniting people all over Europe at the times of nationalist division XIX century, was the opposition to the inequalities, claimed as natural by the Enlightenment (Ishay, 2008). In this part of the chapter will discuss both of these tendencies and their influence on the development of the theory of human rights.

Nationalism: From the First Fight for Cultural Rights to the Denial of Rights to Others

The term "nation" is used to emphasize the unity of people and the state they belong to. It was institutionalized by the American and French Revolutions (Hobsbawm, 1990, p. 18). Following the theoretical foundations of political philosophy of the Enlightenment, the idea of a nation was closely intertwined with the notion of citizenship: nation was "the body of citizens whose collective sovereignty constituted them a state which was their political expression" (ibid, p. 19). From the constitutions of France and the U.S., the notion of a nation further spread to the discourse of other states in Europe and all over the world by the beginning of the XX century.

The Imperial campaign of Napoleon was an important factor for the development of another type of nationalism, which did not simply comprise the connection between citizens and

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moderate. For example, Catholicism was affirmed to be a dominant religion and, most importantly, serfdom of peasantry in the country was not abolished. Therefore, I will not discuss this text in the chapter.

[29] Many historians claim that it was the dissatisfaction with the unequal taxation system, which served as the strongest impetus of both revolutions.

the state, but has put an emphasis on the aspect of culture and language. Thus, the direct connection between the cultural-linguistic heritage, citizenship, and the state was established: Polish nationalist movement activated, Italian and German tendencies for state reunification intensified and the deposition of the king of Spain by Napoleon allowed Latin American territories to gain independence (Hunt, 2007, p. 182). "National issue" was one of the dominant premises of the revolutionary movements, which embraced South and Central America and Europe from Ireland to Poland. For hundreds of years, national minorities of the Austrian, Ottoman and Russian empires were deprived of full citizenship rights and fought for their independence, thus, expecting to improve the legal situation for their nationals (Hayden, 2001). At the same time, they themselves denied full rights to other ethnicities that resided on their territories[30]. For those struggling for their self-determination, the gain of rights signified, first of all, the formation of their own state. Rights that they claimed were not only political, but also cultural, such as education in their native language[31].

In his classical work on the history of nationalism of the XIX century, Eric Hobsbawm claims that another type of nationalism took the lead from the 1870s – ethnic nationalism (Hobsbawm, 1990). The discourse of nationalism moved from left to right, from the educated upper classes to lower educated middle classes, such as teachers, tradesman or small-scale retailers. At that stage, "the links between racism and nationalism are obvious" (ibid, p. 108). The main word, which characterized nationalism from thereon, was not "self-determination", but "menace" (ibid)[32]. The favourable situation gave birth to the whole pseudo-scientific movement of social Darwinism[33] and Racial studies, which justified racism, anti-Semitism, discrimination against women and sexual minorities as based on natural biological traits of these groups.

Fighting Inequality: Liberal and Socialist Movements

It is hard to imagine that the development of the idea of rights took place during the domination of the nationalist ideological tendencies and the indisputable control of sovereign states in international affairs. However, the movements opposing the socio-political tendencies of inequalities, inherited from the Enlightenment, served as a response to nationalist ideologies. It is in these spheres that I would say the idea of human rights, as often characterized as a world civil society movement (Ganim & Legassie, 2013; Lettevall & Petrov, 2014) could find its

[30] For example. Hungarians, who succeeded in reaching equal rights along with Austrians in terms of Austro-Hungarian Constitutional union (1867 – 1918) denied the same rights to Southern Slavic ethnicities, who lived on their territory (Hunt, 2007, p. 184).

[31] On the specificity of cultural rights see Babaci-Wilhite, 2015; Bostad, 2013.

[32] The politicization of anti-Jewish public sentiment was unprecedented. In France, Germany, Austria and the US political parties and individual politicians were founding their programmes on anti-Semitism and were succeeding in elections, newspapers, which specialized on anti-Semitic propaganda, were created, and "race" became a synonym of "nation" (Hunt, 2007).

[33] The movement emerged in the second half of the XIXth century and aimed at applying the ideas of Darwin's evolutionary theory of species to social studies.

expression. The abolition of slavery became one of the global[34] rights movement trends. Slavery and serfdom were abolished by the majority of countries by the end of the XIX century, even though many abolitionists held racist convictions (Ishay, 2008). International movement for the abolition of slave trade, including civil organizations, journalists and famous artists, urged the states to end slavery as a legalized practice[35].

Another heritage of exclusive civic practices, justified by the theoretical basis of the Enlightenment, was the absence of the rights of women and children in legal frameworks of the XIX century. Women of middle class were fighting for their equal right to education and access to jobs, while women of working class were exploited along with men, were paid less and remained responsible for the household (Ishay, 2008). These two groups cooperated within the same struggle for equal political rights – the suffragette movement, which became the central issue of gender equality movement of the century. By the beginning of the XX century all European countries regulated child labour, including the age, from which the child was allowed to work, the number of working hours per day and the types of work children were allowed to do. Nevertheless, by the First World War, even after liberal reforms, these conditions remained still highly difficult to work and live in[36](Rahikainen, 2004).

It was the socialist and communist movements which emphasized the fail of the liberal agenda to address the systematic problems of capitalist inequalities. Early socialist movements found their rise in the beginning of the XIX century with such leaders as Charles Fourier and Henri de Saint-Simon and they appear to be a direct response to the inequalities of liberal system, born by the Enlightenment (Ishay, 2008). However, I would exclude communists from this tendency. As Marx claimed, "political rights were all about means, not ends…Man could only recover his authenticity by recognizing that human emancipation could not be achieved through politics; it required a revolution that focused on social relations and the abolition of private property" (Hunt, 2007, p. 199). Moreover, since the final aim of communism was actually the elimination of state as an institution, it could hardly be argued that Marx would be a supporter of the international system of human rights, where state is the main guarantor of these rights.

Thus, even in superficially universalistic socialist ideologies the notion of rights remains exclusive. Either the idea of any individual rights was not supported as belonging to the old bourgeois liberal world or it was realized in terms of the existing system of citizenship, thus, excluding non-citizens from the regulations (Hunt, 2007). It coincided with the liberal movement for rights in the sense that it was based on the idea of more inclusive national citizenship, which

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[34] In fact, slavery was not only a problem of European colonies or of American domestic households, but also of Latin America, Central, Southern and Eastern Asia. The persistence of the institution of serfdom in favour of landocracy, the fundament of the absolute monarchy in Russia, had been a reason of many uprisings of peasants and even of liberal aristocracy since the XVIIIth century.

[35] I would not, however, claim this movement to be anyhow independent from the nation-states: it was the Congress of Vienna of 1815, where the European states announced themselves their intention to abolish slavery and which they did, in the politically, socially and economically favourable time for these concrete states.

[36] The majority of working class children did not get education, since both their own families and capitalists saw child labor as more advantageous. Children often worked night shifts and were employed in the spheres that no adult wanted to work in – monotonous dangerous work in mines, textile, glass or paper industry.

would embrace previously ignored categories of state population, but which would not offer any alternative system of human rights protection[37]. At the same time, the role of socialist theory in including the economic and cultural category of rights in the list of fundamental human rights to be protected by the state is undeniable.

Human Rights in the First Half of the XX Century

In summer 1914 recruiting posters all over Europe claimed that the war would be over by Christmas (Hallifax, 2010). It took four years and millions of deaths for the enemies to come to the point of negotiations. These negotiations were marked by the participation of the United States in European affairs. American president Woodrow Wilson dreamt of the international organization which would be founded on the American vision of world order, based on free market and liberal democratic states (Ishay, 2008). The organization was created in 1919 with the peace treaty of Versailles. The League of Nations[38] is seen as a direct predecessor of the UN, since the fundamental aims and certain principles of organization of these institutions coincide (Goodrich, 1947). However, in terms of human rights, the League presents a very limited system of human rights protection. The Covenant of the League authorized the Permanent Court of International Justice to deal only with the disputes between the member states (art. 14) and justified the colonization and "the tutelage" by the advanced states, of peoples not prepared for independence in the modern world (art. 22). It also limited the list of right issues, under the supervision of the League: slavery, human trade, freedom of commerce, drug traffic and labour conditions (art. 23)[39]. Thus, the League of Nations did not put any concrete limitations to state authority in rights issues.

The contemporaries of the League did not lose sight of this lacuna: International Federation of Human Rights[40] (France), and the Institute of International Law (the U.S.) promoted the idea of creation of a binding international instrument for the protection of human rights (Beitz, 2009, p. 15). Two other organizations were supported in terms of constitution of the League that appear to be more successful than the League itself. The first one was the International Labour Organization (ILO), which elaborated frameworks for the regulation of working condition and specific workers' rights guarantees, such as insurances, compensations and state services (Nijhuis, 2013). Another organization, which, unlike the ILO was not the integral part of the League, was the Red Cross, mentioned in the Covenant and explicitly

[37] Contemporary international human rights system is based on the notion of state jurisdiction, but not on the status of subjects of law. If the authorities control certain territory, it is their responsibility to assure human rights protection there, independently from citizenship of individuals under this jurisdiction (European Court of Human Rights, 2016).

[38] The League of Nations included 42 founding members, but the United States Senate opposed the ratification of the League's Covenant, refusing to adhere to the document which delimits the state's authority to declare war.

[39] The economies of the states after the devastating war were in ruins, the cooperation with workers was necessary in order to rehabilitate the production and to oppose the communist threat of the East (Ishay, 2008).

[40] La Fédération Internationale des Droits de l'Homme.

supported by the League's framework (art. 25 of the Covenant). In the literature on the history of human rights it is hard to find any reference to the significance of Red Cross in the development of the international law. It might be related to the fact that the activities of Red Cross today fall under the umbrella of humanitarian law, separated from human rights law as the law of war (Meron, 2000)[41].

On the national scale, dominant nationalist ideology was not eradicated, but reinforced by the results of the war and this time concerned not only the middle class, even though they remained the pillar of right-winged nationalists, but also all the veterans and the ones who hoped for a change in the beginning of 1920s (Hobsbawm, 1990, p. 143). The politicized racism, justified by the framework of social Darwinism, became the true apogee of the nationalism worldwide in the XX century. The atrocities committed by the German and Japanese governments affected millions of people and targeted many more all over the world and they could not be left unpunished[42]. Nuremberg (1945 – 1946) and Tokyo (1946 – 1948) trials became first international legal proceedings, based on the accusations of violation of international regulations (Ratner, Abrams, & Bischoff, 2009). Thus, the first enforcement of the international law did not concern human rights, but humanitarian law.

The international campaign for the inclusion of international human rights treaty in the after-war agenda "from the bottom" coincided with the planning of post-war world order "at the top". It appears that the international pressure from various states and the civil organizations became the decisive factor for the introduction of human rights as one of the foundations of the UN Charter (Halme-Tuomisaari, 2015). The document also established the Council, which was supposed to elaborate the strategy for self-determination of colonized peoples. However, the sovereignty and the non-intervention in the internal affairs of the state was once again declared a fundamental principle of international relations: "The Westphalian system was not altered, as the new order recognized the sovereignty of all states while conceding the reality that the great powers had disproportionate influence" (Ishay, 2008, p. 215). The international pressure also led to the decision on the formation of a special commission for the first universal human rights instrument. In 1946, the newly formed UN Economic and Social Council created a human rights commission to draft the "international bill of rights" (Beitz, 2009, p. 18).

Basing on the experience of the League of Nations, the member states were realizing that in order to assure the efficiency of the new organization the cooperation within it should not only relate to the sphere of security, but include many other fields, such as, for example,

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[41] It has the same theoretical roots and derives directly from the principles of natural law, but it was institutionalized on the international level much earlier, proving the consensus on the concerned matters. The first humanitarian law Convention was ratified in the XIXth century and by the end of the century Red Cross national societies existed all over the world. During the First World War Red Cross was already dealing not only with the wounded soldiers, but also with the prisoners of war and civilians[41] (Moorehead, 1999).

[42] After the WWI, for the first time in history the international war crimes commission was established to deal with the cases of "crimes against humanity" during the conflict. However, the US insisted on the inapplicability of such an abstract term for the judgement and the trials did not take place (Cryer, Friman, Robinson, & Wilmshurst, 2014, p. 188).

economy[43], social policies[44] or culture. United Nations Educational, Scientific and Cultural Organization was created in 1946 with the official aim of "building peace in the minds of men and women" (UNESCO, n.d.). In order to assist the Human Rights Commission in the draft of the new human rights document, UNESCO established a committee of philosophers, political scientists and intellectuals, who created a questionnaire that was sent to scholars and politicians around the world (UNESCO, 2017). The results indicated that, despite cultural differences, the population all over the world shared the ideals of "the right to live a life free from the haunting fear of poverty and insecurity…without discrimination of any kind" (ibid)[45]. Taking into consideration this data, Russian, American, Chinese, Canadian, Australian and Lebanese lawyers, members of the human rights commission, drafted the first non-binding instrument, devoted to the protection of human rights in the world (Voinea, n.d.). The influence of American and French traditions on the Declaration was hard to deny[46].

Since it was decided that the effective protection of human rights law in every member state should be of an international concern, a special group within the human rights commission started working on the elaboration of the enforcement mechanisms of international human rights law, which was supposed to decide on how the international concern would be expressed and what would be the consequences of a violation (Beitz, 2009, p. 23). The group agreed on the necessity to create a binding instrument and introduce the reporting and monitoring procedures, related to the instrument. In 1954 two separate texts were presented at the General Assembly – one was concerning Civil and Political Rights[47], another – Economic and Social Rights[48]. It is often claimed that the decision of separating these two groups of rights resulted from the American pressure, since the United States supported the idea of prevalence of the first generation of rights over the second[49]. (Beitz, 2009). However, there was a clear understanding, supported by legal theorists today, that while the first generation of rights could be and must have been implemented immediately, the second generation could be effectuated only

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[43] The establishment of Bretton Woods system in 1944 resulted in creation of general rules of monetary, commercial and financial management and the foundation of World Bank Group, which is currently the largest international bank in the world (UNDG, n.d.).

[44] The UN Charter enounced the creation of the Economic and Social Council (art. 61 of the Charter).

[45] It is, however, very important to notice, that some critique of the universal human rights instrument was omitted from the final draft. For everyone interested in the discourse on the universality/cultural relativity of human rights, I recommend to see the recent work of Mark Goodale (2018), where he published the omitted UNESCO survey responses.

[46] Initially, the American term "bill" was chosen for the document and the work started in New York with the great influence from American human rights organizations. However, the situation changed when René Cassin[46] became the key influential figure in the commission and the main office of the commission moved to Geneva. Almost immediately the name of the draft document changed to the French term "declaration" (Halme-Tuomisaari, 2015).

[47] International Covenant on Civil and Political Rights (ICCPR)

[48] International Covenant on Economic, Social and Cultural Rights (ICESCR)

[49] Within the tradition of the international law, political and civil rights are called the first generation of rights, since they were the first to be introduced within national legislation, while economic and social rights are defined as the second generation, since their institutionalization resulted from the necessity of the care for the veterans of the WWI.

gradually[50] (Joseph, Mitchell, Gyorki, & Benninger-Budel, 2006). Consequently, the UN Commission on Human Rights could assess individual complaints, related to the violation of the ICCPR, but not of the ICESCR (Trebilcock & Thouvenin, 2013). Regional European, American[51] and African systems of human rights protection, including the courts, were then created in the period between the 1950s and the 1980s[52] (Føllesdal, Karlsson Schaffer, & Ulfstein, 2014).

Thus, it was the period from 1948 to 1976, which became the time of the establishment of the foundations of the contemporary human rights system. First of all, the system of protection comprises both the national and international levels, successively related to each other within one procedure. Secondly, the system is based on the universal protection of all humans in the world, regardless of their nationality[53], origin, ethnicity, gender, age or any other factor, which might affect the equal treatment of an individual by law. Finally, the mechanisms of enforcement and the instrument of sanctions limited the authority[54] of member states in human rights sphere. These three main traits make contemporary concept and legal order of human rights unprecedented and unique in human history (Boylan, 2014).

Conclusion

The idea of human rights has been present in different cultures, philosophical and political teachings since the foundation of the first human civilizations. At the same time, the system of human rights that we refer to today was founded after the WWII, when the actual list of human rights was established on the international level within the UN Charter and the UDHR. A considerable, even though not absolute, consensus about human rights was established already back then. It took decades, however, to agree on binding instruments aimed at human rights protection, and to authorize international, as well as regional human rights courts to assess cases of human rights violations, thus, reinforcing the international legislation. Historically, human rights can be seen as an exclusive and unenforced framework until the creation of the UDHR and of the two binding Covenants. For that reason, in the beginning of the chapter I emphasized the importance of "historical philosophizing…with the virtue of modesty" (Nietzche, 2016, p. 26), when discussing the contribution of various actors to the development of the idea of human

[50] It took ten more years to reach a solution on the enforcement of the instruments and ten more years for the documents to come into force. However, it was not only the monitoring and reporting that was established as a mechanism of surveillance, but, following the additional Protocol of the ICCPR, also an individual complaint procedure was founded (ibid).

[51] Interestingly, Canada and United States did not ratify the American Convention on Human Rights.

[52] Asia remains the only world region without a binding regional human rights mechanism.

[53] Despite the absence of any limitations of the application of law regarding the political status, for the founders of the international human rights system it was clear what role nationality plays in everyday lives of people and how it influences their enjoyment of rights in national realities. Therefore, the right to nationality is protected by the international law, which means that it is illegal to deprive a person of citizenship, leaving one stateless (OHCHR, n.d.).

[54] It is highly important to differ the notion of "authority" from "sovereignty". As Ishay (2008) affirms, the principle of sovereignty remains the foundation of international relations after the WWII and sovereign states remain the main actors within this system today.

rights through centuries. Nevertheless, the foundations of human rights are, doubtless, important for understanding the debated problems inherent to this notion, such as its universality, enforcement and its applicability in different contexts.

Post-Reading Questions

1. In your opinion, do history studies contribute to critical thinking and in what way?
2. How would you define human rights?
3. When do you think the idea of human rights emerged and in which culture?
4. Which rights or human rights principles do you think are the most important?
5. Do you believe there are moral principles common for the whole humanity?
6. What is a chronology? Do you think a chronological approach is a suitable way of the critical analysis?
7. What is the natural law theory? Do you know authors in your culture who wrote about the idea of natural law?
8. What is a nation? What is the interrelation between the concepts of "nation" and "human rights? Does the "nation" contribute to the development of «human rights»?
9. What is the difference between humanitarian and human rights law? Which of these law systems was institutionalized first on the international level and why?
10. How did liberal and socialist movements influence the development of human rights?
11. When was the contemporary human rights system founded and what were the reasons?
12. What makes contemporary human rights system unique in history?
13. Match the quote to the corresponding author and work:
    a. "Freedom in capitalist society always remains about the same as it was in ancient Greek republics: Freedom for slave owners."
    b. "How is it that, once victory took form and the horrible spectacle of the extermination camps was revealed, we could have shamelessly broken the promises given to the peoples in those years of ordeal?"
    c. "…our answer will be that, even as they are, our guardians may very likely be the happiest of men; but that our aim in founding the State was not the disproportionate happiness of any one class, but the greatest happiness of the whole; we thought that in a State which is ordered with a view to the good of the whole we should be most likely to find justice, and in the ill-ordered State injustice"
14. Match the quote to the corresponding author and work:
    a. "To this sphere of law belong the abstaining from that which is another's, the restoration to another of anything of his which we may have, together with any gain which we may have received from it; the obligation to fulfill promises, the making good of a loss incurred through our fault, and the inflicting of penalties upon men according to their deserts...What we have been saying would have a degree of validity even if we should concede this which cannot be conceded without the utmost wickedness that there is no God, or that the affairs of men are of no concern to Him."

b. “To master this instrument the religious thinker must make a preliminary study of logic, just as the lawyer must study legal reasoning. This is no more heretical in the one case than in the other. And logic must be learned from the ancient masters, regardless of the fact that they were not Muslims.”
c. “I want to believe freely and be a slave to the authority of no one, of a council, a university, or pope. I will confidently confess what appears to me to be true whether it has been asserted by a Catholic or a heretic, whether it has been approved or reproved by a council."

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Chapter 4: Literacies of Leadership and Inclusion in the Academy

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When initially hired at the University of California Berkeley in 1992, I was 50% of the African American faculty in the Graduate School of Education. During the first decade of my work as a professor, I often felt isolated and alone in our education department. At times during this period, I also felt emotionally and psychologically wounded from slings and arrows of a few of my colleagues. In light of the storied Buffalo Soldiers, albeit in a much more modest way, I came to see myself as a buffalo scholar. The Cheyenne people had spread word of a new type of soldier who fought like a cornered buffalo suffering wound after wound, but not dying. And like the buffalo, he had thick, curly hair. Certainly, there are controversial aspects to the actions of Buffalo Soldiers (one critique being that they were shock troops for U.S. expansion). Yet, their connections to and contradictions within central developments in U.S. history offered a metaphor for my attempts at and experiences with leadership and inclusion in the academy.

Berkeley is touted as the number one public university in the world and is also ranked as one of the world's top six universities. Despite being marginalized in the first stage of my career (prior to and immediately subsequent to receiving tenure), I saw that in addition to intellectual endeavors being a Berkeley professor was a viable position from which to challenge an institution (and even society) to realize its rhetoric of equity and inclusion as integral aspects of pursuits of excellence. To do this however, I had to learn and enact multiple literacies of leadership within the various discourse communities of the academy.

A year before I began my academic career at Berkeley, a brief chapter entitled "What is literacy? by Gee (1991) was published in the edited volume, *Rewriting literacy: Culture and the discourse of the other.* Gee defined literacy as "control of secondary uses of language (i.e. uses of language in secondary discourses" (8). He had earlier defined a discourse as "a socially accepted association among ways of using language, of thinking, and of acting that can be used to identify oneself as a member of a socially meaningful group or 'social network'" (3). He further defined "dominant" and "powerful" literacies as control of uses of language in dominant or powerful discourses and encouraged us to think of a discourse as an "'identity kit' that comes

complete with instructions on how to act and talk so as to take on a particular role that others will recognize" (3).

Essentially, getting recognized as a member of specific discourse communities, like those in the academy, was a performance of sorts that hinged heavily, but not entirely, on uses of language as well as other requisite aspects of associated identity kits. I had never thought of literacy in connection with discourses in this way, and it was important for me to see that powerful discourses could critique and work to change even dominant ones. Consequently, my sense of a literacy of leadership and inclusion included understanding and controlling the uses of language in the dominant discourses of the academy while simultaneously seeking inflection points in which uses of language that constituted powerful literacies could critique and potentially change dominant academic discourses. I tried to utilize this perspective in taking leadership in fights for equity and inclusion and overall fairness. But this perspective also involved claiming ownership in the institution – exercising leadership to appreciate its value as well as to transform its values.

One thing my university colleagues do not know about me is that after finishing high school, I was drafted into the army, completed Officer Candidate School, and spent 18 months as a Lieutenant in Viet Nam. Officer Candidate School announces itself as a military school that "trains, educates, branches, and commissions competent leaders of character to win in a complex world." With slight alterations, part of this statement reflects a continuing goal I have for myself—to be a "competent leader of character" to enhance equity and inclusion in the complex world of academia. To illuminate what I see as literacies of leadership in this chapter, I take a narrative turn and use storytelling as a source of unique insights into linguistic and cultural practices (Denzin and Lincoln, 2003). Simply put, storytelling is a meaning-making process, a way of knowing. Vygotsky (1987) noted, "Every word that people use in telling their stories is a microcosm of their consciousness" (236-237). Because people engage social issues and institutions through concrete experiences, their stories as ways of knowing provide multiple understandings of the nature of social structures and processes.

I have colleagues at UC Berkeley who are among the very best in their areas of specialization. I appreciate and learn from their influential work. Also, though I have accepted visiting professorships, received offers for jobs and an endowed chair from other universities, I have never sought or applied for a full-time position at another school. I am excited about and committed to working at Berkeley, and I hope the following stories of literacies and leadership for inclusion told through three phases of my academic career are viewed in this context.

Tales of Tenure and Terror

Professors James Banks and Gloria Ladson Billings came to UC Berkeley for a meeting just after I learned I had received tenure. They congratulated me and Jim asked, "Was it a slam dunk"? "It was more like a layup that rolled around the rim several times before falling in," I replied. Gloria gave me a book entitled *Publish and Perish: Three Tales of Tenure and Terror* (Hynes 1997) that was a consoling read. Still, three professors in my immediate area of Language Literacy and Culture (LLC) did not speak to me even once, for more than three years after the decision.

I consider the decade from when I was hired in 1992 through the first three years after receiving tenure to be a distinct phase of my academic career. It was characterized by continual needs to defend my position as a faculty member. For me this was a defense of leadership I felt I had taken in approaches to scholarship, teaching, and university and community service, the three dimensions on which a professor is evaluated for tenure and promotions. Reading the codes of our school of education as a discourse community was an essential literacy. There were times when I decided to violate certain codes, but these moments were predicated on first understanding them.

On the surface, our GSE seems quite laid back as a discourse community with professors, graduate students, and staff all addressing each other by first names. Rarely is the prefix "doctor" or "professor" used for senate faculty members in meetings, classes, and in workplace conversations. I note this casual nature of communication (matched by how casually many of our professors dress, even while teaching) because I have not seen it operate similarly at any of the colleges and universities I have visited around the country and the world. These surface communicative and costume styles, however, must not be mistaken for an absence of the gilded hierocracies that more formal styles of academic address and dress signal. To mistake these casual aspects of our identity kits as a discourse community as reflective of its core values can result in becoming a casualty.

One arena in which the real codes of power and privilege surface is in the process of hiring new faculty. Embedded in the rhetoric of merit are interpretative codes that have often led to replication (and therefore reinforcement and re-entrenchment) of the kinds of scholars who are already dominant in the academy. I was on a number of search committees prior to being tenured, and I believe that providing readings of cases for new hires that offered alternative considerations for how we might grow as a faculty factored into my own eventual tales of tenure and terror. In one of several examples, the search for two positions in the GSE revealed the same young scholar of color as the top candidate for both. For some undisclosed reason, the committee co-chairs later decided not to support him for either position. They eventually argued he was not the right fit.

In the rhetoric of our faculty search, "fit" was a wild card played to trump the academic aces in the candidate's curriculum vitae. I wrote and presented a minority report that further assessed the exemplary achievements and stellar recommendations of this emerging scholar (who is now a full professor at one of the six top universities in the world). A "liberal" professor, who in earlier closed discussions had verbally supported the arguments for hiring that were eventually outlined in the minority report, refused to become a signatory to it: his support did not go beyond talk in closed meetings. I printed a stack of the reports—required reading for a hiring case—and as the faculty filed out of the meeting on the case, I stood by the door to hand them out. Only one of more than 30 professors present took a report as they walked by. I imagined looking a bit like a homeless man trying to sell copies of *Street Spirit*.

Although we were not successful in hiring this scholar, I think the attempt to re-present the case in the style of our literate traditions while also arguing for how it profitably extended those very traditions contributed to success in future cases that could have been similarly contested. It's gratifying in the last decade, that the GSE has made significant progress in hiring faculty of color, each of whom is a recognized leader in her or his field. In contrast to when I first

arrived, the school presently has 14 senate faculty of color (including our Dean) out of a total of 36 currently profiled on our website – more than one-third. There are six endowed chairs in the GSE, and three of these are held by faculty of color. The long view of literacies for leadership and inclusion is that even when battles are lost, they can constitute blows to the body politic that eventually weaken resistance and pave the way for productive change.

Training of doctoral students was another area in which leadership for inclusion was critical. Before our faculty was transformed, we had already begun to diversify the demographics of our doctoral students. But the one category we had not been successful with in our LLC area was African American males. In fact, except for those I have advised, LLC has not graduated a single African American male doctoral student in its 45-year history. I made note of this once at a meeting, and I was immediately accused of playing the race card. Beginning this academic year, we developed new faculty affinity groups, and now LLC no longer exists. It had always been composed primarily of women faculty. One professor decided she would not allow two of my advisees to take her class, despite it being a required course for graduate students in our area.

At the time I not tenured, and raising this issue was seen as not acknowledging or submitting to the codes of our professorial hierarchy. Negotiating with more senior colleagues to raise and resolve this contradictory decision so that these two students could take the required class involved recognizing these codes while also challenging them.

Both students were brilliant, and while completing their doctoral studies, they were also teaching part-time at a nearby high school. In their graduate classes, they would sometimes critique theories about learning, language, and culture from the standpoint of the realities of teaching in urban schools. I believe this intimidated at least one of our senior professors, confirmed by information from other graduate students. I felt it important for my advisees to see me supporting the value and viability of their perspectives with my colleagues, particularly prior to receiving tenure. I have seen junior professors strategize about "laying low" with the conceit that they will be more vocal and visible in challenging inequities once they are tenured. Most often, however, this "survival" behavior is further expected and exacted for all of the career milestones after tenure too. Of course, one must choose when and where to take a stand, but for many, laying low seemed to become a permanent and ultimately comfortable position.

At one point in a Theory of Literacy class I was teaching, the two doctoral students noted above brought students from the high school to participate in the group presentation they prepared for a class assignment. The high school students shared their perceptions of literacy and concluded by asking the graduate students to take a 10-question vocabulary test they had constructed using words from hip-hop music and culture. The test silence was soon broken by a European male proclaiming, "We shouldn't have to do this." A discussion ensued in which the high school students argued that this was how they often felt when asked to memorize words like "regatta" for tests that did not connect to their experiences or interests. During the break, a female graduate student met with me in my office across the hall from the classroom to inform me that she did not feel "safe" in the class that evening. A few students shared their considerations about my classes with other LLC faculty members, and I believe incidents like this, in conjunction with my work on search committees, caused some faculty to think that denying me tenure would solve a number of "problems" in our area.

Conscious of some of my colleagues reading of me as the problem, one strategy I employed was to get to know key people who are over the people who are over me. When I had the opportunity to be in a day-long workshop with the person who was Provost at the time I was going up for tenure, I was aware that this person could also judge something of my intellectual contributions through how I participated. As the final arbiter for all tenure cases at the university, I wanted this Provost to have personal insights into my work and contributions as a scholar. I also made sure that the Equity Officer was aware of my side of the considerations in contention in LLC during the lead up to the tenure decision. In a meeting I requested, he took copious notes for the campus record. Finally, I wrote a 60-page rebuttal to the report on my case in which, among other things, I made note of an offer received from Harvard for an Associate Professorship at a significantly higher salary. In essence, I took the lead in promoting my record to facilitate my promotion to Associate Professor with tenure.

Fights for inclusion did not conclude with getting tenure. Although it was my turn to become chair of the LLC area, a position that was supposed to rotate among tenured faculty, I was informed that the other faculty members had held a meeting during the weekend and decided I would not be allowed to be chair. The reason given was that my colleagues felt I was not qualified to lead the area. This was personally painful, coming as it did on the heels of a painful tenure process. Ironically, and though conflicted about it to be sure, I had led men into combat as a 20-year-old army officer; yet, almost 30 years later, I was deemed incompetent for a leadership post that was for the most part pretty formulaic. During the next phase of my academic career, I did become chair, and in conjunction with tenure, I was better positioned to understand and enact literacies of leadership and inclusion without my own position hanging in the balance.

Middle Passage

The second decade leading to and immediately subsequent to being promoted to full professor was a kind of middle passage in my career. The beginning of this phase is marked by the point when I began to come out of a period of stagnation. I had survived terrors of tenure at my university and in so doing learned to read its codes while also working to encode more inclusive readings. To be sure, I had to understand and respond to specific codes surrounding being an African American man in the academy. As noted earlier, for example, for years several female professors in LLC would not talk to me or in any way acknowledge my presence: invisible, yet hyper-visible, oxymoronically.

A number of male graduate students and I addressed this spectral space hollowed for men of color (and athletes) in the academy and in society *in Out of Bounds: When Scholarship Athletes Become Academic Scholars* (Mahiri & Van Rheenen, 2010). We read these male bodies as cultural texts of desire and distain, "readings that invoke coded and often contradictory conceptions of mental and physical divides, of masculinity and femininity, of pleasure and pain, of agency and identity, of race and social class" (2). In her highly celebrated book, *Citizen: An American Lyric*, Claudia Rankine (2015) captured something of how our society embodies and disembodies those it "others" in a vignette about a vacant seat next to a man on a New York subway that no one was willing take, particularly the woman standing next to it. The narrator

noted, "The space next to the man is a pause in a conversation you are suddenly rushing to fill. You step quickly over the woman's fear, a fear she shares. You let her have it" (131).

This "Thing" that the woman in Rankin's vignette fears is the same as that described by Morrison in *Playing in the dark: Whiteness and the literary imagination (*1992). It is fear of a hue-man, an abiding presence that is projective of how white supremacy trains some of its adherents to think of themselves with imagined purity at the apex of hierarchies of difference while training others to see themselves at its base. In the Preface of this book, Morrison explicated the racialized significance of Marie Cardinal's "first encounter with the Thing" as described in her autobiographical book of psychological healing, *The Words to Say It.* When Morrison "stopped reading as a reader and began to read as a writer" she was better able to apprehend the writerly revelations embedded in Cardinal's text, like what "the Thing" was that triggered the psychological trauma in the first place. According to Cardinal,

> My first anxiety attack occurred during a Louis Armstrong concert… The atmosphere warmed up very fast… My heart began to accelerate, becoming more important than the music itself, shaking the bars of my rib cage, compressing my lungs so the air could no longer enter them. (Morrison viii)

Contemporary encounters with "the Thing" can elicit a tug up on the neckline of a blouse, or a tug down on the hemline of a skirt. Like the vacant or quickly vacated train seat, it is also the white knuckled clutch of a purse or cell phone, the unmistakable fear in eyes that avert to anything except the approach of a dark visage.

Poignantly, the narrator in the Prologue to *Invisible Man* (Ellison, 1947), in his underground room of 1,369 lights, was also listening to Louis Armstrong. With a combination of reefer and sloe gin on vanilla ice cream, he was able to slip into the interstice between the notes of "What Did I Do to be so Black and Blue" to hear "not only in time, but in space as well" (8). As he went to deeper and deeper levels in the music, the tempo increased, and after several other intense scenes that revealed, among other things, the inter-racial sexual connections during slavery, he eventually encountered a preacher giving a sermon on the "Blackness of Blackness." Clearly, these spaces between the notes of being so black and blue, these spaces trained on African Americans and others being othered, these projective spaces where "the Thing" resides, are in the deepest recesses of the U.S. psyche where the Blackness of Blackness was originally misconstrued.

Long ago, I was given a way to think about inclusiveness that continues to guide my work in the academy today. It was occasioned by a 45-minute meeting with Toni Morrison while she was an editor at Random House. Morrison talked about editing an important book on the role of trains in the development of the United States, but described that the writer had not included the experiences of African Americans and trains in this country. The writer's response was to suggest adding another chapter about African Americans —kind of a caboose to the main story of trains. Instead, she guided him to infuse the experiences of African Americans and trains in the development of this country throughout every aspect of the book.

This challenge of authoring a more comprehensive understanding of societal inclusion was one that Morrison also undertook regarding literature in Playing in the dark. Her revision of

an authors work helped me envision my work then, and later as a university professor, giving me insights into race and racism along with enlightened ways of thinking about combating and transforming them. To change institutional racism, one must change the institutions themselves. Significant work can be done outside of them, including building other institutions, but critical work is also needed to read and rewrite them. They may change to some degree by just the presence of diverse participants and perspectives, but diversity itself must be critiqued for tendencies of people excluded from power to become "sub-oppressors" (Freire, 1970) when they gain it. So, real institutional change must be intentional by some members of the institutions themselves. People who feel they have been pushed to the margins or completely excluded have to assert their belonging, take leadership in institutions, and re-appropriate the power resident in leadership positions. As Freire noted,

> the oppressed are not "marginals," are not people living "outside" society. They have always been "inside"—inside the structure that made them "beings for others." The solution is not to "integrate" them into the structure of oppression, but to transform that structure so that they can become "beings for themselves." (p. 55)

If one cannot completely humanize oppressors and change racist beliefs, one can still gain institutional power to mitigate and ameliorate inequitable actions and behaviors extending from them. During this middle period through the actions of many engaged scholars, the GSE was becoming increasingly successful in hiring more scholars of color. One consequence was that I was beginning to have colleagues who nominated me for various awards. In quick succession I received the UC Berkeley Chancellor's Award for Community Service, a number of university and national-organization mentorship and leadership awards, and the Chancellor's Award for Advancing Institutional Excellence that at the time came with $30,000 in research funds. I used the resources to partially fund the research on technology and teacher professional development that was the basis for *Digital Tools in Urban Schools: Mediating a Remix of Learning* (Mahiri, 2011).

I also focused on using the power of the Berkeley brand to get numerous promising scholars into academia. This is the period that I chaired many of the now more than 40 completed dissertations while being on the dissertation committees of many others in the GSE, across the university, and other institutions. Until recently, there were no real limitations on the number of students I could advise. Ten of those who received doctorates as my advisees are African American men. Another seven are African American women. The other 23 are women and men who are Asian, Hispanic, Filipino, and Native American, as well as European American. Two were over 60 when their doctorates were awarded.

My first two students to receive doctorate degrees, Amanda Godley and Jennifer Trainor, are both amazing scholarly writers and thinkers whose early research, along with research by a number of my other doctoral students, was featured in What They Don't Learn in School: Literacy in the Lives of Urban Youth (Mahiri, 2004). This publication reflected my return to higher levels of scholarly productivity after the doldrums following tenure. I acknowledge these two women because they taught me something I needed to know and do to be an effective academic leader and adviser of emerging scholars. My work with them set a high bar for those

to come. Now tenured professors, Jennifer won the Promising Research Award from the National Council of Teachers of English, and Amanda was recently awarded a Spencer Mid-Career Fellowship. They were offered positions at the University of Pittsburgh, Amanda in the School of Education and Jennifer taking the same position that I was once offered in the Department of English. I continue to use their research in my graduate classes, and I use Jennifer's book, Rethinking Racism: Emotion, Persuasion, and Literacy Education in an All-White High School (Trainor, 2008), as a required text in my yearly class on urban education.

I note these two as examples of the relationships I have maintained with most of my former advisees as they have gone on to become colleagues and, in some cases, friends. These developing relationships counterbalanced the conflicts with colleagues I described earlier. I see many former advisees as part of a dynamic generation of New Literacy and language focused, social-justice scholars that include people like H. Samy Alim, Valerie Kinloch, Adam Banks, Brendesha Tynes, Marc Lamont Hill, Vajra Watson, Django Paris, Maisha Winn, and others.

Similar to my former advisees, these scholars all received doctorates since the turn of the century from top research universities in the United States. Many of them have significant, predoctorate experiences doing progressive work as well as teaching in challenging urban and immigrant student contexts. They are influenced by and participate in the tradition of public intellectuals exemplified by scholars like Pedro Noguera. They ground their interrogations of the interactions between learning and identity and their understandings of institutional structures and cultures in findings from ethnographic studies of young people's personal, social, and academic development in and beyond classrooms and schools. They build on and extend the work of established New Literacy, language, and human-development researchers, but consciously theorize their ethnographic inquiries with critical race, critical pedagogical, and culturally relevant conceptual frames. After my own middle passage, I'm inspired by a plethora of emerging scholars who are providing new literacies for leadership and inclusion in the academy.

Turn the River

With more faculty of color in the GSE, the intensity of issues of equity and inclusion have somewhat abated while new issues of sustainability have also emerged. Interestingly, stories about the Buffalo Soldiers offer models of leadership and inclusion for more peaceful times too. Although they had won numerous Medals of Honor, the nation's highest award for valor, less is known about their peacetime contributions. In 1899 for example, Buffalo Soldiers began serving in Yosemite, Sequoia, and General Grant (Kings Canyon) National Parks. Because this service was before the National Park Service was created in 1916, they were "park rangers" before the term was coined. In Sequoia, they worked on the first trail to the top of Mount Whitney, the highest peak in the continental United States, and they also built the first wagon road into the most famous grove of giant Sequoia trees in that park. In Yosemite, they built an arboretum on the Merced River that is considered to be the first museum in the National Park system. As military stewards, they protected the parks form illegal grazing, poaching, timber thieves, and forest fires. They regularly endured long days in the saddle, limited rations, separation from their families, and acts of racism, but they served with distinction and distinctive style. One

visual legacy is the popularly known Smokey Bear hat. Officially adopted by the Army in 1911, this Stetson hat with its Montana "pinch" can be seen in park photographs of Buffalo Soldiers dating back to 1899.

One thing this legacy indicates is that there is always more work to be done within all of society's institutions, including those of higher education. Although I am at an age when I could retire, because I started late in academia in my forties, I still want to complete a third decade, this current phase, as most of my colleagues have done. It's a phase where earlier leadership efforts are bearing fruit in terms of increased recognition and opportunities to expand my work in venues around the country and around the world. This is reflected in part in the reception of my most recent book, *Deconstructing race: Multicultural education beyond the color-bind* (2017) in which I make the case through scholarship and ethnographic interviews that since the idea of race is socially constructed, it can also be deconstructed. This premise is a crucial consideration for literacy in the academy and in society because the idea of race is perhaps the most divisive obstacle to inclusion in all aspects of our lives.

In this phase of my career, *Deconstructing race* was significantly enabled by my award of the William and Mary Jane Brinton Family Chair in Urban Teaching. Consequently, I am able to accept invitations for book talks even if the inviting institutions aren't able to cover travel expenses. Since its publication in July 2017, I have given more than 75 book talks locally and nationally in addition to more than a dozen in other countries. These forums have continued my literacy learning connecting issues of inclusion to the difficult considerations extending from the idea of race. Coates (2015) wrote that "Race is the child of racism, not the father" (7), but I argue that race can also be seen as the child of white supremacy, the illegitimate offspring of mating power with possessiveness in the interest of capital accumulation and social control. Following Lipsitz, it is "the possessive investment in whiteness that is responsible for racialized hierarchies in our society" (2006, vii). This also reflects what Feagin (2010) called "the white racial frame" that propagates and rationalizes racial inequality through a broad set of institutional structures and practices.

The goal for institutional leadership as I see it is to create new literacies of inclusion that work to complicate and disaggregate different positionalities and ultimately to deconstruct and flatten hierarchies including those of race, color, gender, sexual orientation, religion, language, social class, age, ability, beauty, geography and other dimensions of diversity. These new literacies of inclusion must operate multi-modally through the full range of textual mediums and affordances. Progressive change agents must assume leadership and fight for power in societal institutions and use that power to fight for progressive change. As the nexus of so many different groups in society, academic institutions must become the models for inclusion as they model successful practices of inclusion.

I believe our school of education and UC Berkeley have the potential to be shining models of institutional structures and practices of equity, inclusion, and excellence. Like Buffalo Soldiers building roads up the mountain or monuments at the river's bend, I hope my leadership in this institution has contributed to a vision and model of inclusion. A guide for realizing this hope is from a poem by Gwendolyn Brooks that I heard her read years ago: "Know that the river turns," she said (indicating the importance of understanding how things work in our complex world), and also "turn the river."

Post-Reading Questions

1. Mahiri states that Gee's definition of literacy, as proposed in 'Rewriting Literacy: Culture and the Discourse of the Other,' describes literacy as _____ of secondary uses of language.
    a. denial
    b. control
    c. misrepresentation
    d. belittling
2. What does Mahiri state that Claudia Rankin captured in a vignette about a vacant seat next to a man on a New York subway, in her book 'Citizen: An American Lyric'?
    a. behavior as a reflection of time and place
    b. history's tendency to repeat itself through politics
    c. how society embodies and disembodies those it "others"
    d. an individual's hesitation to move towards progressivism
3. What does Mahiri reflect that "The Thing" in the prologue to the '*Invisible Man'* does, while describing the story of the narrator listening to a preacher's sermon about the "Blackness of Blackness"?
    a. Resides in the deepest recesses of the U.S. psyche
    b. Challenges conventional notions of intellect
    c. Makes a case for the continuation of feudalism
    d. Changes the balance of power between genders
4. What does Mahiri discuss that Toni Morrison suggested a writer do, while Morrison reviewed a writer's portrayal of African Americans in a book about the role of trains in the development of the United States, which contributed to Mahiri's own thoughts about inclusiveness?
    a. Add exerts from their recorded reflections
    b. Provide few characterizations of their personalities
    c. Blend their voices with acute historical accuracy
    d. Infuse their experience throughout every aspect
5. What does Mahiri discuss that one must do to combat racism, while discussing Morrison's insights regarding the literature in '*Playing in the Dark'*?
    a. Change the institutions themselves
    b. Embolden the voices of the youth
    c. Seek virtue through disenfranchisement
    d. Monetize the production of art and culture
6. What does Freire note in a quotation highlighted by Mahiri, during a reflection on Morrison's understanding of societal inclusion as presented in '*Playing in the Dark'*?
    a. The oppressed are not "marginal"
    b. Ideals will reach a "resurgence"
    c. Change has no "final point"
    d. Rights are "reflective" of values

7. What phrase does Feagin use to define that which propagates and rationalizes racial inequality through a broad set of institutional structures and practices, during Mahiri's reflection on '*Deconstructing Race'*?
    a. The colonial "trickle-down effect"
    b. The "white racial frame"
    c. The lingering "trail of tears"
    d. The "cross" of the enslaved
8. What does Mahiri state regarding the idea of race and inclusion, while elaborating on the premise of his book, '*Deconstructing Race: Multicultural Education Beyond the Color Blind'*?
    a. It creates a false identity
    b. It exists in the imagination
    c. It's a self-fulfilling prophecy
    d. It is a divisive obstacle
9. What phrase does Mahiri use to define the creation of new literacies of inclusion that work to complicate and disaggregate different positionalities and, ultimately, to deconstruct and flatten hierarchies, including those of race, color, gender, sexual orientation, religion, language, social class, age, ability, beauty, geography and other dimensions of diversity?
    a. goal for institutional leadership
    b. mass movement towards revolution
    c. envelopment of universal truth
    d. fixation on normative societies
10. What does Mahiri recall that Gwendolyn Brooks proposed, in a poem, that one could do, while discussing a guide for realizing hope?
    a. Know that the river turns
    b. Listen to the sounds of the air
    c. Follow the way of the dove
    d. Drink from the fountain of truth

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Chapter 5: On the Need for Cross-Cultural and Multi-Disciplinary Critical Thinking

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Introduction

One question in the philosophy of education is the question concerning *education for democracy*, EDQ: How should public education enable the ethical implementation and proper functioning of democratic processes, such as voting on the basis of public and civic discourse? At least one plausible answer is that a public education should provide citizens of a political body with basic skills in public discourse, which is inclusive of critical thinking and civic debate. That is education for democracy should have an element that enables *ethical public discourse* on topics of shared concern. This answer is grounded on two ideas. First, democratic processes, such as voting, take into account the will of the people through reflective deliberation and the exchange of ideas on matters of public concern, such as marriage, taxation, and gun control. Second, critical thinking through civic engagement allows for the expression of individual autonomy on matters of public concern. Call this general answer to EDQ, *the critical thinking and civic debate response*, CTCD. The core idea is that critical thinking and civic debate is a way to educate the public for the purposes of implementing an ethical democratic process. Two important questions the CTCD response faces are the *content question*: What exactly is critical thinking, civic debate, and ethical public discourse? And the *normative question*: What are the appropriate forms, norms, and intellectual virtues by which we should engage in critical thinking, civic debate, and ethical public discourse?[55]

One way to critically enter into the content and normative question is through engagement with *public philosophy*. It is important to take note of two ways in which the term

[55] It should be noted here that the distinction between the content question and the normative question is notional. One could argue that the content question either determines the answer to the normative question or it restricts the acceptable answers to it. I am notionally separating these because I do *not* want to presuppose a specific answer to the question: how is the content of critical thinking related to the norms of civic debate and public discourse?

'public philosophy' can be used. On the one hand 'public philosophy' can be used to designate the fact that a philosopher is discussing something that is in the public arena, such as an issue of social justice. This kind of public philosophy, I call, the *philosophy-to-public direction of fit*. Because a philosopher enters into the public arena with a preconception of what and how things should be discussed, with the intention of informing the public through a philosophical lens. By contrast, there is the public-to-philosophy direction of fit under which the public guides the philosopher to an important issue that then leads to an examination of it through various conceptual schemes. Thus, through the public-to-philosophy direction of fit we can critically examine the content and normative questions concerning the CTCD response by considering some recent events involving critical thinking and civic debate that have been analyzed and reported on by the journalist Jessica Kraft in her (2014) article in The Atlantic, "Hacking Traditional College Debate's White Privilege Problem." She reports:[56]

> On March 24, 2014 at the Cross-Examination Debate Association (CEDA) Championships at Indiana University, two Towson University students, Ameena Ruffin and Korey Johnson, became the first African-American women to win a national college debate tournament, for which the resolution asked whether the U.S. president's war powers should be restricted. Rather than address the resolution straight on, Ruffin and Johnson, along with other teams of African-Americans, attacked its premise. The more pressing issue, they argued, is how the U.S. government is at war with poor black communities. In the final round, Ruffin and Johnson squared off against Rashid Campbell and George Lee from the University of Oklahoma, two highly accomplished African-American debaters with distinctive dreadlocks and dashikis. Over four hours, the two teams engaged in a heated discussion of concepts like "nigga authenticity" and performed hip-hop and spoken-word poetry in the traditional timed format. At one point during Lee's rebuttal, the clock ran out but he refused to yield the floor. "Fuck the time!" he yelled. His partner Campbell, who won the top speaker award at the National Debate Tournament two weeks later, had been unfairly targeted by the police at the debate venue just days before, and cited this experience as evidence for his case against the government's treatment of poor African-Americans.
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> In the 2013 championship, two men from Emporia State University, Ryan Walsh and Elijah Smith, employed a similar style and became the first African-Americans to win two national debate tournaments. Many of their arguments, based on personal memoir and rap music, completely ignored the stated resolution, and instead asserted that the

[56] I take this work here to be an instance of the *public-to-philosophy direction of fit* through the aid of Kraft's work on public debate in *The Atlantic*. Her work pushed me to examine the presuppositions of what is going on in critical thinking and logic education.

> framework of collegiate debate has historically privileged straight, white, middle-class students.[57]

Although there are many important features that these cases bring to light, here I want to draw attention to three features that help us understand the importance of both the content question and the normative question. First, *the kind of evidence* that is appealed to does not just consist in inter-subjectively agreed upon facts, such as what the law states, and reasoning deductively or inductively from a set of premises, but also personal experience. Second, *the mode of engagement* used does not consist simply in rational argumentation using the standard format of ethical theory, followed by a non-ethical factual premise and a conclusion, such as what one finds in Curtler's *Ethical Argument*. Rather, it includes poetry and hip-hop that takes both a reasons-based approach and an emotional and musical element into play. Third, *the norm of engagement* used does not see deference to rules as trumping either the importance of what is talked about or the length of time one talks about something. We might summarize a caricature reaction to these students by a hypothetical critic as follows: how rude of these students to not debate the issue, to disregard the rules, and to fail to take into consideration the kinds of evidence required for public debate and discourse on matters of social and political concern. *In light of these cases and the caricature, the critical thinking and civic debate community faces an important and unexamined question:* does critical thinking and civic debate education rest on an uncritical examination of its very foundation? Is the foundation perhaps insensitive to race, class, gender, and non-western traditions of critical thinking and debate? Call this question: *the meta-critical question about critical thinking*.

The meta-critical question about critical thinking and civic debate education are extremely important to any education policy that embraces the CTCD response to EDQ. Furthermore, both are central to the project of coming to understand how public discourse is possible in a community that has diverse individuals with non-overlapping conceptions of the good life.

The Central Argument

At present, one could argue, that there is a social blindspot that critical thinking and debate education suffers from in the US, UK, and those countries that use their standard model. In short, the blindspot is that critical thinking and debate education is insensitive to variation over what could count as *critical thinking* and *civic debate* based on an examination of non-western

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[57] It should be clear that in pointing to the actions of these students I am in no way endorsing their behavior. Rather, I am using their actions as a moment for reflection on what constitutes critical thinking and what should be the norms for engaging in public discourse. Furthermore, it is important to note that there is more than one interpretation of what the students are trying to do by not engaging the standard rules of civic debate that they were informed of prior to the competition. For example, it is possible to interpret their acts not as an engagement with an alternative model of critical thinking, but rather as an act of civil disobedience. If their act is one of civil disobedience, then it is unlikely that we can claim that they are engaging in an alternative form of critical thinking. However, regardless of the multiple interpretations, it is possible to use an interpretation of their actions as a guide to the critical question: could they be engaging in critical thinking and civic debate albeit an alternative one that may have its own merits?

contributions to critical thinking and debate. The neglect of these traditions is largely due to the fact that those that work on critical thinking, logic, and debate, such as the informal logic community, are not historically informed about non-western contributions to critical thinking through engagement with those that work on Asian and comparative philosophy. Simply put, institutional separation has led to an impoverished educational package for critical thinking for the past 100 years in which the modern university has developed. The central argument I will develop to expose the problem is as follows.

1. Critical thinking and practice in ethical civic debate are important to public discourse on social and political issues that citizens of a democratic body vote on when making policy decisions.
2. The current model for critical thinking and civic debate education is dominated by a western account of informal logic, formal logic, debate rules, and intellectual virtues.
3. Critical thinking education should include contributions from non-western philosophers.
4. Critical thinking education should be revised so as to be inclusive of contributions from non-western thinkers.

Why should we accept the premises of this argument? In Vaidya (2013) I defended an answer to premise (1). So, here I will focus on premises (2) and (3).

The key defense for premise (2) that I will offer has two parts. The first part relies on pointing to two of the most commonly used textbooks for critical thinking in the US and UK, Patrick Hurley's *A Concise Introduction to Logic* and Lewis Vaughn's *The Power of Critical Thinking: Effective Reasoning about Ordinary and Extraordinary Claims*. The guiding idea of the first part is that if our main textbooks for teaching critical thinking and logic at the introductory level do not engage non-western philosophy, we can reasonably infer that those that use the textbook are not teaching critical thinking and logic by way of engaging non-western sources. But in order for (2) to be true another position must also hold. The position is that it must also be the case that there are ideas about critical thinking that derive from non-western sources, which can be included for good reason. Thus, the argument for (2) is both that the main texts ignore non-western contributions and that there are non-western contributions that could easily be included.

A Core Example that Generalizes

In order to unlock the idea that non-western traditions have something to offer critical thinking education, it will be important to look first at a debate within western philosophy about the nature of critical thinking. By using this debate, we can see how non-western traditions can contribute to critical thinking education.

In his *Not By Skill Alone: The Centrality of Character to Critical Thinking*, Harvey Siegel (1993) contrasts two views of critical thinking: the skill view and the character view. He argues that these two views are part of a central debate in critical thinking over what a *critical thinker is.* He goes on to defend the character view.

> The Skill View holds that critical thinking is exhausted by the acquisition and proper deployment of critical thinking skills.

> The Character View holds that critical thinking involves the acquisition and proper deployment of specific skills as well as the acquisition of specific character traits, dispositions, attitudes, and habits of mind. These components are aspects of the "critical spirit".

Given this distinction, is there anything that non-western traditions have to offer? If there is nothing, then perhaps it would be easy to draw the conclusion that there are no real contributions to critical thinking from outside of the west because there were no debates about the nature of critical thinking. In defending the positive answer that there are contributions from non-western traditions I will focus on the Nyāya tradition and the Buddhist tradition. However, in doing this I am merely pointing to examples from these traditions. My view is that examples like this can be found in many traditions because theorizing about critical thinking is not a cultural kind, but a natural kind, pertaining to the mind and social engagement.

In his *The Character of Logic in India,* B. K. Matilal (1998) presents an account of different types of discussions and debates that can be found in Indian philosophy. He offers his account by turning directly to the founding father of the Nyāya school of classical Indian philosophy, Gautama Akṣapāda (2nd CE). In the *Nyāya Sūtras*, Gautama draws a distinction between three kinds of discussion.

> **Discussion** is the adoption of one of two opposing sides. What is adopted is analyzed in the form of the five members and defended by the aid of any of the means of right knowledge, while its opposite is assailed by confutation, without deviation from the established tenets. (Sinha 1990: 19)
>
> **Wrangling**, which aims at gaining victory, is the defense or attack of a proposition in the manner aforesaid, by quibbles, futilities, and other processes which deserve rebuke. (Sinha 1990: 20)
>
> **Cavil** is a kind of wrangling, which consists in mere attacks on the opposite side. (Sinha 1990: 20)

Matilal maintains, on the basis of Akṣapāda's Nyāya Sūtras that there are three distinct kinds of discussions. Vāda is an honest debate where both sides, proponent and opponent, are seeking the truth, that is, wanting to establish the right view. Jalpa, by contrast, is a discussion / debate in which one tries to win by any means, fair or unfair. Vitaṇdā is a discussion in which one aims to destroy or demolish the opponent no matter how. Stephen Phillips (2016), succinctly puts the difference as follows: (i) vāda is an honest debate for the purposes of finding the truth, (ii) jalpa is a debate aimed at victory where one propounds a thesis; (ii) vitaṇdā is a debate aimed at victory, where no thesis is defended, one simply aims to demolish the view propounded by the proponent. The distinction between these three kinds of discussions grounds the claim that classical Indian philosophers were aware of different kinds of discussions based on the purpose of the discussion, and that critical thinking, for the purposes of finding the truth on an issue, was not at all a foreign idea.

It is important to note that even prior to the *Nyāya Sūtras* there is discussion and differentiation of different kinds of *public discourse* and how they are to be engaged in. At section **3.8** of the classical Indian handbook of Ayurveda the author, Acharya Caraka (around the 4th century BCE to 2nd century CE), says the following:

> One who has acquired the knowledge (given by the authoritative text) based on various reasons and refuting the opponent's view in debates, does not get fastened by the pressure of the opponent's arguments nor does he get subdued by their arguments.

And pertaining to the value of discussion with specialists he says the following:

> promotes pursuit and advancement of knowledge, provides dexterity, improves power of speaking, illumines fame, removes doubt in scriptures, if any, by repeating the topics, and it creates confidence in case there is any doubt, and brings forth new ideas. The ideas memorized in study from the teacher, will become firm when applied in (competitive) discussion.

And then he offers an important distinction between two different kinds of discussion, and how they should be carried out.

> Discussion with specialists is of two types– friendly discussion and hostile discussion. The friendly discussion is held with one who is endowed with learning, understanding and the power of expression and contradiction, devoid of irritability, having uncensored knowledge, without jealousy, able to be convinced and convince others, enduring and adept in the art of sweet conversation. While in discussion with such a person one should speak confidently, put questions unhesitatingly, reply to the sincere questioner with elaborateness, not be agitated with fear of defect, not be exhilarated on defeating the partner, nor boast before others, not hold fast to his solitary view due to attachment, not explain what is unknown to him, and convince the other party with politeness and be cautious in that. This is the method of friendly discussion.

The passages from the *Caraka*, especially the emphasized area, substantiate the idea that the character view is in play in one of the oldest recorded presentations of critical reasoning and how it is to be executed.

Furthermore, in his *Indian Logic*, Jonardon Ganeri (2004) presents a picture of argumentation and critical thinking in ancient India by turning to the classic dialogue of the

Buddhist tradition: *Milinda-pañha* (*Questions for King Milinda*). Ganeri presents an important passage on discussion and critical thinking.[58]

> Milinda: Reverend Sir, will you discuss with me again?
>
> Nāgasena: If your Majesty will discuss (vāda) as a scholar, well, but if you will discuss as a king, no.
>
> Milinda: How is it that scholars discuss?
>
> Nāgasena: When scholars talk a matter over one with another, then there is a winding up, an unraveling, one or other is convicted of error, and he then acknowledges his mistake; distinctions are drawn, and contra-distinctions; and yet thereby they are not angered. Thus do scholars, O King, discuss.
>
> Milinda: And how do kings discuss?
>
> Nāgasena: When a king, your Majesty, discusses a matter, and he advances a point, if any one differ from him on that point, he is apt to fine him, saying "Inflict such and such a punishment upon that fellow!" Thus, your Majesty, do kings discuss.
>
> Milinda: Very well. It is as a scholar, not as a king, that I will discuss. (MP 2.1.3)

From this passage we get a further elaboration on the kind of discussion known as *vāda* that Akṣapāda distinguishes from *jalpa* and *vitaṇḍā*. More importantly, though, the passage above also introduces the reader to a very important idea about the nature of a good discussion in classical Indian philosophy. Nāgasena's says:

> When scholars talk a matter over one with another, then is there a winding up, an unraveling, one or other is convicted of error, and he then acknowledges his mistake; distinctions are drawn, and contra-distinctions; and yet thereby they are not angered.

One reading of this claim is that Nāgasena is pointing out that a good discussion requires not only that certain moves are made 'a winding up' and an 'unraveling', but that the persons involved in making those moves have a certain *epistemic temper*. Participants in a good

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[58] In this section and the next I borrow heavily from the work of Ganeri (1996, 2001, 2004). While there are many controversies surrounding what happens in classical Indian logic, for the purposes of this paper I have decided to present a picture that shows that there are important contributions from Indian logic that can be used to teach critical thinking and logic at the introductory level. I take it that just as one can teach first-order logic while recognizing that there are controversies concerning it, one can also teach portions of classical Indian logic while recognizing that there are controversies concerning how to interpret it.

debate moreover have the capacity, and exercise the capacity, to (i) acknowledge mistakes, and (ii) not become angered by the consequences of where the inquiry leads. Nāgasena's answer to King Milinda suggests that the Buddhist accounts of critical thinking also adopt the *character view* as opposed to the *skill view*. We can gather from the exchange that it is not enough to simply know how to 'make moves', 'destroy', or 'demolish' an opponent by various techniques. Rather, what is central to an honest debate is that a participant must also have a certain attitude and character that exemplifies a specific *epistemic temper.*

If one agrees with the character view, then this simple passage from *Milinda-pañha* could be compared with other passages, such as from the *Meno*, to teach critical thinking students what critical thinking is about in a meta-critical way.

Locating Further Spaces for the Cross-Cultural Critical Thinking Movement

But one response to the argument so far is that we need more than just evidence that there were discussions of critical thinking in non-western traditions. What we need is to see the many places where non-western ideas can be beneficial to critical thinking. In order to show that there are many places where cross-cultural critical thinking is beneficial, not just the debate between the skill view and the critical spirit view, I want to locate three places where non-western contributions are relevant to critical thinking education: (i) the education for *intellectual virtues* movement, (ii) the *humanities for democracy* movement, and (iii) the *rationality for democracy* movement.

First, some theorists moving out of the virtue epistemology tradition, which dates to Plato and Aristotle, such as Duncan Pritchard (2013) and Jason Baehr (2013), have argued for the view that we ought to be educating for intellectual virtues, as opposed to memorization and skill. If that view is correct, we should be asking the following questions: What intellectual virtues should be taught? How should those intellectual virtues be taught?

Consider Jason Baehr's opening comments to his *Educating for Intellectual Virtues*.

> An intellectually virtuous person is one who desires and is committed to the pursuit of goods like knowledge, truth, and understanding. It is this inherent epistemic orientation that permits a distinction between intellectual virtues and what are typically thought of as moral virtues (p. 248, emphasis added).

He goes on to elaborate an account of intellectual virtues.

> [W]e can think of intellectual virtues as the personal qualities or characteristics of a lifelong learner. To be a lifelong learner, one must possess a reasonably broad base of practical and theoretical knowledge. But possessing even a great deal of knowledge is not sufficient. Being a lifelong learner also requires being curious and inquisitive. It requires a firm and powerful commitment to learning. It demands attentiveness and reflectiveness. And given the various ways in which a commitment

> to lifelong learning might get derailed, it also requires intellectual determination, perseverance, and courage. In other words, being a lifelong learner is largely constituted by the possession of various intellectual virtues (p. 249, emphasis added).

It is worth noting that Baehr's presentation of the issues does not discuss and perhaps even tacitly assumes the absence of significant *cross-cultural variation* over (i) what intellectual virtues are, and (ii) what character traits count as being intellectual virtues. Moreover, his work does not engage significantly with the question: *what do non-Western traditions have to offer theoretical inquiry about intellectual virtues or what specific virtues we ought to be aiming at in education?*

Second, in her (2010) *Not for Profit: Why Democracy Needs the Humanities*, Martha Nussbaum maintains that a nation that wants to promote the *human development model of democracy*, as opposed to the *gross national product model of democracy*, will need to produce citizens with at least the following abilities (pp. 25-6):

- The ability to think well about political issues affecting the nation, to examine, reflect, argue, and debate, deferring to neither tradition nor authority.
- The ability to recognize fellow citizens as people with equal rights, even though they may be different in race, religion, gender, and sexuality: to look at them with respect, as ends, not just as tools to be manipulated for one's won profit.
- The ability to have concern for the lives of others, to grasp what policies of many types mean for the opportunities and experiences of one's fellow citizens, of many types, and for people outside one's own nation.
- The ability to imagine well a variety of complex issues affecting the story of a human life as it unfolds: to think about childhood, adolescence, family relationships, illness, death, and much more in a way informed by an understanding of a wide range of human stories, not just by aggregate data.
- The ability to judge political leaders critically, but with an informed and realistic sense of the possibilities available to them.
- The ability to think about the good of the nation as a whole, not just that of one's own local group.
- The ability to see one's own nation, in turn, as a part of a complicated world order in which issues of many kinds require intelligent transnational deliberation for their resolution.

In her defense of the humanities as the place we should look to for the cultivation of those abilities, it is important to take note of the special attention she gives to the goal of learning how to *argue* and *evaluate* evidence properly. In her chapter on *Socratic Pedagogy,* Nussbaum defends and highlights the importance of teaching the Socratic method of questioning and critical inquiry. And she *correctly* notes the importance of seeing the pedagogy from a non-Western perspective as well.

> I have spoken so far of a Socratic method that had a wide influence in Europe and North America. It would be wrong, however, to think that a Socratic approach to early education was found only there (Nussbaum 2010, p. 67, emphasis added).

She emphasizes the importance of a model of education advanced by Rabindranath Tagore who on her account defended the view that, "humanity can make progress only by cultivating its capacity for a more inclusive sympathy, and this capacity can only be cultivated by an education that emphasizes global learning, the arts, and Socratic self-criticism" (2010, p. 68).

I am in strong agreement with Nussbaum's defense of the value of the humanities for democracy, as well as her stress on Socratic Pedagogy, which she correctly locates in both the West and outside the West. However, I am skeptical as to whether her account distinguishes between two views of *Socratic Pedagogy* for democracy.[59] Minimally, we can all agree, following Siegel's (1993) distinction, that critical thinking involves the use of critical thinking skills / tools, no matter what else it involves or is constituted by. We can think of two ways of looking at critical thinking education in relation to democracy by using a distinction between the tools we have and the context of application in which we use them. The contrast comes from thinking about where the tools come from vs. where the tools are being applied and for what purpose.

> Democracy with Western tools in a multicultural context is an account of critical thinking for democracy that is largely about taking tools found in the Western tradition, such as identification of fallacies from a specific list generated by Aristotle or formalization of a natural language argument in propositional logic and presenting them to students for application in the global multi-cultural context in which we now live. This means, for example, that we might use the tools of Aristotelian logic to understand a non-western Buddhist text. On this approach we show how Socratic Pedagogy can be applied to texts and speeches that come from outside of the West.

[59] It is important to note that in her advocacy of critical thinking Nussbaum also takes note of the importance of comparative religion. I think the real issue for her position is whether she holds that alternative conceptions of reasoning and modes of presenting reasoning belong in a comparative religions course as opposed to a logic and critical thinking course.

> Democracy with Global tools for a multicultural context is an account of critical thinking for democracy that aims to locate tools from a variety of traditions for the purposes of democracy in a multicultural context. On this approach, where possible, we show how Socratic Pedagogy or Aristotelian logic sits alongside, for example Buddhist theories of good inference, the Nyāya account of good debate (vāda), the Jaina theory of perspectives, Arabic conceptions of critical discourse, and we open up the set of tools so as to be inclusive not only about who participates, but also about what tools are acceptable.

Third, in his *In Praise of Rationality*: *Why Rationality Matters for Democracy*, Michael Lynch (2012) presents a series of arguments in favor of scientific argumentation in public discourse.

> Of course, the value of appealing to reasons also depends on whether they are good reasons. Good reasons are based on good principles. So, the aim of this book is to defend both the value of giving reasons in public discourse and the value of certain principles over others—in particular, the principles that constitute a scientific approach to the world. Appealing to these principles in public discourse matters, I argue, despite the fact that there appear to be –perversely enough– very good reasons to think that we can't defend them with non-circular reasons. It sometimes seems as if every "first principle" ends up being founded on something else that is arbitrary: emotion, faith, or plain prejudice. If that's so, then a magic serum is the best we could hope for after all. Nonetheless, I'll try to convince you that we can hope for more (p. X).

Again, while I agree with the value and importance of scientific discourse on matters of public discourse, I am skeptical as to whether Lynch's account of reasoned discourse pays any attention to narratives about reason and debate from outside of the Western canon. Like Martha Nussbaum, he takes John Dewey to be one important influence on his thinking, in addition to, C. S. Peirce, and William James. However, unlike Nussbaum, he fails to consider 20th century philosophers, such as Tagore, Daya Krishna, S. Radhakrishnan, B. K. Matilal or any other figure from a non-Western tradition that has thought about reasoned discourse in a pluralistic society. For example, Matilal's (1998) classic *The Character of Logic in India* discusses various systems of logical reasoning in Hinduism, Buddhism, and Jainism. The discussions found in these works challenges some of the core assumptions of western logic and critical thinking on, for example, the role of contradiction in reasoning, the relation between epistemology and logic, as well as the rules for engaging in an honest debate and tracking fallacies. Or one can look at the writings of Sarvepalli Radhakrishnan. His 1968 *Religion, Science, and Culture* contains critical discussions of how science and religion can be in harmony within a culture, when the role of each is properly understood in a complementary way. *My contention* is that discussions of the value of scientific discourse in public discourse should engage narratives about reasoned discourse from outside the Western canon while taking into *consideration the consequences of colonialism on reasoned*

discourse that does not derive from the Western canon. The deep question here is: what would a true engagement with reasoned discourse look like were we to look at the consequences of decolonizing the rhetoric of rationality?

Summing up: if education policy is to move away from a singular STEM focus to a more open education package that includes *education for intellectual virtues*, *praises scientific rationality for public discourse for the purposes of democracy*, and *engages* what the *humanities* have to offer in *critical thinking* (broadly construed), *we ought* to be looking for cross-culturally sensitive ways to promote and teach intellectual virtues, critical thinking, and narratives about rationality. *Cross-cultural sensitivity* at least requires locating and presenting tools for critical thinking that derive from different traditions. At least one reason why is that everyone who comes from a tradition that engages and discusses critical thinking needs to feel welcome at the round table of discourse without being forced to jettison their own tradition's conception of critical thinking and engagement.[60]

Where Should Non-Western Contributions to Logic and Critical Thinking Be Taught?

One important question that we can ask is the following: where should non-western ideas about critical thinking and logic be taught? One response is simply that they should be taught in an area studies course, such as *Asian Philosophy, Arabic Thought, or African Culture.* They do not belong in an introductory level course on logic and critical thinking, especially one that aims to help us understand how to critically think in the context of public policy and decision making through civic debate and public discourse.

One way to see the force of this argument is to return to Siegel's (1993) distinction between two conceptions of critical thinking the *skill view* and the *character view* and take note of the fact that the distinction does not take account of the history of logic and critical thinking from a critical perspective involving discussion of colonialism. For example, one might introduce a further view called the *comprehensive view*:

> The Comprehensive View holds that critical thinking involves (i) the development of the appropriate skills that are constitutive of critical thinking, (ii) along with the appropriate character traits, dispositions, attitudes, and habits of mind, which are constitutive of the "critical spirit". However, it also requires (iii) that the skills / tools and the nature of the "critical spirit" be derived from all traditions that have

[60] Some will be inclined to respond to this view by claiming that I am inviting anarchy since some forms of critical engagement do not respect persons. My account requires a defense of what can be properly said to fall under the human kind *critical thinking*. And my account faces the classical problem of how openness in inquiry must rest on being closed to intolerance. However, I am at a loss to give an *a priori* account of how to combat either of these problems. Rather, I would think that an account of the human kind *critical thinking* and how to respond to the problem of openness resting on being closed to intolerance would proceed by some *a priori* thoughts improved upon by empirical investigation of cultures, traditions, and the nature of the human mind.

> contributed to critical discourse. Finally, the view requires that at some point a critical thinker engage the meta-critical question about critical thinking. That is that a critical thinker acquires a proper understanding and appreciation of the sources of critical discourse for the purposes of brining harmony to all that participate in the activity.

One question that the *comprehensive view* brings out is *the implementation question*: how can the comprehensive view be implemented? At least one response to this question is to notice that there are three stages for implementing this view. Stage one is the *information acquisition stage*. In this stage the goal of cross-cultural and multi-disciplinary philosophy is to acquire plausible sets of cross-cultural and multi-disciplinary materials that could be used in teaching critical thinking in a more inclusive and effective way. Stage two is the ratification or evaluation stage. In this stage the goal is to de-limit the initial set of materials into the most plausible materials that would be taught relative to a set of goals. Stage three is the refinement stage. In this stage educators and researchers work together to refine the materials to have the best critical thinking educational package that is viable for an eight-year period. Stage four is the re-consideration and update stage, where educators and researchers get together to test whether the educational package is still serving the public in the best possible way given the changing ways in which society must deal with critical thinking.

One consequence of this view of implementation is that critical thinking education must be fluid over time. It cannot be the case that we have a fixed set of tools for critical thinking which are ranked to be equally important at any stage of society. Rather, what we have is a database of ideas about critical thinking, where our role as critical thinking educators requires us to think critically about what tools are most useful in a given time-period.

Based on the distinction between the three views and the implementation strategy the following argument can be made. At the introductory level the primary goal of a course on critical thinking and logic is to teach students thinking skills, since the skills are essential for college success, life-long learning, civic engagement, and public discourse. As a consequence, the historical source from which the skills derive from is not important. Rather, the skill itself is important. One way to amplify the argument's force is to concede that it was a mistake to include references to western thinkers in the presentation of logic and critical thinking in the first place. The simple idea is that just as there is a difference between math and the history of math, there is a difference between logic and critical thinking, and the history of it.

This argument is powerful, since there is so much need for students to learn critical thinking skills as opposed to the mere history of the discipline. But as soon as this point is made, the key presumption is revealed: *there are no skills that can be acquired through studying non-western contributions to logic and there is nothing to be gained critically by studying logic and critical thinking from a historically informed global perspective*. However, there is an interesting and substantial response that can be given to this point. I will present the argument via analogy.

1. Inclusion of women in critical thinking and logic textbooks along with women role models for critical thinking and logic education reduces *stereotype threat*.

2. The problem that women face in critical thinking and logic education is sufficiently similar to the case of minorities.

3. Inclusion of minorities in critical thinking and logic textbooks with minority role models for critical thinking and logic education would reduce stereotype threat for minorities.

Lehan (2015), through engagement with work done by numerous scholars, offers the following account of stereotype threat.

> Stereotype threat occurs when a person believes they will be judged on the basis of some group-based stereotype. They do not need to believe the stereotype, and the stereotype need not even be prevalent in their environment. All that is necessary to activate this particular social identity threat is that a person believes that others will treat them negatively or evaluate them unfairly on the basis of one of their social identities. For example, a woman who thinks either that "women are not logical" is true or that many other people believe this to be true may find that such a belief impacts her performance on logical tasks or enjoyment of these tasks. (pp. 3-4)

Saul (2013) takes the point further in her discussion of stereotype threat and the trajectory of women in philosophy.

> A female philosophy student will probably be in the minority as a woman in her department, and she'll almost certainly be in the minority as a woman if she takes classes in the more stereotypically male areas like (for example) logic, language and metaphysics. As she continues on to higher levels of study, the number of women will be steadily diminishing. In any class she takes other than feminist philosophy, she's likely to encounter a syllabus that consists overwhelmingly (often exclusively) of male authors. The people teaching most of the classes are also very likely to be male. All of these factors calling attention to low numbers of women are known to provoke stereotype threat. Since stereotype threat has its strongest effect on the most committed students, this means that the most committed women are likely to underperform. (Saul. 2.1, emphasis added)

Saul's point, in the emphasized area, is equally true of minority students and their upward trajectory in philosophy. The syllabi and the people teaching the courses will largely be white males.

However, there is a cure for stereotype threat. Lehan discusses methods for reducing it in introductory logic and critical thinking courses. She mentions two important strategies for stereotype reduction based on the notion of a counter-stereotype role model.

> [A] successful method for reducing stereotype threat is the introduction of counter-stereotype role models. One way to do this is to introduce students to members of the stereotyped group who have done well in

> the area. For example, "when female students are exposed to women that have performed successfully in mathematics and science related fields, they perform better than female students who do not have examples of women with such performance" … One study showed that reading essays about women who are successful in math can reduce the negative effects of stereotype threat … "Thus, direct and indirect exposure to women that have successfully navigated the field can be enough to reduce the negative impacts of stereotype threat for female students"… This suggests the importance of highlighting women in logic. "[T]he direction of [the] impact [of role model introduction] depends on the believed attainability of their success: Models of attainable success can be inspiring and self-enhancing, whereas models of unattainable success can be threatening and deflating". In the interest of attainability, it is also extremely important to mention women currently working in logic such as Audrey Yap, Penelope Maddy, Dorothy Edgington, Susan Haack, and many others conveniently listed on the Women in Logic list. (Lehan 2015, pp. 10-11)

Thus, given that the technique of including women in critical thinking textbooks and as role models in the classroom has successfully led to stereotype reduction for women, we can legitimately ask: would the same technique work for minorities? It seems that the relevant question to explore is: are the two cases similar enough? Are the stereotypes that women face the same as the stereotypes that minorities face? And interestingly: what about the intersectional case of, minority women? Here are some important considerations.

Unlike the case of the category *woman*, the category *minority* is quite diverse with various stereotype alterations within the category. For example, do Asians face the same stereotype threat in a critical thinking and logic course that African Americans or Latino Americans face? Arguably they do not, given the model minority status that is often attributed to Asian Americans (Indian, Pakistani, Chinese, Korean, or Japanese). The difference is that teachers, in the US, don't typically look at Asian Americans thinking that they are going to do poorly in a critical thinking or logic course as much as they think that an African American or Latino American might. But this opens up the intersectionality question: given that everyone that has a race has a gender, *could it be* that the stereotype threat that women face applies without any thought to racial differences? More specifically, do teachers operate with different implicit biases about Asian women than African American women or Latin American women? And do these gender-race interactions alter the stereotype threat?

More research needs to be done on these questions. For the purposes of what I am arguing here, I cannot answer them. What is relevant to my argument is that we look closely at the fact that there are two distinct questions in the area, one concerning performance, the other concerning retention. Suppose that Asian Americans, either male or female, generally perform well on critical thinking and logic, so that they do not face a stereotype threat the way an African American male or a Latina female might. We might say something like the following. Because of the stereotype threats that the African Americans and the Latin Americans faces they perform poorly, and their poor performance is one factor that accounts for why they do not stay in the

field of philosophy. However, this cannot be the explanation in the case of Asian Americans, since there is no relevantly similar stereotype threat. Many Asian women perform extremely well on first-year courses in logic and critical thinking.

So, is there another stereotype threat that Asian Americans might face that speaks to the question: why aren't there many Asian Americans in philosophy? My view is that there is another stereotype in the area. And it operates on an axis that helps explain why most Asian Americans, as opposed to African Americans or Latino Americans focus on western philosophy as opposed to issues pertaining to their own origin. The stereotype concerns what the content of Asian philosophy is advertised to be about. We might put the point simply by saying that Asian Americans face *the mysticism stereotype*. Recall the quote from H.H. Price (1938).

> [Western philosophy] looks outward and is concerned with Logic and with the presuppositions of scientific knowledge; [Indian philosophy] looks inward, into the 'deep yet dazzling darkness' of the mystical consciousness. (as quoted in Ganeri 2001, p. 1)

And other attitudes, such as F. Ueberweg (1857)

> Philosophy as a science could [not] originate among the Orientals, who, though susceptible of the elements of high culture, were content simply to retain them in a spirit of passive resignation. (as quoted in Ganeri 2001, p. 13)

The core idea is that showing interest in Asian philosophy is showing interest in something that is mystical, non-rational, and not really philosophy. Studying Asian thought is studying Asian religions. It is not studying philosophy. Given that Anglophone philosophy focuses on logic and reason, and the stereotype of, for example Chinese, Indian, or African philosophy, is that it does not, but is rather mystical, Asian, African, and African American students typically adopt the dominant interests of western philosophers. The idea is that to be a real philosopher one must adopt an interest in Western philosophy, since that is where one finds the true origins of rationality. In fact, one often finds that it is easier for non-Asians to show a genuine interest in Asian philosophy than it is for an Asian to show an interest, since Europeans do not face a stereotype threat when engaging Asian philosophy. Rather, they are seen as having an open-minded interest in other traditions.

As a consequence, what can be seen is that the inclusion of non-western thinkers in critical thinking and logic education isn't just about informing others that non-western thinkers have contributed to critical thinking and logic in important ways. If it were about that, it could be solved by an area studies course. Rather, it is about altering perceptions, held by westerners and non-westerners about the content of Asian philosophy. By introducing it in the context of an introduction to critical thinking and logic course we do away with the idea that there is something called Buddhist logic or Chinese logic. We introduce students to critical thinking and logic through the contributions from everyone that in fact did contribute. And we make clear all of the following:

- Critical thinking doesn't just come from the Greco-Roman-European tradition. It is part of the human condition.

- Many cultures contributed in interesting, compatible, and also controversial ways to the semantic range of what falls under the English word 'critical thinking'.
- By introducing critical thinking through a cross-cultural lens, we can reduce stereotype threat revolving around the idea that non-western cultures did not contribute to critical thinking, which is the prized contribution for studying the humanities.
- We can, in addition to helping minority students stay in philosophy, also help the dominant group come to a better understanding of the roots of critical thinking, so as to see philosophy and logic arising from outside the west as an interesting place to explore ideas.
- How one person debates and discusses an issue of importance to their lives doesn't always follow the way in which another person does.

Returning to the beginning, we cannot really answer the *education for democracy question*:

How should public education enable the ethical implementation and proper functioning of democratic processes, such as voting on the basis of public and civic discourse?

with the critical thinking and civic debate response

Public education should provide citizens of a political body with basic skills in critical thinking, civic debate, and ethical public discourse.

unless we acknowledge the obvious fact:

We live in a multicultural world where it is no longer possible to say that the demographics of, for example, the US and the UK, are not sufficiently diverse across Indian, Chinese, Arabic, African… persons of origin so as to warrant leaving out ideas about critical discourse and discussion emanating from non-western traditions. To present critical thinking as originating from the human condition, as opposed to the western condition, is to give proper place to every individual, in a diverse body of individuals, who participates in an ethical public exchange of ideas leading to an outcome that pertains to all.

Future Interventions

One conception of the future direction for the cross-cultural and multi-disciplinary critical thinking movement is as a departure from a familiar way of looking at logic in the west. We are often told in our studies of logic that what defines logic is the fact that it is *not* informative, since it is (i) topic-neutral, it is not about anything, (ii) general, it is not specific to any single domain of discourse, such as cooking or rock climbing, (iii) it is universal and applies to everything, and (iv) it is a neutral arbiter in debates. These ideas about logic can find their way into discussions of critical thinking as well. We can find ourselves in a moment caught up in the idea that critical thinking skills and the spirit are general and universal and help us reason properly no matter

what we are thinking about. The future direction of cross-cultural and multi-disciplinary critical thinking sees this conception of both logic and critical thinking as partially correct, but tragically flawed and mistaken. In his (2012) *Logic and Neutrality*, Timothy Williamson offers a critique of a conception of logic. He writes

> The idea that logic is uninformative strikes me as deeply mistaken.
>
> The conception of logic as neutral umpire of debate also fails to withstand scrutiny, …. Principles of logic can themselves be debated, and often are, just like principles of any other science.

The future direction for critical thinking needs to jump into discussing and debating what critical thinking really is. At least two promising ideas that need to be explored are the following. On the one hand, we need to take seriously that for some traditions critical thinking essentially involves thinking about one's external environment in relation to oneself and all creatures. Being a good critical thinker requires that one effectively reason about what is best for their environment. On the other hand, we need to take seriously that for some traditions critical thinking essentially involves thinking about one's internal environment in relation to others. Being a good critical thinker requires that one effectively reason about what is best for themselves in relation to others.

That is, critical thinking from a global perspective that takes other disciplines seriously will not think that critical thinking is neutral and without substantive content. It will not hold that the sole domain of critical thinking is to provide, like some think of logic, rules for guiding pure reason. Rather, an inclusive account of critical thinking will take seriously the self and world as domains within critical thinking. The ability to think about one's own conscious states as potentially biased or unbiased or subject to past trauma and triggering from a psychological perspective will be a core trait of a critical thinker. No longer will one expect only that a critical thinker, *qua* critical thinking, can correctly identify that a speaker's argument contains a fallacy, and not what individual states of mind and bias one is also subject to in hearing the argument. No longer will we think that someone can be a good critical thinker, if they don't think about how best to treat nature and other creatures. The reach of critical thinking goes beyond the human.

For example, the philosopher Arne Naess serves as a great model for future thinking about cross-cultural and multi-disciplinary critical thinking. In his (1984) *Communication and Argument* he offered some rules for objective public debate:

Avoid Tendentious Irrelevance

- Personal attacks, claims of opponents' motivation, ...

Avoid Tendentious Quoting

- Quotes should not be edited regarding the subject of the debate.

Avoid Tendentious Ambiguity

- Ambiguity can be exploited to support criticism

Avoid Tendentious Use of Strawman

- Assigning views to the opponent that she does not hold.

Avoid Tendentious Statements of Fact

- Information put forward should never be untrue or incomplete, and one should not withhold relevant information.

Avoid Tendentious Tone of Presentation

- Irony, sarcasm, pejoratives, exaggeration, subtle threats

These rules are clearly debatable and plausible in the context of considering how other cultures might think about how best to have a global public debate. However, Naess's own thinking goes far beyond rules of debate. In his many works on deep ecology and in his advocacy of ecosophy he shows people how to think about their environment in a critical way that is not shallow. His work is a model for future thinking about cross-cultural and multi-disciplinary critical thinking because it stays at the level of providing rules that are context-transcendent. The rules he gives us for public debate are not particular to debating climate change, for example. Nevertheless, we can imagine a scenario in which, altering our tone might be a necessary condition for making our point, given our audience. Most importantly, his work in deep ecology shows us how to think critically about a substantive component of our lives that affects us in a relational way. We are all dependent on each other and our environment. Thinking about the self, the world, and our relation to it is essential to critical thinking.

Post-Reading Questions

1. Education for democracy:

   One question in the philosophy of education is the question concerning *education for democracy*, EDQ: How should public education enable the ethical implementation and proper functioning of democratic processes, such as voting on the basis of public and civic discourse? At least one plausible answer is that a public education should provide citizens of a political body with basic skills in public discourse, which is inclusive of critical thinking and civic debate. That is education for democracy should have an element that enables *ethical public discourse* on topics of shared concern.

   QUERY: How do you think education should serve democracy? What role does critical thinking play in democracy? Is critical thinking important for the voting members of a democracy? What role does being adequately informed play in democratic voting?

2. The Meta-Critical Question about Critical Thinking:

In light of the cases outlined in Ch. 7 and the caricature, the critical thinking and civic debate community faces an important and unexamined question: does critical thinking and civic debate education rest on an uncritical examination of its very foundation? Is the foundation perhaps insensitive to race, class, gender, and non-western traditions of critical thinking and debate? Call this question the meta-critical question about critical thinking.

QUERY: Why is it important to engage the meta-critical question? How often should we revisit the question? What do we gain from revisiting the question?

3. The Central Argument:

   Briefly, at present there is a social blind-spot that critical thinking and debate education suffers from in the US, UK, and those countries that use the standard model that originates from the UK. In short, the blind-spot is that critical thinking and debate education is insensitive to variation over what could count as *critical thinking* and *civic debate* based on an examination of non-western contributions to critical thinking and debate.

   QUERY: What do you think of the central argument? Do you think it is good or bad, if so why?

4. Vāda: *Vāda* is an honest debate where both sides, proponent and opponent, are seeking the truth, that is, wanting to establish the right view

   Jalpa: *Jalpa* is a discussion / debate in which one tries to win by any means, fair or unfair.

   Vitaṇdā: *Vitaṇdā* is a discussion in which one aims to destroy or demolish the opponent no matter how.

   QUERY: Can you think of a context where each of these styles of debate would be useful? Should we allow for all of these styles of debate or should we only allow for some? And if so, which ones?

5. The Skill View: Holds that critical thinking is exhausted by the acquisition and proper deployment of critical thinking skills.

   The Character View: Holds that critical thinking involves the acquisition and proper deployment of specific skills as well as the acquisition of specific character traits, dispositions, attitudes, and habits of mind. These components are aspects of the "critical spirit".

   The Comprehensive View: Holds that critical thinking involves (i) the development of the appropriate skills that are constitutive of critical thinking, (ii) along with the

appropriate character traits, dispositions, attitudes, and habits of mind, which are constitutive of the "critical spirit". However, it also requires (iii) that the skills / tools and the nature of the "critical spirit" be derived from all traditions that have contributed to critical discourse. Finally, the view requires that at some point a critical thinker engage the meta-critical question about critical thinking. That is that a critical thinker acquires a proper understanding and appreciation of the sources of critical discourse for the purposes of brining harmony to all that participate in the activity.

QUERY: Which of the three views of critical thinking do you think is best, and why?

6. Strategies for stereotype reduction:

   A successful method for reducing stereotype threat is the introduction of counter-stereotype role models.

   QUERY: Explain what a stereotype threat is? Explain why stereotype threat is bad? Explain how counter-stereotype role models can be used to reduce stereotype threat?

7. Syllogism Question:

   Using the classic Fire-Syllogism of classical Indian philosophy, provide both a good and a bad example of an argument. Be sure to fill in each step in the sequence in a manner similar to the original Fire example.

   Thesis: There is fire on the mountain over there.

   Reason: There is smoke over there on the mountain.

   Rule/Example: Where there is smoke, there is fire, as in a kitchen when one starts a fire.

   Application: The case of the mountain is like the case of the kitchen.

   Conclusion: There is fire on the mountain.

   Thesis:

   Reason:

   Rule/Example:

   Application:

   Conclusion:

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Chapter 6: Field Theory: Critical View to Analyze Social World

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Introduction

The social world is ambiguous and complex and the analysis of contemporary social phenomena is arduous for social scientists. Traditionally, sociological theory emphasizes the macro and micro level of analysis (Klutz and Fligstein, 2016). This chapter explores the field theory as an alternative theoretical background to analyze the social world critically, especially institutions, the economy, and organizations. Complementary to the macro and micro level of analysis, field theory offers a meso-level order because the field is delimited by the values and forms of capital that support disputes about orders, positions, and resources. The meso-level constitute the social order constructed from actors (individual or collective) who influence or interact with each other based on their understanding (Fligstein and Mcadam, 2012).

Field theory implies powerful actors able to produce rules of interaction to stabilize the situation in relation to other actors (Fligstein and Mcadam, 2012). The social dynamics within each field is governed by the struggles in which actors seek to maintain or change the power relations and the distribution of specific capital. The determinants of individual and collective conduct are the particular positions of every agent in a structure of relations (Thirty-Cherques, 2008).

According to Thirty-Cherques (2008), what determines the existence of a field and demarcates its limits are specific interests. As the author explains: "The field is delimited by the values or forms of capital that support it. The social dynamics within each field is governed by the struggles in which agents seek to maintain or change the relations of force and the distribution of specific capital... the determinants of individual and collective conduct are the particular positions of every agent in the structure of relations "(Thirty-Cherquets, 2008, p).Broadly, field is one fundamental unit of analysis of collective action in society (Fligstein and MacAdam, 2012). The field of action "involves social orders built on the meso level where actors interact with others and act upon the shared understanding of the purposes of the field. (Fligstein and MacAdam, 2012). The concept of fields allows to work at the organizational and societal level, involving a complex interrelation between environments, material resources, and institutional resources (Machado-Da-Silva, Guarido Filho, And Rossoni, 2006). Also, the notion of field involves the capacity to exert the political action to stabilize a set of relations in favor of their interests (Fligstein, 2007). Otherwise, there is a significant increase in the interest of field

theories in the social sciences, education, economics, management, political science, among other areas. However, this subject has different concepts and theoretical roots, from institutional theory, reflexive sociology, and economic sociology.

Firstly, this chapter explains some similarities and differences about fields, from different perspectives: institutional theory (Dimaggio and Powell, 1983), reflexive sociology (Bourdieu, 1985) and economic sociology (Fligstein and Mcadam, 2012). Secondly, the chapter offers some deep explanations about the fields from the perspective of Fligstein and McAdam (2012). The chapter explores the main concept of fields theory: 1) strategic action fields, 2) incumbents, challengers, and governance units, 3) social skills and the existential functions of the social, 4) the broad field environment, 5) exogenous shocks, mobilization and the onset of contention, 6) episodes of contention, and 7) settlement. This level of analysis explores how actors create and reproduce stable words and sustain meso-level social orders. In this sense, all the discussion about field contributes to a reflexive and critical view about social life and its dynamics.

Social Fields

Field theory was originally explored by Max Weber and Kurt Lewin who studied phenomenology and symbolic interactionism (Kurtz and Fligstein, 2016). They provided the foundations of the field models. There are mainly three perspectives to field theories from the 1) neo-institutionalism of (Dimaggio and Powell, 1983), reflexive sociology (Bourdieu, 1992) and economic sociology (Fligstein &and Mcadam, 2012). The three approaches differ primarily in their understanding of the role of actors, power, consensus, and the dynamics of the field. The conclusion is that one should put them into the conversation to examine which makes more sense in the different types of situation (the "proof" is given by empirical analysis). One main common idea to field theories is that social life happens mainly in arenas and actors consider each other in their actions.

First, Pierre Bourdieu (1992) extended the idea of the field as part of a more complex theoretical framework, which included two other important concepts: capital and habitus. For Bourdieu, social life is built in the fields. The concept of field is similar to that of arenas often used the metaphor of games to describe how the actions of individuals should occur in these fields of struggles. The "players" occupy hierarchical positions, disputing status, prestige, capital, and power. Each field is autonomous, that is, it has its own rule or prevailing logic.

Second, is the neo-institutional approach of DiMaggio & Powell (1983) where organizations are part of an organizational field, usually influenced by institutional concerns and isomorphism (eg legitimacy), than by other factors such as competition. This view is strongly influenced by American sociology, with an emphasis on organizations that are parts of the institutional environment, such as suppliers, resources and products, clients, regulatory agencies, and other similar organizations. As defined by DiMaggio & Powell (1983) fields are "those organizations which together constitute a recognized area of institutional life: key suppliers, consumers of resources and products, regulatory agencies and other organizations producing similar services or products." The concept of isomorphism is well explained by this theory, stating that organizations exposed to the same field tend to copy each other over time.

Third, Fligstein and McAdam (2012) field strategic action model is a meso-level social order. “A meso-level social order constructed from actors (individual or collective) who influence or interact with each other (not always consensually) based on their understanding of the purpose of the field, past social relations and rules dictating legitimacy of actions within a specific context.” The field is constructed and deconstructed by actors whom interact with each other on a shared basis and understand the effects of the field. For Fligstein the field is based much more in subjective rather than objective criteria, the boundaries of the field may vary according to the situation investigated and collective knowledge becomes the great "generator" of the larger context.

Klutz & Fligstein (2016) defend the understanding of the object of study, as well as the dialogue of the different theoretical aspects. But, they make clear that advances are needed both in the conceptual field and in the empirical questions for greater clarity of the scope of each one of the theories.

Strategic Action Field

Fligstein (2007) highlights three institutional spheres operating in the context of organizations: the strategy and structure of organizations; the organizational fields, and the State. While institutional theories understand that the actor is being compelled and homogenized by the social structure, the perspective of the field extrapolates this vision when conceiving the social actor and its capacity of action to control and modify the market, the transactions, and resources of the relevant actors. The strategic action field is defined by socially constructed arenas, in which individuals and groups with different resource domains compete for advantages. The fields involve a way to understand the relationship between agency and structure by constituting a meso-level of analysis. At the meso level of analysis, the action is taken between and within the organized groups. Also, the analysis of the fields depends on the identification of the state in which they are: emergent fields, stable and fields in crisis (Fligstein and McAdam (2012).

The strategic action fields (CAE) are meso-level social orders in which actors (which can be individual or collective) interact with one another on the basis of shared (not necessarily consensual) understandings about the purposes of the field (including who has power and why), and on the rules governing legitimate action (Fligstein & McAdam, 2012, p.9). The field as social action has some central concepts explained by Fligstein and MacAdam (2012). The core concepts are: 1) strategic action fields, 2) incumbents, challengers, and governance units, 3) social skill and the existential functions of the social, 4) the broader field environment, 5) exogenous shocks, mobilization, and the onset of contention, 6) episodes of contention, and 7) settlement.

1. *Strategic Action Fields*— The strategic field of action is the fundamental unit of analysis of collective action in society. The field of action "involves social orders built on the meso level where actors interact with others and act upon the shared understanding of the purposes of the field." All the collective actors are immersed. So the action is constituted in social orders at the meso-level. As Fligstein and MacAdam, (2012) explain “A strategic action field is a constructed mesolevel social order in which actors (who can be

individual or collective) are attuned to and interact with one another on the basis of shared (which is not to say consensual) understandings about the purposes of the field, relationships to others in the field (including who has power and why), and the rules governing legitimate action in the field. A stable field is one in which the main actors are able to reproduce themselves and the field over a fairly long period of time".

2. *Incumbents, challengers and governance units.* The incumbents are the dominants and they incumbents exert a strong influence in the field. Challengers have less influence, but they recognize a dominant logic and can articulate themselves in alternative visions of the field. Both incumbents and challengers have an internal unit of analysis. These internal governance units seek to reinforce the dominant perspective and guard the incumbents' interests. Stability can also occur by imposition or by political coalitions, based on the cooperation of a group of actors. Thus the fields are compounded with cooperation, coercion, and competition. As Fligstein and MacAdam (2012) detail "incumbents are those actors who wield disproportionate influence within a field and whose interests and views tend to be heavily reflected in the dominant organization of the strategic action field. Thus, the purposes and structure of the field are adapted to their interests, and the positions in the field are defined by their claim on the lion's share of material and status rewards. In addition, the rules of the field tend to favor them, and shared meanings tend to legitimate and support their privileged position within the strategic action field".
3. *Social skills.* Social skills are explained as the existential function of the social. Social skills are the way individuals or collective actors possess a high cognitive ability to understand people and environments. Social ability structures lines of actions, mobilizing people to service a broad conception of the world and themselves. So Fligstein and MacAdan (2012) explains that the social is inherent in the human being, so it is existential. Social skills involve cognitive, empathic and communicative skills to ensure co-operation. There are also studies on human capacity and the need to establish common meanings and identities capable of securing an existential basis. As Fligstein and MacAdam (2012) explain, social skills are "peculiar to humans and rooted in a fundamental understanding of what we term the existential function of the social. So central to our perspective is this distinctive micro foundation." Further, social skills are important to the actor as a way to induce the cooperation with other actors in order to produce and reproduce a set of rules and stabilize a set of relations. The mechanisms are varied, such as contracts, cooperation, cooptation, reciprocity relations, trust among other mechanisms, and depending on the degree of centralization of governance formed within the set of relations.
4. *Broader environment.* All other fields are immersed in a complex of other fields more or less interdependent. There are at least three characteristics that help to understand the other fields, such as 1) far-near fields, 2) Independent-dependent, and 3) Low state-high influence of the state. Thus the stability of one field depends on the stability of the other fields. As shown by Fligstein and MacAdam, (2012) "fields as embedded in complex webs of other fields. Three sets of binary distinctions will help us characterize the nature of these "other fields" and their relationships with any given strategic action field. The first distinction is between *distant* and *proximate* fields. Proximate fields are those

strategic action fields with recurring ties to, and whose actions routinely affect, the field in question. Distant fields are those that lack ties and have virtually no capacity to influence a given strategic action field."

5. *Exogenous shocks, mobilization and onset contention.* The fields are always a source of routine and turbulence. Some fields may be threats to other fields. Challengers can then change the stability of one field or another, but incumbents are well positioned to withstand the pressure. A significant change in any given strategic action field is like a stone thrown in a still pond sending ripples outward to all proximate fields. This does not mean that all or even most of the ripples will destabilize other fields. Like stones, changes come in all sizes. Only the most dramatic are apt to send ripples of sufficient intensity to pose a real threat to the stability of proximate fields.
6. *Episodes of contention.* Episodes of contention can be defined as an emerging period, sustained by contentious interactions between actors who use innovative forms vis-a-vis to each other. Also, the episodes of contention have a certain sense of uncertainty regarding the rules and the power of governing the relations of the field. The combatants seek to mobilize a consensus around a particular notion of field. As Fligstein and MacAdam (2012) explain, "besides innovative action, contentious episodes contain a shared sense of uncertainty/crisis regarding the rules and power relations governing the field. In the case of fields already characterized by well-established incumbents and challengers, the mobilization of both groups can take on extraordinary intensity. An episode can be expected to last as long as the shared sense of uncertainty regarding the structure and dominant order of the field persists. Indeed, it is the pervading sense of uncertainty that reinforces the perceptions of threat and opportunity that more or less oblige all parties to the conflict to continue to struggle."
7. *Settlement*. Through either sustained oppositional mobilization or the reassertion of the status quo by incumbents and/or their state allies, the field begins to gravitate toward a new—or refurbished— *institutional settlement* regarding field rules and cultural norms. We can say that a field is no longer in crisis when a generalized sense of order and certainty returns and there is once again consensus about the relative positions of incumbents and challengers (Fligstein and MacAdam, 2012).

Agenda for Field Perspective

The field perspective has a wide development from the French perspective, with great influence from Bourdieu's researches and also from the North American sociological school (SCOTT, 2004). However, there is a high multiplicity of structural / relational and symbolic / meaningful analysis (MACHADO-DA-SILVA, GUARIDO FILHO, and ROSSONI, 2006). This article focuses on the perspective of power from Fligstein's perspective (Swedberg, 2004).

In Bourdieu's view, Thirty-Cherques (2008, p.104) explains: "the field is both a field of forces, a structure that constrains agents involved in it, and a field of struggles in which agents act according to their relative positions in the powerhouse, or transforming its structure. These struggles are mainly in the symbolic field." In Bourdieu's work, there is an attempt to overcome the opposition between subjectivism and objectivism and also to reject the idea of actions being

conditioned by the rationality of actors, according to Bourdieu agents are constantly under "structural constraints."

In Fligstein's view (2007), powerful actors are able to produce rules of interaction to stabilize the situation in relation to other actors. This social skill, capable of inducing other actors to cooperate with the goal of producing and reproducing a set of rules and stabilizing a set of relations. There is clearly in Fligstein's point of view a concern with power and cognitive structures (Machado-Da-Silva, Guarido Filho and Rossoni, 2006, p.2) where "constructions produced by power-holding organizations influence the rules of interaction and dependence of the field in function of their interests, which in turn, are reflections of their position in the social structure. "

In this way, its practical application will become more explicit and intuitive. For Fligstein (1996), the success of control design will depend on the ability of large-scale managers to build new solutions. This brings the complexity of the relationship between companies and the creation of new managerial roles (Daft, 1999). According to Hatch (1997), managers create solutions to reduce their organization's dependence on scarce resources through interorganizational control structures.

Trust, cooperation, and reciprocity are widely present mechanisms in market relations and condition how actors coordinate and govern interactions with customers, suppliers, partners, the state, community, investors, including competitors.

In this logic some important reflections appear for future studies on this subject:

- How are interaction rules formulated and institutionalized among organizations?
- What are the market control mechanisms used by organizations and institutions with relative power?
- How can the governmental force, political coalition or collective action affect the control and power relations in the field?
- How does social ability induce cooperation with other actors? How do you produce and reproduce a set of rules and stabilize a set of relations?
- How can contracts, cooperation, co-optation, reciprocity relationships, and trust be used to stabilize relationships and gain access to resources?

The multidisciplinary nature of field studies opens a wide range of themes and possibilities for analysis. Machado-da-Silva, Guarido Filho and Rossoni (2006) cite some other possibilities of the study of the fields, such as the totality of relevant actors, the functionally specific arena, the center of dialogue and discussion, the arena of power and conflict, institutional sphere of interests in dispute, and the structured network of relationships. This brings to this perspective relevant development in the field of economic sociology, especially for studies on the formation and domination of markets.

Final Remarks

As stated by Abramovay (2001) the market is an institution and not a neutral meeting space of buyers and sellers. This conception stimulates the study of the market from the social structure. Hence the idea of reflecting on networks, institutions and fields as emerging issues in the field of

economic sociology. However, there is no central theory of economic sociology, but rather competing and multifaceted perspectives (Swedberg, 2004). Each perspective contributes to the understanding of a different level of the relations between the organizations and the economic behavior of the actor. Pluralism is interesting because it allows researchers to discover new aspects of organizational life and to deepen their critical inquiries (Astley and Van De Vem, 2005).

The set of theoretical and methodological reflections and possibilities about networks, institutions, and fields represents an important frame of reference for understanding the relationship structure between organizations and the functioning of markets. In the network perspective, the relations between companies reproduce more or less privileged positions in the structure of relations. In the institutional perspective, the relationships between organizations can generate homogeneity of organizational practices. From the perspective of the field, powerful players have the ability to dictate the rules of the game and master valuable resources.

In the debate about the nature and structuring of the organizations presented by Astley and Van de Vem (2005), it is perceived that the perspectives of the institutional and field networks "understand" the socially constructed and subjectively signified organizational reality. They approach the central assumption of economic sociology about the dependence and limitation of established actors with other organizations and/or institutions. However, with different levels of analysis the combination of control and power perspectives, structural and institutional can present new research delineations and of great relevance to the communities and scholars of economic sociology and markets in Brazil.

In this proposal, there is intentional interdisciplinarity in the sense of building bridges of structural / relational, institutional and power analysis in the organizational field. Hall & Taylor (1996) emphasize that rational and cultural approaches have a space for dialogue since the actors' behavior is conditioned by a strategic vision and by a cultural vision. The article aims to contribute to the improvement of the theoretical perspectives reported and to assist in the development of knowledge production in organizational theory and economic sociology. The study of these perspectives can flourish new paths of reflection for the understanding of the interaction of organizations, with the economy and society.

Post-Reading Questions

1. What is field theory?
2. What does a field include?
3. Why the field theory is as an alternative and critical view to analyze the social world? Explain.
4. From your point of view, give an example of fields.
5. Explain what kind of resources/capital this field evolves.
6. Explain the presence of incumbents, challengers, and governance units inside this field.
7. Who is the socially skilled actor in this field? Why?
8. How skilled actors influence the field dynamics?
9. Define the broad field environment for your example.
10. Explain what kind of capital actors uses to influence the field and other social unities.

11. Explain what kind of resources they use to change or stabilize the field.
12. Does this field imply in some exogenous shocks? Explain what kind of exogenous shocks can happen in the field.
13. Explain some kind of episode of contention for your example.
14. Explain if the field begins to gravitate toward a new or refurbished institutional settlement regarding field rules and cultural norms.
15. How does this new institutional settlement affect field dynamics?

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Chapter 7: Critical Thinking and Thought Control

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Introduction

Buridan's Ass is a dumb animal. Standing halfway between two piles of juicy grass, it is pulled in two opposite directions. Unable to decide which to go to first, it starves to death in the middle.

Vygotsky argues that we can escape from such a terrible dilemma; because we can manage our own thoughts, we can introduce new elements into the situation. Vygotsky gives the example of Pierre in Tolstoy's *War and Peace*. Pierre has a comfortable life, but feels that perhaps he should do his duty and join the army to fight against Napoleon's invading army. Standing halfway between pleasure and duty, Pierre is paralysed by indecision. Pierre takes a coin out of his pocket, and decides to let a toss of the coin make the decision for him. Vygotsky explains that Pierre, as a rational human being, is able to introduce a new element, incorporate external tools to support his thinking, to ensure that he is never left in the position of Buridan's Ass. (Derry, 2013)

In transforming ourselves from a mere dumb animal into a rational human being, the most thoughtful and effective that we can be, we need to find tools that will help us to manage our own thinking. We will be able to think clearly, to think better and to think critically, if we can manage our own thinking. So the "thought control" in the title of this chapter is not about controlling the thoughts of other people; it is about taking control of ourselves.

In this chapter I examine one set of tools that can be used to manage our thinking, adapted from the work of Edward de Bono. In his work de Bono (1985) argues that there are six different ways of thinking, and our thinking is improved if we can employ all six modes of thought, and if we can switch from one to another consciously and as we wish.

Six Ways of Thinking

It may be helpful, for the purposes of illustration, to take a specific proposal that we might want to think about. This could really be anything (and from de Bono's point of view should be everything that we want to think about), such as doubling teachers' salaries, introducing vertical grouping in classes of a secondary school, or changing the pattern of school holidays. But to

make the illustration concrete, let us consider the proposal that each citizen, on reaching the age of twenty, should be given an educational development account worth $20,000 that they can spend on their own education in any way they wish.

Emotional Thinking

When one is first presented with a proposal such as this, perhaps the first response is quite visceral – a gut reaction. We have an emotional response, either very positive or very negative. Almost without thinking about the proposal, it calls forth an emotional response.

Incidentally, going back to Pierre and his decision whether to join the army or not, and Vygotsky's account, it has been suggested that tossing a coin is a valuable way of breaking a deadlock of indecision. In Vygotsky's original account, Pierre had overcome his indecision by making the coin the instrument of decision making. But there is scope for a different mechanism. Once you have tossed the coin and it is spinning in the air, you are suddenly going to be certain about how you want it to land. And that is an example of emotional thinking; presented with the choice in that immediate form, an emotional response is instantaneous.

The point made by de Bono, the point being made here, is not that an emotional response is good or bad. We all have emotional responses to important issues, but we may not wish to be driven entirely and only by our emotions when it comes to important decisions. We may wish to balance considerations of the heart, with considerations of the head. We may be able to lift ourselves above the level of Buridan's Ass by bringing rational thought to bear. In order to achieve this, we need to become aware of our emotional responses, not to dismiss them.

Indeed, without passion, enthusiasm, and, possibly, irritation and disgust, we would not be motivated to do anything. All the rational thought in the world would not bring about success without the emotion to stimulate activity. So we need to cherish our emotional thinking, but we also need to be aware of it, to ensure that it is in balance with our other modes of thinking.

Negative Thinking

In all probability, faced with the proposal that each citizen, on reaching the age of twenty, should be given an educational development account worth $20,000 that they can spend on their own education in any way they wish, we can readily think of flaws in the suggestion, and pick holes in it. If we give $20,000 to every person, will we not be giving money to some wealthy people who do not need it, as well as to those who do? While some people will spend their account on education that really benefits them, will not some people spend it on frivolous educational courses, like sky diving or flower arranging?

According to de Bono, this negative thinking is what we are best at. That is not to say that it is natural, but our experience of schooling is largely directed to making us good at negative thinking. We will all have had experience of handing a piece of work to a teacher in school, and having it returned, covered with the teacher's ink, highlighting every mistake and error that we have made.

Indeed, negative thinking is so central to how we have come to think about thinking that the words "critical thinking" are often thought to be the same as negative thinking. Being critical is taken to mean being negative and spotting mistakes. What I am arguing here is that all six modes of thinking are necessary for critical thinking; critical thinking involves much more than just seeing what is wrong with an idea, including, as we have seen already, emotional thinking.

But again, the point being made here is not that negative thinking is wrong, or should be avoided, but that we need to be aware when we are being negative, to make sure that it does not dominate our decision making. But you should watch this tendency to be negative very carefully. If de Bono is correct, we have had plenty of practice at negative thinking, and we have a tendency to be a little too comfortable in this mode of thought.

Positive Thinking

Having discussed negative thinking, positive thinking should be relatively easy to understand. It might also be termed appreciative thinking. It involves thinking of reasons why the idea that we are discussing is a good idea. At the age of twenty, many of these young people, especially those who have left formal schooling relatively early, will have a few years of work experience, and may now have a clearer idea of what they really want to do with their lives. This $20,000 could, therefore, really make an important difference in the lives of young people, and help them to pursue a dream, and/or find fulfilling employment. These young people are also at a life stage when they may be experiencing early parenthood, and they could use their fund to support learning to be an effective parent.

Although de Bono argues that this way of thinking is harder for us, and we need more practice at it, I will pause at this point, now that I have identified two positive aspects to the proposal. Apart from anything else, there is a benefit in addressing positive and negative thinking in a balanced way. Eventually, having exercised ourselves in all the modes of thought, we will eventually make a decision. And then we may wish to argue in support of the decision that we have made. We might even be asked to write a critical essay in support of our decision. In that case, it will be helpful for us to have seen in the best possible light the arguments that could be presented in opposition to our decision. We will know what to expect in discussion, and we will have prepared rebuttals to the most telling arguments.

The approach to critical thinking so far amounts to something like the balanced scorecard, with reasons for and against, which we might put down in two columns on a sheet of paper when we try to make a difficult decision.

Neutral Thinking / Information Seeking

So far, so good. We are familiar with the world of debate, and with the idea of adding up the pros and cons of any argument. Positive and negative thinking would probably come to mind fairly quickly if we simply sat down and started to think about the elements of good thinking. Neutral thinking is different; it is much harder to do, as I will explain shortly, and it will take much more conscious effort to acquire the habit of neutral thought.

So, when we are presented with the proposal, there are many things that we do not yet know, but which might be very important in weighing the evidence and coming to a conclusion. Give $20,000-worth of resources to each person who reaches the age of 20? How many young people would be involved each year? How much would the scheme cost overall? What kind of educational intervention can be bought for $20,000? And would that kind of education really be life-changing for the young people involved?

Those questions, and many other similar questions, would provide information that is relevant to evaluating the proposal. If we had the answers, that information would feed into our positive and negative thinking. On the one hand, "It would cost too much", would support our negative thinking, while, on the other, "As a society we spend more each year on ice cream (for example)", might support our positive thinking.

By the way, I have no idea whether the cost of such a scheme would be more or less than our annual spend on ice cream. That, after all, is the point of neutral thinking. But I give it as an example, because such comparisons can help us to get a perspective on numbers that otherwise are very difficult to visualise. Is a billion dollars a lot of money? Well, obviously, it is a lot of money. But if we compare it with something else that our society spends a billion dollars on, then we can gain some better understanding of how big a decision we are facing.

What should be clear is that these neutral questions have fairly clear answers. Given time, we could go away and get the answer, and, within fairly narrow limits, be sure that we had got the right answer. It would then be a simple matter to feed that information into our thinking process. So why would I say that neutral thinking is hard? The fact of the matter is that most people do not like unanswered questions. Try this simple experiment out with your friends. Ask them a simple question that has a clear answer: "I wonder whether people drink more regular coffee or decaffeinated coffee in coffee shops", or "Why is the average height of people more now than it was two hundred years ago?" Nine people out of ten, or perhaps more, will give you an answer to the question, even if they have no more knowledge about the real answer than you do.

A few people will not answer the question directly, but will set out a scheme for finding the answer: "I will go on-line to see whether I can find out any market statistics for coffee", or "I will have a look at some medical journals to see if there is an explanation for that". Those people are either naturally conscientious researchers, or they have done a course about how to think clearly. Then there will be a few people who will give you an estimate, based on an extrapolation of their own experience: "I was standing in the queue at my local coffee shop, and the barista sold two decaffeinated coffees and five regular coffees while I was waiting". But those people will know this is just an estimate, and that a further check is possible to see how typical that experience was.

Incidentally, I have nothing against such estimates, so long as they are acknowledged to be estimates. The physicist Enrico Fermi is said to have used such questions to train the thinking of his students: "How many piano-tuners are there in Chicago?" (Glenn Research Centre, no date) Estimating the answer to such a question in a reasoned way, drawing on evidence and experience, and fitting it all together to give an approximate answer, or even better an upper and a lower limit, can be very stimulating. But the people who can do that are even rarer than the ones who are ready to leave the question unanswered and seek the answer later.

But most people will give you the answer, generally an immediate response based on their emotional thinking: "Regular coffee keeps me awake, so most people will drink decaffeinated", or some similar gut response. Now, John Dewey (and I will come back to him later) said that this is precisely the difference between good, effective thinking and bad thinking. The willingness to keep an open mind, to suspend judgement, and to continue thinking about the problem before jumping to a conclusion, is the hallmark of good thinking.

Creative Thinking

Creative thinking involves coming up with ideas that nobody else has thought of, or would think of. Or sometimes it just involves thinking something that is new for me, or new for this context. In a nutshell, it is thinking outside the box, except that is such a terribly old cliché, that it should be possible to find a better explanation than that. For obvious reasons, it is very difficult to give comprehensive rules about how to be creative. But creative thinking involves trying to think about the question differently, and breaking out of that cycle which is so familiar when we are facing problems, of going round and round in circles, thinking the same things over and over again, without moving forward.

There are a couple of techniques for breaking out of a rut in our thinking that de Bono suggests. The first is to inject a random element into our thinking. One way of doing that is to pick up a book, open it at a page at random, point at a word at random, and then try to weave that word into an idea about the problem we are thinking about. As I am currently in a hotel room in San Francisco, the reading material is a bit limited, so I have picked up a city guide, opened it to a page at random and pointed with my finger.

What I am looking at is a picture of the San Francisco Columbarium, a building that I have never heard of before, but which is described as an "ornate, copper-domed neoclassical structure". Apparently it houses niches where the mortal remains of people who have been cremated are kept. It looks a bit like a church or a museum. Perhaps it is suggesting that we might enlist the support of local churches, and other religious and humanitarian networks, to help young people invest their $20,000 dollars in education wisely. Or possibly it is suggesting some local organisation built around museums and galleries that could provide educational support. Or maybe just that it would be a good idea to bring all the young people of the age cohort together to brainstorm, or for mutual support. Or it is just possibly a reminder not to be too ambitious, as all of our efforts are destined to end up as dust. There can be no right answers in creative thinking. First we have to create, and we can evaluate those ideas later.

The other technique that de Bono suggests is thinking about our intended route backwards. Starting from here, and thinking about where I want to be at some future point, I am likely to be obsessed by the immediate obstacles that I face getting out of my present situation. Sometimes thinking about what it would be like to be where I want to be can give a new perspective on how to get there. The path through the obstacles that looks narrow and twisting might widen out and look more easily traversed if we go to the far end and look back.

For example, the proposal that we started from was to give young people a sum of money that they could invest in education, so that they could change their lives for the better, improve their lot and find work they enjoyed. But was $20,000 dollars the right amount? Have

you ever thought about how much money it would take to change your life? If you gave me $1,000, I do not think it would change my life fundamentally. I would still go to work and teach. I am very lucky because I do work that I love, so even if you gave me $100,000, I probably would carry on going to work and teaching. But if you gave me $1,000,000, then I think I would definitely have to find some other way of doing good than just carrying on as before. But there are obviously some people whose lives would be changed completely if you gave them even $1,000. So would it be a good idea to do a quick survey of people aged twenty to find out how much money it would take to change their lives?

Those are the two techniques that de Bono suggests for scaffolding creative thinking. And since we are talking about being creative, there are probably as many stimuli for thinking creatively as we could wish to imagine, if only we were creative enough. Some people will consult the I Ching, while others will read tarot cards. In the modern age, some might be using random number generators, and predictive texting has been known to produce some bizarre, but not necessarily irrelevant, ideas.

In short, I cannot tell you how to think creatively. But if it is any help, I can tell you how to stop thinking creatively. And that is by starting to think negatively. If you start to evaluate the ideas that you are generating, then the flow of new ideas will stop. Of course, there is a time for negative thinking; when you have a hundred or a thousand creative ideas, there will be a time to go through and discard the ones that are frivolous, or frankly nuts. The author and Nobel laureate, Isaac Bashevis Singer, said that, "The wastepaper basket is the writer's best friend".(Singer, no date) To be creative one needs to be able to generate a lot more ideas than you can use, and to consign many of them to the wastepaper basket. But the secret is not to introduce it too soon. You can only throw away a large volume of inferior ideas if you have generated them first.

Management / Meta Thinking

As I have been going through the different modes of thinking, it must have become obvious that in order to think well, you need to be aware, or to become aware, of which mode of thinking you are using at which time. You need to be thinking about thinking, so that you can manage the balance between the different modes.

No one way of thinking is bad or good, and we cannot really manage without any of them. If we only think emotionally, then we are likely to end up in a mess, but if we do not use emotional thinking at all we are likely to end up in just as much of a mess, though possibly a different mess. We need to recognise and cherish emotional thinking for what it can give us, but to balance it with a dose of reason. Similarly, if we use too much negative thinking we will be permanently depressed, or just plain pessimistic. Too much positive thinking will make us optimistic, but without at least a little negative thinking we will not see what is wrong in our situation and try to improve it. The optimist thinks that she lives in the best of all possible worlds; the pessimist fears that she is right.

The outcome that we are seeking is that we can improve our thinking by learning to manage it, and that starts with recognising how and when we are using each mode of thinking. After that it is a relatively small step to ensuring that we use an appropriate balance of the

different modes. De Bono described this process in terms of six different thinking caps of different colours, which one could put on or take off at will, in order to manage an appropriate balance. And when I say an appropriate balance, I do not mean the right balance. If you do more positive thinking than the average person, you may have to work harder at exercising your negative thinking than the rest of us. While you are doing that, we can concentrate on our positive thinking. And we all probably need to work on our creative thinking.

But that ability to switch thinking mode at will does not come naturally or immediately. It takes practice. For the first few times, when you think about an issue, you may need to take a sheet of paper with five columns and make sure that you are writing down ideas for each of the first five modes of thinking. The sixth mode, the management of thinking, will not appear in a separate column on the paper; it shows up in the decisions to allocate each idea to one of the five columns. But as you become more used to managing your own thinking, and as you become more familiar with the schema, it will become easier, until eventually you will not need to think about it at all. It will become second nature.

The Learning Context

In the opening sections of this chapter I have presented, in some detail, a way of thinking, based on the work of Edward de Bono, which is intended to provide some tools for thinking about thinking, managing thinking and improving thinking. That is a fairly narrow focus on critical thinking, and on how to make thinking more critical. I now want to step back a little and look at how critical thinking fits into a broader picture of personal development. And for that I will need the help of somebody I have already mentioned, Lev Vygotsky. (Rieber, 1997)

Vygotsky was a Russian psychologist who believed that we were born with a basic, but limited, toolbox of abilities that allows us to think, remember, speak and so on. But he thought that higher mental functions develop when we incorporate aids to our innate abilities from outside, from parents, friends, and sometimes even teachers. The way it works is that we start off using some external, often physical, aid to thinking, and gradually become so familiar with it that we internalise it. And at that point, it disappears, and we are no longer aware of it. Like riding a bike or driving a car, after a while you no longer need to think about what you are doing, and it becomes second nature.

We might have a look at how that would work in detail by thinking about memory. Vygotsky says we are born with a basic ability to remember, but it is not terribly good. On a good day I can remember a telephone number for five minutes, and if I dial one number a lot of times it may become a part of my long-term memory. But, if I have to learn a lot of other telephone numbers, that one might get pushed out. So we have natural memory, or what Vygotsky calls mnemonic memory, but it is really not very good.

So what can we do to improve memory? Nearly fifty years ago, when I was teaching science in junior high school, I was talking to one of my pupils, a little girl, about the solar system. And she taught me the names of the planets and the order they are in as you move away from the sun. I mention the incident because Vygotsky says that all ideas start as relationships, and fifty years on I can still visualise that little girl and remember her name. Anyway, she taught me to remember that, “Mount Vesuvius erupts mould jam sandwiches under normal pressure”.

The initial letter of each of those words stands for the name of a planet: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. And although the sentence is nonsense, there is a kind of logic that forces the words into a specific order, and makes all those mouldy jam sandwiches easier to remember than Mars, Jupiter and Saturn. So I have not forgotten that lesson, even after so many decades.

In practice, I hardly need to use this technique for remembering the order of the planets now. At first I had to recite the sentence to work out which planet came next, but later I was fairly confident that I knew the position of the planets, and since one rarely wants the whole sequence, I would be able to remember things like, Mars is the next planet out from Earth, without reciting the whole piece. What Vygotsky says is that, at first, when you add a new mental tool, your ability rises dramatically. But over time, as you incorporate it into your everyday thinking, although you continue to function at the higher level, there is no further improvement. Once you know the order of the planets, there is nowhere else to go with that development.

And this is where Vygotsky is an optimist. He says that you can maintain that rate of improvement by adding another mental tool. I might for example learn the colours of the rainbow: Read over your green book in verse (red, orange, yellow, green, blue, indigo, violet). Or better still, I might develop my own sentences so that I could remember the names of people I meet in a party, or my shopping list. I confess that I have not developed this last, generalised stage yet, and maybe I never will, but I like to think, with Vygotsky, that we can go on improving our mental capacities forever, and there is no natural limit to what we can do.

We begin by seeing a mental tool outside us, and we practice it publicly, whether that is reciting our multiplication tables, or singing the alphabet. And then gradually we internalise it, so that our mind actually functions better, at a higher level. We no longer have to go through the whole seven-times table; the answer just comes to mind.

And this is all about mind control. It is about taking control over our own minds, and managing them so that they work to our best advantage. When we are born, we are like Buridan's Ass. We respond to hunger and thirst, and jump when there are loud noises, but actually our mental capacities are very limited. By incorporating mental tools from outside we can transcend and overcome our animal nature. We quickly learn that we can control other people's behaviour by using language; it is probably not an accident that a baby's first word is the word for "mother". And babies can use that word to get something they want. We also quickly learn that others can use words to control our behaviour. But we exert ourselves fully as human beings when we use words and other linguistic tools to manage and direct our own behaviour, just as Pierre does when he is pulled in two different directions.

So language is the first mental tool we adopt, although we carry on developing and refining it throughout our lives. And we can carry on adding increasingly sophisticated schema, sharper distinctions, and technical expertise to make us more capable, more powerful in the pursuit of our dreams.

So my goal in this chapter has been to provide a way of thinking about thinking for anybody who wants it. Anybody who does want it will probably have to spend some time making a special and conscious effort to use it. It is not by any means usual for a person to think first of the positive ideas, then of the negative ideas, and then try to find some kind of judgement

or evaluation. Most people just look for the arguments that will support the answer they first thought of, and will never achieve really critical thinking. But if you do try to adopt De Bono's understanding of critical thinking, and if you begin to find it useful, then with practice it will become easier, and eventually automatic. At which point it will become invisible to you, and you will not understand why everybody else has such difficulty seeing what you see.

On the other hand, you may try this approach to critical thinking for a few weeks and decide that you are not getting any benefit from it. And that is perfectly fine, too. But you need to decide whether you are not getting any benefit because you are already a proficient critical thinker, or that you need a tool to manage your thinking, just not this one. In the latter case there are plenty of schemes available, and one of the others may suit you better. A teacher's job is to make a range of mental tools available. Only you can decide which ones you find useful, and which ones you are going to internalise.

How We Think

Many authors have written about the components of critical thinking, the order those components come in, and the balance that needs to achieved between them. Most of them, like de Bono's, are based on the work of the philosopher John Dewey. In the early twentieth century Dewey wrote a short book titled *How We Think.* (Dewey, 1910) He argued that all thinking starts with a problem; we feel confused about and dissatisfied with a situation that we find ourselves in. Our first job is to clarify for ourselves what the problem is about, what it is that needs to be changed. (You might think of this as de Bono's neutral thinking. What would a situation that was unproblematic look like? How will I know when I have been successful?) The next stage is to generate as many solutions as possible, the more diverse the better. (Obviously this is equivalent to de Bono's creative thinking.) And then those problems have to be evaluated to select the best one. (A combination of de Bono's positive and negative thinking.)

Finally, Dewey insists that we have to put that best solution into action, which is when we learn whether it really was a good solution to the problem or not. De Bono has no direct equivalent of this step, probably because he is concentrating on what we normally mean by "thinking". But there is not much point spending all this effort on developing critical thinking if it is not going to make any difference to what we do. And Dewey's point is that by putting our plan into action, we learn something, so that we go into the next problem with more knowledge than we went into this one.

Although the title of Dewey's book is *How We Think*, a simple description of what we do when we think, he deviates from that at one point to describe how we *ought* to think. And the point where he tells us what to do is in the stage where possible solutions are generated, the creative thinking. He says that too many people cut this stage short; they find one possible solution and jump to the conclusion that it must be the best solution in their hurry to take action (possibly for emotional reasons). We might compare this with de Bono's concern that negative thinking will be brought in too early and cut of creative thinking. For both Dewey and de Bono, the major prescription is to keep an open mind, delay a firm judgement, and enjoy playing with ideas.

In this short section I have illustrated Dewey's ideas, and shown how they might map on to de Bono's model of critical thinking. Unlike many educationists, like Maria Montessori and Jean Piaget, Dewey argues that the reasoning of children is just like the reasoning of adults. The only difference is that adults have been round this thinking cycle many more times, so they know more and have developed ways of managing their thinking. That may be connected to the fact that Dewey's ideas about thinking have been taken up mostly by people who are interested in the ways adults think, and the way professionals learn in their practice.

But there are plenty more options out there in libraries, book stores and on the Internet that can help us to manage how we think. More or less directly modelled on Dewey is the learning cycle of David Kolb (1984). This is presented as four learning styles: Feeling, Watching, Thinking, and Doing. You might like to try to work out whether you are a feeler, watcher, thinker or doer. One way I have seen of describing this is to imagine you get a new gadget, like a computer, and you take it out of the box. You have the manual and the computer. Do you sit down and read the manual from cover to cover, and not touch the computer until you are clear about exactly how it works? (Thinking) Do you put the manual on one side immediately, and start pressing keys to see how the computer responds? (Feeling) Do you find some exercises in the manual and work through them methodically until you have learned how to do the things that you need? (Doing) Or, do you sit on one side watching, while your sister works out how the computer works? (Watching)

Of course, this is not really four different people, so much as four phases of thinking that need to be in balance. You might have a style that you feel more comfortable with, or feel that you can do better. But even once you have worked that out, you still need to decide whether you are going to concentrate on doing that, and play to your strengths, or concentrate on exercises designed to overcome your weaknesses.

Kolb's learning cycle has been further simplified to a plan-do-review cycle. And Donald Schön (1983) wrote about reflection-in action and reflection-on-action. Reflection-in-action is trying to be aware how you are thinking when you are in the busy process of acting, with pressure to make decisions quickly so that you can take appropriate action. Reflection-on-action is an altogether more leisurely affair, when, after the action is over, you sit back and think whether you were effective in what you did, and whether you might have done better.

What all of these schemes have in common is that they treat thinking as something that can be managed and thereby improved. And they offer a range of tools to help with the management of thinking. And there are no right answers here. You choose the way of thinking about your thinking that suits you, that you find most effective. I have chosen the work of de Bono, because I think he gives more details about what you can be doing in each phase of thinking. But you are the expert on your own thinking, and you must choose whichever tools make you more expert. And that may change with time and with your development.

I also think it is helpful to try to map one approach onto the others. Although there certainly are differences, there are also many common strands in the way these eminent thinkers about thinking have approached critical thinking. That should make clear that becoming a critical thinker is not about a trick or a knack that has to be learned and applied without understanding. Becoming a critical thinker is about a general approach, a way of life, and the kind of person that we want to become.

Conclusion

I have suggested that, in many ways, great minds think alike. So let me draw on the work of one more great mind, the psychologist Carol Dweck. Dweck (2006) argues that in her work with young people, she has identified two approaches to intelligence. There are those people who have what she calls a fixed mindset; they believe that intelligence and thinking power is something that you are born with, and there is not much you can do to improve on what nature has provided. Then there are people with what she calls a growth mindset; they believe that you can become more intelligent and a better thinker if you practice a lot and develop your skills.

I hardly need say that I, together with de Bono, Vygotsky, Dewey and Dweck, believe that it is better to have a growth mindset. But think about the implications. If a person with a fixed mindset finds something difficult, they are likely to conclude that this is not something they can do, and give up. If a person with a growth mindset finds something equally difficult, they are likely to try harder, learn more and overcome the difficulties. As Dweck points out, a person with a fixed mindset is mostly interested in looking smart and getting high grades. A person with a growth mindset is more interested in learning something new. And that makes it more or less a self-fulfilling prophecy; if you have a growth mindset you will grow, but if you have a fixed mindset you will not.

In his *Devil's Dictionary of Education,* Tyrrell Burgess offers a definition of the word "intelligent":

> intelligent: (adjective) being able to hold opposing ideas in mind at the same time, enjoying it and not being paralysed

In that sense of the word "intelligent", the tools that support critical thinking are supposed to make everybody more intelligent.

Post-Reading Questions

1. Take a proposition, such as the one considered in this chapter: Each citizen, on reaching the age of twenty, should be given an educational development account worth $20,000 that they can spend on their own education in any way they wish.
    - Write down three things that come to you as a result of emotional thinking.
    - Write down three things that come to you as a result of negative thinking.
    - Write down three things that come to you as a result of positive thinking.
    - Write down three things that come to you as a result of neutral thinking.
    - Write down three things that come to you as a result of creative thinking.

   Here are some more propositions that you might give a similar treatment to:

    a. All children should be given cognition enhancing drugs, so that they can make the most of their education.
    b. There should be a tax on car drivers that is dedicated to conservation measures to repair the damage done to the environment by cars.
    c. People should have to pass an examination before they are allowed to vote.

d. It should be illegal for people to wear orange clothes, unless they are convicts.

2. And now that you have practised on some of those, here are two "meta-questions":

M1. How easy was it for you to decide where your ideas belonged, among the five categories?
M2. Did you find some things cropping up as both positive and negative?

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Chapter 8: Experiential Knowledge and Social Learning to Make Energy Consumption Sustainable

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Introduction

The asymmetrical global development of the past century has left us with a critically vulnerable global bio-system. To put it succinctly, a small segment of the global population has gotten rich through a gluttonous consumption of environmental resources and sinks. The development of the rich (OECD) countries has literally been 'fueled' by the consumption of energy while the vast majority of the non-OECD global population will need energy and the right to pollute if they are to acquire basic energy-delivered human services (such as light, refrigeration, motive power and information technologies, to name a few). This puts the onus on the rich countries of the world to drastically reduce their consumption of energy in order to avoid, or ameliorate, environmental crises. The climate crisis is the most acute crisis directly related to energy use. From mid-20th century global climate emissions have grown in step with growing national economies. While methane, hydrofluorocarbons and other pollutants contribute to climate perturbation, the single major contribution to climate change is related to the emissions of carbon dioxide (CO2) from the conversion of fossil fuels to useful energy. With virtually every day that passes, new research results are published on climate related problems and risks. The most recent projections from a number of different sources are converging on a likely global temperature rise of 2 degrees Celsius or more within the next 25 years and that this will have major impacts on micro-climates; on Arctic and Antarctic ice with consequent effects on sea levels and ocean chemistry (Trusel et al. 2015); severe disturbance of forest ecosystems and species death, with half of global species dying out by 2050 (Lynas 2007); as well as potential devastating effects on food production and food harvesting, both on land and in oceans. The most recent research on polar ice found that should the global temperature increase to around 3C above the pre-industrial era, the ice shelves that hold back the continental ice sheets would

dissolve over the next few centuries (Trusel et al. 2015). Should climate gas emissions not be significantly reduced over the next century, this would trigger a collapse that would go on for thousands of years, raising sea levels by as much as 3 meters by the year 2300. These findings graphically illustrate the accuracy of the conclusions of the IPCC (2014) report: 'failure to rapidly reduce climate-gas emissions will result in severe, pervasive and irreversible impacts for people and ecosystems'.

The urgency of climate change and other environmental consequences of energy use demands new thinking and urgent action in the rich OECD countries. However, the research domain aimed at reducing energy use has suffered from weak representations of the social and material contributors to energy consumption. In the dominating theory that informs policy, consumption is theorized as an exercise done by sovereign individuals who deploy cognitive knowledge in economically rational ways in order to achieve instrumental ends. Well-informed consumers are expected to weigh costs and benefits and to make rational energy saving purchases (Wilhite *et al.*, 2000; Wilhite and Norgard, 2004). As Lave writes, such policies are 'distanced from experience', and 'divide the mind from the world' (1993, p. 8). Debates on the efficacy of these assumptions began as early as the mid-1980s as evidence from empirical studies led to serious questions about individual-centered, utility maximizing models of consumption. Based on academic critiques and the now 40 years of evidence on the ineffectiveness of policies based on this theory to deliver significant reductions in energy use anywhere in the world, there is a strong consensus that something new is needed. Nevertheless, the conceptual vacuum has yet to be filled, at least in the main body of theory that informs energy savings policy.

Over the past decade, a number of social scientists from differing academic disciplines have contributed to the development and application of social practice theory to an understanding of everyday energy consumption (Warde, 2005; Wilhite, 2008; Røpke, 2009 update). This theory has promise for renewing energy consumption theory and providing a basis for new directions in energy savings policy. From a practice perspective, consumers bring not only cognitive reflection, but also experiential knowledge formed in interactions with material and social contexts to consumption decisions. This chapter will lay out promising theoretical insights from social practice theory and give examples of new categories of policies for stimulating low-energy practices.

Practices, Bodies, and Habits

Social practice theory has its roots in the work of Pierre Bourdieu (1977; 1998) and his concept of *habitus*, defined as a domain of dispositions for action, created and perpetuated through performance of a practice in a given social-cultural space. These dispositions constitute a form of knowledge which influences or predisposes the performance of practices. The *habitus* engages with the "presence of the past" (1998, p. 304) in forming and embodying knowledge. *Habitus* can therefore be seen as embodied history. I claim that habitus and embodiment are important to the formation and stabilization of many energy practices in the home, a point that is largely unacknowledged in the research domain of sustainable energy use. The social practice theory perspective contributes to emerging efforts to understand the relationship between lived experience, practical knowledge and action. It accounts for the fact that the ways we shop for

food on a daily basis, how we clean our bodies and homes, and how we get around, all extremely energy-intensive activities in the rich countries of the world, are accomplished without much reflection, or engagement of the cognitive self.

The neglect of practical knowledge is not confined to the world of energy research. Crossley writes that social science efforts to theorize human behavior have been obsessed with mind, cognition and reflexive knowledge (2007, p. 83). This led to the abandonment of important perspectives on the importance of cultural learning and embodied knowledge in the work of Bourdieu and Marcel Mauss. Mauss (1973) proposed that lived experience embodies practices related to the ways we dress, eat, clean, organize space and use time. Many forms for body-centered practices develop deeply agentive dispositions for future actions and many of these are highly relevant to the ways we use energy. Recent work revives the body and what Lahire (2003, p. 353) refers to as the interaction between (or relations between) forces that are internal and external to individuals, "between dispositions that are more or less strongly established during past socialization and… between external forces". In Wilhite (2016) I make a case that the forces of expansion, individualization and deliberate product turnover (planned absolescence) implicit to capitalism encourage energy-intensive practices in the everyday lives of its citizens.

In Wilhite *et al.* 2001, the authors pointed how culture influences the energy-intensive home lighting practices in Norway. In Norwegian living rooms, the preferred pattern of lighting in living areas is to use a number of small lamps around the room to create an aesthetic of light and shadow. In other words, light is not used to produce lumens, but rather a particular culturally-influenced aesthetic. This practice can likely be traced back to the use of candles prior to electrification, which produce a similar form for light and shadow. On special occasions such as dinners for friends and family, people pay particular care to create what they refer to as a 'cozy' lighting pattern, using small lamps and candles. In Norway, cultural learning of various kinds is one of the foremost goals in Norwegian 'integration' policies for immigrants. However, research has shown that lectures and the provision of information about the new place are not sufficient to communicate deep cultural codes such as those associated with creating the correct lighting aesthetic in a Norwegian home. For this, immigrant families need to be invited into Norwegian homes and experience first-hand the ways that light is used in creating a social ambiance.

Participation in culturally-influenced practices is one source of experiential knowledge. Purposive repetition of a set of actions is another source. For example, training for sporting activities embodies knowledge through repetition of certain movements, either individually, such as swimming, or in tandem with others in team sports. Mauss (1973) called the result of purposive embodiment 'body techniques'. As Crossley wrote about the ways swimmers improve their swimming techniques, they "do not know the theory and do not need to know it" (2007, p. 89). In a swimming pool with protected lanes, lap after lap can be accomplished without a conscious thought on how to negotiate bodily movements. This emphasis on learning through exposure to (rather than simply information about) a new practice offers insights into innovative policies for fostering lower energy-intensive living.

The Impact of Technologies on the Performance of Consumption Practices

The material density of everyday life has had an enormous effect on how we experience and accomplish household tasks in places like Europe and the USA. The influence of technologies and material structures on human action has been one of the main conceptual concerns of the field of studies that calls itself the Science of Technology Studies (STS). Drawing on perspectives roughed out by Heidegger on technology agency, Bruno Latour, John Law, Wiebe Bijker and others have put together a theory of action which assigns agency in human actions to both the material and the human participants (see Bijker and Law 1992). The proponents of STS support the commonly accepted proposition in non-economic social science that humans use objects in both routine and sometimes unexpected ways, but they also draw attention to the ways that this causality is reversed and material objects shape action. According to STS, those who design or shape the technology inscribe 'scripts' for its use that in turn shape the practices into which they are inserted. This shaping can be determinative; for example, a door determines how people enter and leave a room; persuasive, such as how a kitchen built with a space for a dish washer invites the new occupants to buy and insert one; or, more subtle in its influence, such as how the persistent use of a washing machine affects perceptions of cleanliness and in turn, frequency of washing. Applying this theory to energy and water using technologies, such as washing machines, showers and radiator-based heating systems, there is a deeper structuring of action that derives from the interlinked regime of materials and infrastructures in place to deliver water and electricity (Southerton et al., 2004). Once the regime of time saving, convenient and comfort delivering modern technologies is in place, they strongly influence the ways that thermal comfort, clean bodies, clean clothes, food and transport are practiced. Take transport as an example: the 20th century city was designed for automotive transport. In urban landscapes, public transportation systems, bicyclers were literally squeezed off of the roads. In some North American cities, sidewalks were eliminated to make more room for automobiles. In other words, urban materialities in many places around the world are strongly scripted for the car. Walking, bicycling and using public transportation must overcome inconveniences, time delays and safety risks.

The material density of home practices has changed dramatically over a century in the USA and Europe, strongly affecting the formation of experiential knowledge. There are many examples of how the changing structure of the house and the numbers of technologies in it have reshaped practices. In household activities such as cleaning clothes, preparing food, attending to the comfort levels in the house (heating and cooling), the technology contributions to action have intensified dramatically. Technologies are taking over the work of bodies in many everyday practices. Virtually every routine household task involves the use of either a tool or energy-using technology. These tools and technologies can be viewed as extensions of body (Wallenborn and Wilhite, 2014). However, while bodies work in coordination with tools, household appliance technologies such as washing machines, clothes driers, air conditioners and food processors reduce the bodily input to the pushing of a button or twisting of a dial. Both work and agency is transferred from the body to the technology and this sets the stage for the formation of technology and energy dependent habits.

The coming of electricity ushered in a huge number of technologies intended to save time, add comfort and make life more convenient. After the electric plug was standardized and installed in homes in 1917, appliances like the electric fan, electric iron, the vacuum cleaner and many new cooking devices such as toasters, hotplates and waffle irons quickly became common. The refrigerator came on the market in the 1930s and by 1937, half of electrified homes in the USA had one (Cross, 2000 p. 27). There has been a more recent surge in the numbers and kinds of electricity using devices related to home computers and other consumer electronics. The number of electrical appliances in UK homes tripled from the 1970s to 2002 (Energy Savings Trust, 2014). In 1985 only 13 percent of UK households owned a home computer; ownership increased to 75 percent of all households by 2009. In 2009, the average household owned 11 times the number of computers, printers, scanners and other computer related devices than in 1970 and 3,5 times more than in 1990. Between 1970 and 2009 the electricity used for consumer electronics rose by more than 600 percent in the UK. The study found that UK households owned 65 million electricity using devices in 2012 and that residential electricity use was responsible for 47 percent of CO2 in the UK.

The air conditioner technology has been responsible for significant changes in home energy practices. Until mid-20th century, in the warmer climatic regions in the USA and elsewhere, houses were designed to accommodate the heat through ventilation friendly designs and materials. Ventilation and air flow was augmented in the 20th century with electric fans, which use very little energy. From the mid-20th century, first in the USA and later spreading to Japan and other countries in Asia, Africa and Latin America, buildings began to be designed to be cooled with a combination of air conditioners and tight structures to keep the mechanically cooled air from leaking out. Cooper (1998) shows how this regime change in cooling comfort in the USA was promoted by a coordinated effort of powerful economic actors including the energy industry, the construction industry, the manufacturing industry and the banking industry, all of whom reaped huge economic benefits from air conditioned comfort. According to the U. S. Department of Energy (2009), in 2009 two-thirds of all homes in the United States had air conditioners, consuming about 5 percent of all the electricity produced in the United States, and emitting 100 million tons of CO2 each year -- an average of about two tons of CO2 for each home with an air conditioner. The use of air conditioning is also growing in Europe. The European Union predicts that over the next 15 years, the energy used to cool European Buildings is likely to rise by 72% (EU, 2015).

The experience of living with the air conditioning in the home, at work, in transport and in retail stores has produced bodies that cannot tolerate doing any of these activities in natural settings (Wilhite, 2009). Wallenborn and Wilhite (2014, p. 61) express this bodily transformation this way: 'The transition from lives that involve movement between contrasting climatic spaces, to lives in thermally homogeneous spaces leads to a reconfiguration of the body and its sensations, and even a kind of oblivion of the body.' Life in a building designed for natural cooling involves an active interaction between occupant and building in order to regulate shading and drafts. The mechanization of comfort, promoted by governments, commercial actors and lending institutions has limited flexibility and made cooling comfort energy dependent. As Murphey (2006, p. 151) writes, in the home, car and workplace, 'The inside,

brought about by the built environments of late capitalism, provides your habitat, the milieu for your embodiment'.

Social Learning and Opportunities for Experimentation

The strong energy-intensive habits related to food, transport, comfort and cleanliness will not be significantly impacted by small changes in energy prices or improvements in information about the economic and environmental benefits of using less energy. Neither will improved technical efficiency of all of those technologies now embedded in home practices be enough to make deep reductions in carbon emissions. Experience over the past 40 years in the rich countries of the world has shown that increased efficiency has not lead to significant reductions in residential energy use, partly because of increased energy demand due to increases in the size of houses, numbers of appliances and steady increases in energy needed to satisfy notions of thermal comfort, convenience and cleanliness. We need to expand the narrow focus on technical energy efficiency to encompass broader measures intended to reduce the energy intensity of practices, such as moving, heating, cleaning and making our homes thermally comfortable. One obvious focus will have to be on reducing the size of things that need refrigerating or heating, such as homes, refrigerators and freezers. Other examples of the reduction focus: for cars, move the focus from fuel efficiency to a modal shift from automobiles to public transportation and bicycling; for heating and cooling of buildings, introduce regulations which favor smaller dwellings and give support to natural cooling designs in warm climates.

Changing to a size or volume oriented regulatory framework is an example of a top-down policy that holds promise for stimulating experimentation with new, more sustainable practices. Social learning theory provides a source of new thinking on this and other innovative ways to unlock stubborn energy practices and encourage changes. Paraphrasing Jean Lave (1993), learning from a practice perspective is conceived of as more than a filling of the cognitive vessel (mind), but rather as a process which involves the acquisition of knowledge through a combination of cognitive processes and bodily processes. A typical form for social learning is apprenticeship, involving exposure to and participation in practices along with guidance and feedback. Another example of social learning is when people consult others on their experiences with a given product or technology before they purchase it. There is evidence that when people face major purchase decisions, many rely more on the experiences of their peers rather than on product information or sales pitches. This was confirmed in a recent study in Norway, where one of the objectives was to examine how and why people decide to buy and install heat pumps in their homes. Initial findings show that an important source of information for potential purchasers is people in family or social networks who have made, or looked into similar purchases. People take advantage of the experiences of others in comparing prices, exploring the choice of entrepreneur, assessing the quality of product and performance. Initial findings show that this form of learning was more important than the advice of experts in making a choice to purchase a heat pump.

Social learning is at the core of a form for participatory learning referred to as demonstration projects, which were used extensively in the USA in the 1970s and 1980s, but were abandoned in the wave of free-market energy ideology of the 1990s. In Davis, California, in the 1970s and 1980s, great strides were made in home energy conservation after demonstration homes were set up in neighborhoods around the city. People were able to observe and experience first hand how life in a low energy house could be more comfortable, cozy and yet have much lower energy expenses than the house they were living in. Demonstrations of alternative transport systems are another example of participatory learning, such as establishing car free zones (Topp and Pharoah, 1994; Bulkeley *et al.*, 2011); bicycle infrastructures for safe biking; and car and laundry sharing systems (Wilhite, 1997). There is a potential for developing new forms of information which conform to social learning principles. An example is the provision of households with a benchmark by which they can compare and assess their levels of energy use with other households living in similar dwellings. Observing that one's own household energy consumption is higher than that of others living in a similar house can be a stimulus to digging into household habits, assessing the energy consequences, and making a change, whether it be the way energy is managed (i.e. thermostats) or a new purchase (energy efficient fridge or wall insulation) (Wilhite *et al.*, 1999; Fischer, 2007).

Life transitions, such as the move to a new home, the birth of a child or a divorce can introduce new material arrangements that encourage experimentation with energy practices. As Lahire (2003, p. 340) writes, "some habits may be established durably in the bodies of individual agents who, when their situations are changed by such life events as marriage, birth, divorce, the death of a loved one, or a new position… It seems that the new situation induces them to feel that their habits have become strange to them". A move to a new home often initiates a flurry of projects involving the organization of the home's spatial layout, the purchase of new appliances and changes in practices in the new home (Wilk and Wilhite, 1985; Wilhite and Ling, 1992). Another period of reflection begins when people are preparing to have a child, or towards the end of the family cycle when children move out of the home. Sustainable policy should give more attention to households in transition, providing them with information and incentives for low-energy solutions.

Finally, there are a number of community-based efforts around the world such as the transition movement and the ecovillage movement in which participants are experimenting with new practices for reducing energy use. These efforts focus on practices such as collective housing, shared food provisioning and food consumption; community-based enterprises; bartering and other forms for non-market exchange; and other measures that reduce the community's energy use and environmental footprint, such as recycling and composting. The designation 'intentional community' is sometimes used to describe these efforts because they are purposive and collective. Many of them aim to increase sociality and sharing. The majority of these collaborative and community housing projects involve participatory decision making in shared activities such as maintenance, repair, food preparation, laundry and child care. Many of them either explicitly or implicitly challenge one or more of the pillars of neo-liberal political economy: economic growth, individual ownership, consumerism and traditional market exchange. Kasper (2008, p. 874), based on her research on ecovillages (quoted in Guillen-Royo, 2015), writes 'I propose that big social change does not take place by appealing to those in

power, but by bottom-up movements that challenge established paradigms'. Krueger and Agyeman (2005, p. 410), who have studied low impact communities, point out that they are important because they move the discussion from a debate about utopic visions to an analysis of 'actually existing sustainabilities'.

The transition movement began in the United Kingdom in 2005 in the city of Totnes, which designated itself as a 'transition town' and set about reducing its environmental footprint through a participatory process. The transition town concept spread to other cities in the UK and has since expanded to many other European countries and to other parts of the world, such as Canada, the USA and Australia. As of 2014, more than 1100 towns have joined the Transition Network (Salveson, 2014). In order to be eligible to join the movement, a community must commit to certain principles, including participatory planning and an aim to be less environmentally intrusive. According to Hopkins (2007), the transition movement is based on a vision that is not anti-capitalist but rather 'non-capitalist', because of its principles of collaboration, sharing and low impact living. Transition towns put emphasis on community and collectivity in both decision making and in material and housing arrangements. They incorporate a positive vision of life quality rather than one of denial or simplicity.

The ecovillage is another global community-based movement emphasizing collaboration, community and low environmental impact. In the USA and Europe, ecovillage has drawn on the social movements of the 1970s, and the co-housing and 'back-to-the-land' movements of the 1990s. Lifkin (2014) writes that in Asia, the ideas of Gandhian self-sufficiency and spirituality were important to ecovillage formation. In Latin America, ecovillage draws on the participatory development and alternative technology movements. In some parts of Europe and the USA, the ecovillage has been incorporated into larger communities, where, as anthropologist Tim Ingold (2000) suggests, many people feel that the natural world is absent in their everyday lives. The ecovillage concept is more explicitly environmental in its goals than the transition movement and more radical in its challenge to conventional political economy. It combines the goals of minimal environmental intrusion, social inclusion and collective decision making. It challenges the capitalist fundaments of private ownership and individual accumulation. The number of communities subscribing to the ecovillage concept had grown sufficiently by the 1990s to draw support from Local Agenda 21 and for proponents to gather at a conference in Findholm, Scotland in 1995. The Global Ecovillage Network (GEN) was formed and shortly thereafter recognized by the United Nations Economic and Social Council. By 2008 there were 347 ecovillages officially registered with GEN, but in 2004, Jackson (2004) estimated this was only a fraction of the approximately 15000 ecovillages worldwide.

These experiments in community and collectivity are grounded in social learning and should serve as important sources of inspiration for sustainable energy policy. They acknowledge the power of entrenched practices; promote learning through doing and learning from peers; and promote technology designs which foster less energy intensive practices. Much work needs to be done on developing a sustainable energy policy agenda that accommodates the theories and practices grounded in social learning.

Conclusion

The specter of climate change and the need for deep reductions in energy use is an urgent call for critical thinking on how to make the transformation to a low energy society. Changes will not happen fast enough by simply continuing research and policy agendas that are focused on market signals (price adjustments and deductive information) encouraging the use of energy-efficient technologies. People will need to be provided with examples and evidence of how others have made the transition to new, lower energy practices without sacrificing life quality. They will need to be provided with opportunities to be exposed to and experiment with new, low-energy practices. This policy transition will be imposing because it implies a much more robust and costly framework as well as the necessity for a long term perspective. It implies supplementing market signals with a new range of policies that operate on the forces that are internal and external to consumers. Consumer awareness and economic motivation must be supplemented by policies that reconfigure choices in the domains of home energy use, transport and food provision. A reliance on cognitive appeals and deductive arguments on the economic advantages of reducing energy use must be supplemented by the creation of environments for practical learning. One important policy direction would be drawing attention to the many and varied community efforts around the world that have decided not to wait for a change of national policy, but are moving forward to change their own practices. As discussed in this chapter, many local communities are asking fundamental questions about how they want to live and whether the ways they live will be sustainable for future generations. The key elements in this change are participatory goal formation and decision-making processes. As Weltzer (2011, p. 37) writes, 'These projects are shaping the future – not as mere proposals, but as living examples. For the time being, the political problem of this lived-in future is its particularity, its smallness, which makes it appear insignificant as a social counterforce.' Sustainable energy policy should increase its support for these and other community experiments in low-energy living. Greater exposure through best-practice type marketing, in situ workshops and supporting grants would provide non-participants with the opportunity to experience and experiment with low energy practices, demystifying low-energy living and showing how it can be accomplished without degrading – and in fact improving – practitioners' sense of well-being.

This policy framework goes against the grain of a century of political and economic privileging of material growth and a purposive political effort to foster high levels of materials and resources use in everyday practices. Neither mainstream energy theory nor climate change politics has demonstrated the vision or scope to come to grips with the collective promotion of growth in the economy and in consumption; rather, sustainable energy and climate policy are putting all of their efforts into making sustainability happen within an expansionist frame. The record shows that several decades of variations on this policy have been unsuccessful in reducing energy use and carbon emissions in the OECD countries, and will be unlikely to put a dent in rapidly increasing energy use elsewhere around the world. Social practice theory suggests a framework for understanding how these high-energy practices have formed at the levels of family, household and community and suggests a new policy platform for unlocking them. But this new framing will only deliver reductions in energy use if it is accompanied by a commitment to rethinking fundamental relationships between economy, progress and growth.

Post-Reading Questions

1. The dominating theory that informs climate change policy suffers from weak representation of the social and material contributors to energy consumption.

    a. True
    b. False

2. *Habitus* and embodiment do not have any relevancy to the formation and stabilization of energy practices.

    a. True
    b. False

3. The _____ of everyday life has set the stage for the formation of technology and energy dependent habits.

4. Which of the following efficiency measures is not enough of a reduction in energy use necessary to avoid climate disturbances?

    a. reduce the size of things that need heating such as homes
    b. modal shift from automobiles to public transportation
    c. increased efficiency in residential energy use such as turning off the lights when you leave a room
    d. introduce regulations that support natural cooling designs in warm climates

5. Which of the following are examples of how social learning theory provides a source of new thinking and encourages changes to stubborn energy practices (choose all that apply):

    a. people consult with others on their experiences with a given product before they purchase it
    b. people listen to sales pitches and rely on product information
    c. people compare and assess their levels of energy use with other households living in similar dwellings
    d. people observe first-hand how life in a low energy house could be more comfortable than the house they live in.

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Chapter 9: The Dynamics of Cultural Encounters: Scientific and Mathematical Knowledge

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Introduction

Preliminarily I observe that human gregariousness implies social space not as a single spatial type, but rather in a topologically heterogeneous manner. The topologies of social space emerge as a result of physical interaction between people, considering genealogies, demarcation of cultural domains, such as language, myths and religions, politics and governance, and ways of doing and knowing. This implies manifestations in sheltering and residence, mobility patterns, and architecture. But also in sacralizing time and space/place. Thus we have to associate these discussions with aesthetics, ethics, environmental issues and all that is related to *chronos*/*kairos* and *chora*/*topos*. Indeed, we deal with **culture** in the broad sense and with **progress** manifested in theories, technics, and praxis.

History is fundamental. It is impossible to enter the new without an understanding of the old. Our critical view of the past is the better guide for moving into the future.

A vast number of books and articles have been written to define culture. I synthesize the millions of pages in a few words: a **culture** is identified with shared knowledge and behavior, values and language, which includes ways of satisfying needs to survive and wants to transcend, going beyond survival. A culture has appropriate ways to deal with **how** and **why** in a complementary way, which are strategies of survival and transcendence. This appeals to traditions and to will and leads to the recognition of **past** (roots) and of **future** (utopias). Eventually this develops in myths and religions. Everything else, in discussing culture, are explanations and details of the few phrases above.

I call **progress** the generation and refinement of strategies for the "how*s*" and "why*s*". The strategies result in actions performed by individuals or groups. The ideal of the refinements is to improve the strategies of action, which have been acquired and matured by a culture along generations. But sometimes the refinements result not in improvement, but in detriment of the strategies of action accumulated through generations. I suggest a critical lecture, from this perspective, of the classic short story *The Country of the Blind,* H.G. Wells, 1904. This is a typical

situation of the dynamics of the encounter of cultures, common in migration, both voluntary and forced. Voluntary immigrants are those who decide to move expecting better conditions of life. Forced immigrants are those that move against their will, such as slaves or prisoners, which occur in the event of war and conquest. The dynamics of the encounter of cultures leads to the unresolved question of improvement and detriment of the cultures involved in the process. Both settlers and natives are subject to changes in their traditions, in language, in arts, in religions, in modes of production, in technologies, in knowledge and behavior, in short in all cultural aspects.

Colonialism and Progress

Incursions and Relocations of Social Groups

Both culture and progress are in permanent evolution. Neither is static. The dynamics of the encounter of groups of people of different cultural and ethnic heritages is common. Individuals and groups move, either fortuitously, as in the short story of H.G. Wells, or purposely, with many different objectives, such as trade, looting, exogamy and permanent settlement, as conquests. Since pre-historic times these were common events, mainly skirmish between local clans. The first conflict that we may consider an organized war dates back to about 3200 years ago, when two armies clashed at a river crossing near the Baltic Sea. Thousands of warriors came together in a brutal struggle, perhaps fought on a single day, using weapons crafted from wood, flint, and bronze, a metal that was then the height of military technology. The motivation was to find solid footing on the banks of the Tollense River, a narrow ribbon of water that flows through the marshes of northern Germany toward the Baltic Sea. The armies fought hand-to-hand, maiming and killing with war clubs, spears, swords, and knives. Such conflicts became more intense with the emergence of nation-states, some aiming at establishing permanent settlements, others only for temporary settlements and looting. Celtic, Transoxianic, Mongolian, Viking, Barbarians incursions, as well as the Vietnamese military colonies south of their original territory from the 11th through the 18th centuries, a process known as *nam tiên*, are well studied. They have their specificities. Some arrivals stayed, others retired after looting. The consequence and material and intellectual remains of such events are present in memories, sometimes in myths and in phantasy, even in folklore. In many cases it is possible to identify factors affecting the transformation of the demographic change as a result of these incursions. Some of these incursions were pacific, without violent confrontation. Voyages in the Mediterranean, the Indian Ocean and Coastal North Atlantic, as well as Chinese exploration of the Pacific, were common since Antiquity through the Middle Ages. The changes in the political and ethnic-racial structure of the populations, both at home and abroad, are noticeable. The same as nowadays, the travelers, after visiting other places for either violent or pacific reasons, such as trade and tourism, return home with different experiences, perspectives and ideas. His vision of the World is broader. From Ancient times, there are records of tourism. The word comes from the Hebraic *torah* which means studying, learning, searching. The reasons were also looking for better climate and food resources, trading, pilgrimage, health, new opportunists. The development of

tourism is closely associated with new means of transportation, from bipeds through space travel.

The cultural dynamics of the relocation of populations, either voluntary or forced, is responsible for intellectual advancement of the human species and progress in the sense discussed early in this paper. There behaviors and knowledge spread through social contact and network structures responsible for their diffusion.

Colonialism and Imperialism: A Brief Discussion

Another aspect of incursions and relocation is conquest. In pre-historic times, conquests were the result of wars, with the purpose of acquiring land and demarcation of territories. In Antiquity and the Middle Ages, and even in current days, new objectives became determinant. Powerful nation-states, identified as **metropolis** [from the Greek *μητρόπολις* • mother city] established settlements and political control on territories beyond their frontiers to serve their interest, mainly agricultural and mineral production. They were called **colonies** [from the Latin *colonia* • a place for agriculture]. The control of these settlements was sometimes exerted by local collaborative chieftains subservient to the interveners, authorities sent by the metropolis and backed by military forces. These interveners received a variety of titles, such as prefects, consuls, governors and others. Native governance was normally kept, but under strict control and supervision of the interveners. Political rivalries were behind the emergence of collaborative local leadership. Resource to corruption was common. In Antiquity, local values, religion and production systems were normally preserved in the colonies. This is well illustrated by the Roman occupation of Judea and also by the Roman support of academies in the Hellenistic period. The control and supervision was focused on paying tributes to the metropolis and the native government assurance of subservience and favoring the interveners. After Christianity and Islam, values and religion became dominant issues in the colonization process. Although euphemistically called by different names, colonies continue to exist in current days.

Great changes in the characteristics of Colonialism occurred after the 15th century, the Age of the Great Navigations or Age of Discoveries, when we see the emergence of the so-called Modern Colonialism and the strengthening of the Colonial Empires. Total subservience to the Monarchy and to the interests and ambitions of the Emperor were dominant. The motivation was not only economic, but also religious conversion and allegiances conforming the rivalry of Empires. This means faith, ideology and personal interests. A combination of all these factors are evident in the Independence of the Thirteen Colonies of New England and the emergence of the United States of America.

The first to establish Colonial Empires were Portugal, beginning with the conquest of Ceuta, by Prince Henrique the Navigator, in 1415, and Spain, starting with the discovery of the West Indies, by Christopher Columbus, in 1492. From these events, the next steps were the circumnavigation of Africa to reach India, completed by Vasco da Gama in 1498. In 1500, a fleet under command of Pedro Álvares Cabral, in their way to India, made a first landfall on the Brazilian coast. After these successful maritime expeditions, the Portuguese created the Portuguese Empire of India, in 1505. In 1521, Fernando de Magalhães, a Portuguese navigator working for Spain, discovered a route from the Atlantic to the Pacific, in the tip of South

America (*Tierra del Fuego*), allowing the circumnavigation of the globe. In the same year, Spain conquered the Aztec Empire and created the Viceroyalty of New Spain in 1521, today Mexico, initiating the expansion through Central America and the Andes, until the conquest of the Inca Empire by Franscisco Pizarro, in 1533.

The French, the Dutch and the British entered in the dispute for territories. Their attention was focused in the Northern Atlantic. In 1497, John Cabot, an Italian explorer working for the English, reached what is believed to be the coast of Newfoundland. A number of French, English and Dutch explorers followed. In 1525, the Italian Giovanni da Verrazano, navigating for the French, discovered Narragansett Bay. In 1624, Henry Hudson bought the island of Manhattan from the natives and founded New Amsterdam, as a propriety of the Dutch. Curiously, much of the early settlements were the result of buying land from the natives. England established the first permanent colony in North America at Jamestown, Va., in 1607. France established a colony when Samuel du Champlain founded Quebec City, in 1608. The Dutch established a trading outpost in present-day New York City in 1624, until they created the West India Company in 1630, as New Holland, in Brazil, with capital nowadays Recife and occupied North-East Brazil, as well as many regions in South America and the Caribbean. New Holland was retaken by Portugal in 1661. In the Pacific, the Dutch had already created the East India Company in 1602, occupying what is now Indonesia and neighboring islands. In the North, under Tsar Ivan IV, the Russian Empire annexed the Volga region and occupied territories towards the East, reaching the Pacific, crossing the Bering Strait and establishing colonies in Alaska, in 1743.

The Modern Colonial Empires were based on permanent and exclusive commercial outposts, on governance appointed by the metropolis supported by military occupation, subordinating local chieftains and a decisive, sometimes aggressive, role played by Christian missionaries. Thus, the mixed motivations of the Colonial Empires were commerce, extraction, territory and evangelization. The indigenous populations were deprived of their gods, beliefs and values and of their languages and history. Governance was exerted in accord to the laws prevailing in the metropolis.

This scenario, with minor variants, prevailed until the independence of the colonies, which started in the Americas in late 18th and 19th centuries and was realized in Africa and the Far East only in the second half of the 20th century. The political map of the independent nations are reminiscent of the Colonial demarcation, as well as the main institutions, like Governance and Judiciary system, the Military organization, as well as Health, Education and Urban priorities. Language, History and Religion are reminiscent of the former colonizers. The main institutions, particularly language, the Judiciary system, economy, means of production and commerce largely continued after independence and in many cases were submitted to the interests of the former metropolis. This scenario still prevails in most of the now independent former colonies, mainly in Africa.

A great change occurred in the 19th century with the independence of the colonies in the Americas, starting with the Thirteen Colonies of New England and followed by Haiti and the colonies of Spain and Portugal. The political ideology of the newly independent countries was to replace monarchical governance by democratic republican governance. The Declaration of the Independence of the Thirteen Colonies, in 1776, and the creation of the was United States of

America was the model of a Constitutional Republic. The ideology of a Republic was adopted by the new independent countries, with the exception of Brazil, which declared the independence from Portugal in 1822, establishing an independent Empire which lasted until the proclamation of the Republic in 1889. The geographical demarcation of the new independent countries followed *lato sensu* the colonial division with subdivisions resulting mainly from propriety owners and leadership in the independence wars.

The USA, the first emergent new country, was established as a federation of the thirteen former English colonies (New England). Soon after independence, a process of expansion of the federation started, conquering and dominating indigenous nations and acquiring colonial territories from Spain, France and Czarist Russia. This was followed by expansion through the Pacific, conquering islands in the Pacific, signing a treaty with Japan in 1854 and annexing Hawaii in 1898.

The resumption of the conquest of Africa was shameful. Africa was divided in pieces among European powers. In 1884-1885 fourteen countries conveyed in Berlin on November 15, 1884. The countries represented at the time included Austria-Hungary, Belgium, Denmark, France, Germany, Great Britain, Italy, the Netherlands, Portugal, Russia, Spain, Sweden-Norway (unified from 1814-1905), Turkey, and the United States of America. Of these fourteen nations, France, Germany, Great Britain, and Portugal acquired control of most colonies in Africa. After this colonial partition, the only change in possessions came after World War I.

The World Political Map changed much in the aftermath of the First World War, which was a confrontation of existing European Empires and their colonial interests. A main consequence was the attempt of supra-national governance. In 1920, a non-governmental organization, the *League of Nations*, with the objective of preventing future wars, was founded. Initially with 42 founding members, it reached its apex in 1935, with 58 members, when its ideals were flagrantly violated by some members. Another attempt of supra-national governance was the foundation of *UNO/United Nations Organization* in 1945, initially by 41 countries, which expanded to its current membership of 193 countries.

The Cultural Scenario

The World is a multicultural scenario. The reorganization of nation-states in Europe and of former colonial empires, as consequence of the First and Second World Wars, have reflexes in the current political division of the World, mainly due to political conflicts and local wars, with the emergence of new independent countries. The political and cultural geography of the World is now reflected in the composition of the UNO.

Cultural globalization advances rapidly and is recognized as progress. But we easily recognize that traditions are alive. Some people and governments claim that this is an obstacle to progress. I do not agree. The encounter of global and traditional knowledge and behavior may be the strongest asset for an enriching multicultural concept of progress. It is my feeling that a broad contextualization sponsored by the UNO and the recognition and valuation of extant cultural forms may revert the growing trend of xenophobia, nationalism and ideological prejudices. An indicator of this feeling is the fact that *WHO/World Health Organization* recognized that across the world, traditional medicine is either the mainstay of health care delivery or serves

as a complement to it. In some countries, traditional medicine or non-conventional medicine may be termed complementary medicine. This prompted the project WHO Traditional Medicine Strategy 2014-2023. Hopefully, other areas of knowledge, particularly economy, politics and education, follow the example of the WHO. We have much to gain looking at extant traditional strategies in these areas and learning from them. This is the direction for considering global and local harmonization of the human condition.

Sometimes scholars combine postcolonial and global perspectives, working both with texts and translations from the metropolis or positioning their research within one or another perspective or approach, whether for ethical or political reasons or for pursuing some line of inquiry. It is frequent a dualistic approach, a kind of manichaen posture of right/wrong, good/bad, losing historical perspective and even leading to a kind of ritual slaughter of those in the opposite camp. Some postcolonial discourse often loses the cultural specificity and the political edge of analyses of empires and post-imperial orders. Some historians remember the past selectively and forget much, appropriating and distorting history and, thus, use history for their own purposes. In view of the complexity of history, memories are usually more revealing of the mind and of the current intention of the memorialist than a sober and objective reflection on the past.

> "You rail'd at me behind my back
>
> Two years ago, I have been told;"
>
> "How so? I'm not a twelvemonth old," the lamb replied; "so I suspect
>
> Your honour is not quite correct."
>
> "If not, your mother it must be,
>
> And that is all the same to me,"
>
> Rejoin'd the wolf—who waited not,
>
> But kill'd and ate him on the spot.
>
> Aesop (Samos (620 - 564 BCE)

The Dynamics of Cultural Encounters

Survival and Transcendence and the Program Ethnomathematics

Each individual (from birth to death), societies and the human species develop strategies to cope with the ample reality. I clarify that every time I say ample reality I mean everything, the

complex of natural and supernatural phenomena and facts, physiological, sensorial, emotional and psychic reactions to the environment in the broad sense, social interactions, indeed everything, which is in permanent change. The ensemble of the strategies to cope with ample reality is a complex system of knowledge and behavior.

The basic question is how individuals and group of individuals with some affinity develop their means for surviving in their natural and sociocultural environment and for transcending survival. The satisfaction of the **pulsion of survival** [body] and of the **pulsion of transcendence** [mind] are the quintessence of life. This is met with by a complex system of knowledge and behavior generated and organized by each individual (from birth to death) and by the affinity group.

This question must be faced with transcultural and transdisciplinarian strategies which borrow methods of research from the sciences, cognition, mythology, anthropology, history, sociology (politics, economics, education) and cultural studies in general. It relies on the analyses of the history of ideas and of the evolution of behavior and knowledge of the human species, in every natural and socio-cultural environment. To discuss the corpora of knowledge developed by humans to survive and to transcend I introduce the **Program Ethnomathematics,** which is a research program with focus on a new historiography. [61]

As a preliminary introduction to this research program, it is very important to clarify that the word ethnomathematics is misleading. I do not use it as "mathematics of an ethnic group". Each culture and ethnic group have their specific ways and modes of quantitative and qualitative practices, such as counting, weighing and measuring, comparing, sorting and classifying, and inferring, accumulated through generations in their natural and cultural environments. The Program Ethnomathematics goes much beyond this. It is conceptually designed as a broad research program of the evolution of ideas, of practices and of knowledge in the human species in different cultural environments. Essentially, it implies an analysis of how groups of humans generated ways, styles, arts and techniques of doing and knowing, of learning and explaining, of dealing with situations and of solving problems of their natural and socio-cultural environment. I practiced an etymological abuse with the "free" appropriation of Greek roots: *techné* [*tics*] meaning ways, styles, arts and techniques; *mathema* for doing and knowing, for learning and explaining, for dealing with situations and solving problems; and *ethno*, as distinct and specific natural and socio-cultural environment. Thus, using these Greek roots, I synthesized the way groups of humans generated ways, styles, arts and techniques of doing and knowing, of learning and explaining, of dealing with situations and of solving problems of their natural and socio-cultural environment as the locution *tics* + *mathema* + *ethno*. So, this conceptual etymological construction gave origin to the word *Ethnomathematics* in a broader sense. Although the words ethnobotany, ethnomusicology, ethnolinguistic, ethnomethodology and other *ethno+disciplines* are used by anthropologists, by ethnographers and sociologists for research of specific disciplines in different ethnic and social contexts, they base their research on the views of an observer of other cultures, trying to find commonalities between the culture of

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[61] Ubiratan D'Ambrosio: A Historiographical Proposal for Non-western Mathematics. *Mathematics Across Cultures. The History of Non-Western Mathematics*, ed. Helaine Selin, Kluwer Academic Publishers, Dordrecht, 2000; pp.79-92.

the researcher and the culture of the researched. Obviously, Mathematics in the view of the academic researcher, which was originated from the Greek Antiquity, has no meaning at all for natives of other cultures. It is an European construct springing out of specific styles and ways of counting, weighing and measuring, comparing, sorting and classifying and inferring, organized by Euclid and several other academicians and scholars. Different cultures have their own styles and ways of counting, weighing and measuring, comparing, sorting and classifying and inferring, historically organized by their own sages. The conceptual locution *Ethno+mathema+tics* recognizes specific cognitive strategies of a culture to deal with reality. As an example, numerical tools for meaning quantities, as well as figures, artistic representations and abstractions emerged in human communities over cultural evolutionary time to serve specific purposes. It does not make sense to address different ethnic groups asking questions such as "what is the meaning of a triangle?" or "how would you add 2 plus 3?" or "what is the color of this flower?" The categories triangle, 2 plus 3, color may be absolutely senseless in their culture. Illustrative of this remark is the research on the *pirahã* culture in the Amazon Basin conducted by Daniell L. Everett. This research is related to the intriguing question of mutual influences of culture and cognition.[62] My appropriation of the concept of *mathema* as a philosophical category is fundamental. We might further explore my claim discussing the dispute of monism versus pluralism in logics. I will not discuss this in this paper.

I focus on corpora of knowledge established as systems of explanations and ways of doing, accumulated through generations, in distinct natural and cultural environments, which I call **Ethnosciences**. The Ethnoscience developed in the European natural and cultural environment will be called simply **Science** (Western or Academic) in this paper. The corpus of knowledge dealing specifically with quantitative and qualitative practices, such as counting, weighing and measuring, comparing, sorting and classifying, and inferring, accumulated through generations in distinct natural and cultural environments, I call Ethnomathematics. The Ethnomathematics developed in the European natural and cultural environment will be called simply Mathematics (Western or Academic) in this paper.

Science, Technology and Mathematics

The high prestige of science comes mainly from its recognition as the basic intellectual instrument of progress. It is recognized that modern technology depends on science and that the instruments of validation in social, economic and political affairs, mainly through storing and handling data, are based on Science and Mathematics. Particularly important in this respect is Statistics.

This brings to Science and Mathematics an aura of essentiality in modern society. There is a general feeling that there are practically no limits to what can be explained by science. Many of the applications which give science such a prestigious position are part of various forms of cultural conflict.

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[62] A synthesis of this research is in the book of Daniel L. Everett: *Don't sleep, there are snakes. Life and Language in the Amazonian Jungle*, New York: Vintage Books, 2009.

Technology is essential for the refinement of strategies for the hows and whys aims at improving the material needs as well as giving responses to the spiritual and imaginary queries, as discussed earlier in this paper. Regrettably, in many cases the objectives are the response to the satisfaction of greed and of ambition of those pushing for refinement. This was the driving force of colonialism. We may appeal to historical examples anywhere in the world and in every time. This is discussed by sociologist Fernando Flores Morador, with focus on technology and Latin America.

New technologies, particularly the generalized access to television, will give marginal populations –- not only indigenous, but equally urban communities in the lower economic strata -- access to information which is presented in the form of graphs and statistics. With an increasing presence of computers in school systems, the access to data asks for a new kind of mathematics, which is assimilated together with informally acquired knowledge. This phenomenon is similar to the emergence of the Vulgate in medieval times.

Mathematics, which was evolved in Europe, since Antiquity, provides the theoretical and practical support for Science and they are recognized as the backbone of the Modern World. Indeed, Science and Mathematics are, together, the powerful means for understanding, explaining, dealing with cosmic, natural, environmental, socio-cultural and personal facts and phenomena and. They are responsible for the invention and development of Modern Western Technology. The universality of Western Science, Technology and Mathematics is a direct result of the globalization initiated in the 15th century, after the great navigations, as discussed in Part 1 of this paper. This was possible thanks to the most developed technology available in that period. As it was discussed above, the great navigations since the 16th century mutually exposed forms of knowledge from different cultural environments.

Science and Mathematics are committed, in a doxastic way, to paradigms established in the course of their evolution.[63] The several Ethnosciences and Ethnomathematics are committed to the results. They are accepted whenever they satisfy the expectations. Undeniably, it is a form of empiricism. Both Western Science and Mathematics and Ethnosciences and Ethnomathematics were involved in the processes of conquest and colonization and, have been subjected to great changes as a result of the dynamic of cultural encounters. B.V. Subbarayappa has given an exemplary treatment of these issues in the case of India.[64] Not much has been done in the case of the conquest and colonization of the Americas. I will draw some lessons from the consequences of the mutual exposure of cultures in general. In particular Western Science and Ethnoscience and Western Mathematics and Ethnomathematics have a symbiotic relation in their evolution.[65] This is clearly similar to the evolution of language and religion, among many other forms of knowledge Language is an example. Several creole languages, which emerged

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[63] This is well discussed in the paper by Ward E. Jones:
Is Scientific Theory-commitment Doxastic or Practical?, *Synthese* 137, 2003, pp. 325–344.

[64] B.V. Subbarayappa: The Impact of European Science on Colonial India, Revolutions in Science. Their Meaning and Relevance, ed. William R. Shea, Science History Publications,/USA, Canton, 1988; pp.266-283.

[65] Ubiratan D'Ambrosio: Ethnomathematics: A Research Program on the History and Pedagogy of Mathematics with Pedagogical Implcations, *Notices of the American Mathematical Society*, December 1992, vol. 39, n°10, pp.1183-1185.

from the languages of the conquerors and colonizers and are now established languages on their own, with vocabulary, system of grammar and a proper literature. But the language of the conquerors and colonizers also changed, acquiring new terms and nuances of the language of the conquered. The same with the emergence of new religion sects, such as Umbanda in Brazil and the Mormon in the USA.

The dynamics of cultural encounters mutually expose how different cultures deal with various areas of human experiences and how they organize them. In 1960, the eminent algebraist Yasuo Akizuki proposed an emphasis on the reflective side of mathematics, looking into the world as a whole. He makes a strong point for the introduction of the History of Science and Mathematics in all levels of teaching. The most interesting point in his argument is the recognition that mathematics is a cultural product, present in Asia. He says

> Oriental philosophies and religions are of a very different kind from those of the West. I can therefore imagine that there might also exist different modes of thinking even in mathematics. Thus I think we should not limit ourselves to applying directly the methods which are currently considered in Europe and America to be the best, but should study mathematical instruction in Asia properly. Such a study might prove to be of interest and value for the West as well as for the East.[66]

It is also very relevant the study of the distinguished historian G.E.R. Lloyd, FRS, on the organization of areas of knowledge as disciplines in various cultural environments and about the elite of practitioners. Specifically, he calls Biomedicine the academic practices and theories developed mainly in Modern Europe. At a point he claims that

> Biomedical practitioners, with a battery of tests to call on, may pronounce a patient all clear: alternative practitioners, on the basis of their different criteria, may do the same. But the patients themselves have their opinion and feelings, which medical experts may label ignorant, misguided, deluded, even neurotic, but which from the patients' – consumers' – perspective are what counts. Biomedicine is no doubt set to make even greater advances in the techniques at its command. But the possibilities of mismatch between what biomedicine pronounces to be the case and what individual patients feel, are unlikely ever to be completely removed. If so, alternative styles of medicine, with their more or less articulate elites to promote them, are likely to continue to bear witness to the complexities of our understanding of what it is to be truly well, and would surely be

[66] Y.Akizuki: Proposal to I.C.M.I., *L'Enseignement mathématique*, t.V, fasc.4, 1960; pp.288-289.

> foolhardy to suppose that biomedicine has nothing to learn from the rivals.[67]

This last sentence supports the project *WHO Traditional Medicine Strategy*, mentioned above in this paper.

These are typical examples of the dynamics of cultural encounters. Science and Mathematics claim to be resistant to these dynamics.

Research and educational practices take into account all the forces that shape modes of thought, in the sense of looking into the generation, organization (both intellectual and social) and diffusion of knowledge. The research program, typically transdisciplinarian, brings together and interrelates results from cognitive sciences, epistemology, history, sociology and education. An essential component is the recognition that mathematics and science are intellectual constructs of humans in response to needs of survival and transcendence. As a result, different cultures have created different systems of codes, norms and practices to organize these responses.

I discuss mainly Science and Ethnoscience, which naturally includes Mathematics and Ethnomathematics, both as corpora of knowledge and as pedagogical practices. The discussion is based in the History of Science and reflect the dynamics of cultural acquisition. Some examples illustrate this. Particular attention will be given to those dimensions of knowledge which bear some relation to what became known as Science and Mathematics in European academic circles after the 15th century, replacing what was called ***Philosophia Naturalis.***

In these circles, soon a distinction was established between two categories of scientific knowledge: **scholarly** (or "formal" or "academic") **science**, supported by a convenient epistemology, and whose practice is restricted to professionals with specialties; **cultural** (or "practical" or "popular" or "street") science. These categories are closely related, and their main distinction refers to criteria of rigor, and to the nature, domain and breadth of its pursuits, that is, to what and how much can be done with knowledge.[68]

For example, all over the World, much of the current weather explanations and predictions, agriculture practices, processes of cure, dressing and institutional codes, culinary, and commerce, came from the European tradition, developed in the Middle Ages and the Renaissance. But everywhere we see extant practices performed in very distinctive ways. These practices, which have their origins in native communities, are significantly modified as a result of mutual exposition of cultural forms since colonial times. It is common to see, also in urban environments, the influence of mutual cultural exposition in everyday life and practices. For example, it is common to see indigenous peoples in the Americas using Indo-Arabic numerals, but performing the operations from bottom to top, explaining that this is the way trees grow.

Will these practices survive in the era of high technology? Most probably they will give rise to different practices, which will be the result of broad communication. They will be the

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[67] G.E.R. Lloyd: *Disciplines in the Making. Cross-Cultural Perspectives on Elites, Learning, and Innovation*, New York: Oxford University Press, 2009; pp.91-92.

[68] Many scholars do not agree with the use of "cultural science". They prefer to say ethnoscience for this category of scientific knowledge.

fusion of traditional practices, coming from all over the world, which will not necessarily be the same brought by the conquerors and colonizers. A new knowledge will be collectively constructed.

Practices and perceptions of learners are the substratum upon which new knowledge is generated. Thus, new knowledge has to be based on the individual and cultural history of the learner, and its origins have to be recognized in the diversity of extant cultures, present in specific communities, all over the world. This is the essence of a new educational posture called Multicultural Education.[69]

But this new educational posture depends on a new historical attitude, which recognizes the contribution of past cultures in building up the modern world and modern thought, and which avoids omissions and errors, so common in the way cultural differences have been treated by the dominant culture.

Pre-Columbian cultures had different styles of doing their measurements and computations. Some of these practices are still prevalent in some native communities. Land measurement is particularly interesting. Land measurement, as practiced by peasants in Latin America, comes from ancient geometry transmitted to medieval surveyors. Land property and measurement (*geo-metry*), is strange to Pre-Columbian cultures. In Amazonian tribes, the concepts of demarcation of land are completely different and require other forms of measurement. Recently, Amazonian tribes have been receiving large chunks of land as a form of compensation for the territory acquired in the colonial process. But the concept of precise territorial demarcation is not present in their culture, hence they do not possess means to proceed the demarcation of the land received from the government. But they had to acquire the new knowledge in order to exert their possession of this land. They are thus formulating a new knowledge which incorporates the most advanced technology. Of course, initially only a few natives acquire this knowledge, but this is rapidly assimilated by the tribe, through their educational systems.

Very interesting is numerosity. Most Amazonian tribes have counting systems that goes as "one, two, three, four, many". And that is all, since with these numbers they can satisfy all their needs.[70] We also see important ways of dealing with pottery, tapestry and everyday knowledge with strong mathematics characteristics in several cultures.[71] Carpenters, brick and carpet layers all over the world use very specific geometry in their work, when involved in their work. They have to cut their pieces in the usual geometrical forms, such as squares, rectangles, regular polygons, and adjust them to the surface to be covered, practicing optimization techniques. The practical arithmetic of street vendors in Northeast Brazil is a peculiar way of

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[69] Ubiratan D'Ambrosio: Ethno-mathematics, the Nature of Mathematics and Mathematics Education, *Mathematics, Education and Philosophy: An International Perspective,* ed. Paul Ernest, The Falmer Press, London, 1994.

[70] See Michael Closs, ed.: *Native American Mathematics,* Austin: University of Texas Press, 1986.

[71] See Marcia Ascher: *Ethnomathematics*. *A Multicultural View of Mathematical Ideas*, Brooks/Cole Publishing Company, Pacific Grove, 1991. See also Paulus Gerdes: *Ethnomathematics and Education in Africa* Stockholm: Institute of International Education/Stockholms Universitet, 1995.

dealing with money for which face value is not significant.[72] Another example comes from Africa, where the people deal with numbers and counting according to their specific cultural background.[73] But we see that the people from these cultures have no problems at all in assimilating the current European number system and deal perfectly well with counting, with measurement and with money when they are trading with individuals of the dominating culture.

Studies of Ethnoscience and Ethnomathematics are motivated by the demands of the natural and cultural environment and are present everywhere. It is a fact that just about everybody deals with mathematical practices, incorporated in daily routines, even without recognizing it. When walking or driving, people memorize routes, in most cases optimizing trajectories, which is a practice of a mathematical nature. Also when dealing with money, with measurement and with quantification in general, we recognize an intrinsic mathematical component. The same with the capability of comparing, classifying, ordering, selecting and memorizing routines.

These practices are generated, organized and transmitted informally, the same as language, to satisfy immediate needs of a population. They are incorporated in the pool of common knowledge, which keeps a group of individuals, a community, a society together and operational, as part of the culture of the society. Culture thus manifests itself in different, obviously interrelated, forms and domains. Cultural forms, such as language, mathematical practices, religious feelings, family structure, dressing and behavior patterns, are thus diversified. They are, of course, associated with the history of the groups of individuals and of communities where they are developed. A larger community is partitioned into several distinct cultural variants, each owing to its own history and responsive to differentiated cultural forms.

The key point is that the vision of the world of the conquerors (Western cultures), which gave origin to Science and Mathematics, was limited, but equally limited was the cosmovision of the conquered. The development of Western Science and Mathematics have also been limited, as a result of precarious views of the world –- immediacy technology –- and of a refusal to "listen" to the conquered, which was necessary in the process of imposing the rule of the conqueror. This game of power, seen also in the recent political play, is no more necessary in the global world.[74]

The access to new technology becomes essential for the existence of the production system. A simple arithmetic shows that the increase in production requires increased buying power. There is no future for the producers without the buyers. Unemployment decrees the end of the current production system. Similarly, information and communication technologies require increasing access to the system.

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[72] See Geoffrey Saxe: *Culture and Cognitive Development. Studies in Mathematical Understanding*, Lawrence Erlbaum Associates, Publishers, Hillsdale, 1991.

[73] See Claudia Zaslavsky: *Africa Counts: Number and Pattern for Teachers,* Lawrence Hill, New York, 1979.

[74] As an example, I mention the measures forbidding the use of national languages, such as it happened in Franco's Spain.

Knowledge and Power

History, as a major academic discipline, carries with it an intrinsic bias which makes it difficult to explain the ever-present process of cultural dynamics which permeates the evolution of mankind. This paves the way for paternalism and arrogance, for intolerance and intransigence. And clearly interferes with the understanding, for different cultural groups, of each other processes of building up their own cultural realities when trying to satisfy their needs of survival and transcendence.

The dawn of Modern Science is identified with the modern geography of the world, and the appearance of privileges for those capable of mastering Modern Science and Technology. How did this privileged role come into being? Why do the conquered and colonized still have problems in mastering Science and Technology? Why have Science and Technology progressed so rapidly, and in this progress why have social, and above all ethical, concerns been left aside, indeed eliminated, thus paving the way for enormous social, political and environmental distortions? These questions are germane to the concept of knowledge itself.

I see knowledge as emanating from the people, essentially a product of man's drive towards explaining, understanding and coping with his immediate environment and with reality in general, reality understood in its broadest sense and in permanent change as a result of man's own action. This drive, obviously holistic, is dynamically subjected to a process of exposure to other members of society – people – and, thanks to communication, both immediate and remote in time and space, goes through a process of codification, intertwined by an associated underlying logic. This process is inherent to the people as a form of knowledge, which some call wisdom.

The modes of communication and the underlying logic are recognized as the result of the prevailing cognitive processes. Cognitive evolution, related to environmental specificity, gives rise to different modes of thought and to different underlying logic, communication and codification. Hence, knowledge is structured and formalized subjected to specificities of cultural nature. Power structure, which itself rises from society as a form of political knowledge, appropriates, indeed expropriates, structured knowledge and organize them as institutions. In this form, and under the control of the establishment and the power structure, which mutually support each other, knowledge is given back to the people who, indeed, generated it, through systems and filters, which have been designed to keep the established power structure.

The generation, transmission, institutionalization and diffusion of knowledge is clearly a holistic approach to knowledge and to the dynamics of change. The disciplinary approach to knowledge in general focus, separately, on cognition, epistemology, history and sociology. This clearly makes it difficult to understand the dynamics of change. Mutual exposure of distinct approaches to knowledge, resulting from distinct environmental realities, is global, embracing the entire cycle, from the generation through the diffusion of knowledge.

The process of cultural dynamics, which takes place in the exposure, is based on mechanisms, which balance the process of change, identified as acquiescence -- that is, the capability of consciously accepting change (modernity) -- and the cultural ethos -- which acts as a sort of protective mechanism against change that produces new cultural forms.

This behavior can be traced back throughout the entire history of mankind. These conceptual tools are close to the concepts of ethos and of schismogenesis introduced by Gregory Bateson in dealing with cultural contact and enculturation.[75]

In the encounter of the two worlds (Europe and America), this was violated in many instances. The origin of these violations may be related to distinct views of nature. A scientific conceptualization, which was developed in medieval Europe, as a result of an intertwining of Judeo, Christian and Greco-Arabic thought, lead man to look at nature and at the universe as an inexhaustible source of richness, and to exploit these resources with a mandatory drive towards power and possession. This kind of behavior lead, with regard to nature and life, to favor a single model of development, hence to ignore the cultural, economic, spiritual and social diversities which constitute the essence of our species.

The uneasiness with the state of the world leads man to challenge the current concepts and models of knowledge, and to look for radical changes which applies to all levels of knowing and doing. The challenge sometimes takes the form of violence and radicalism. But it may also accept the idea that survival depends on a global and holistic view of reality and looks for a new approach to education and to development, based in the recognition of a plurality of models, of cultures, of spirituality and of social and economic diversity, with full respect for each other of the distinct options. This is the concept of a planetary civilization.

Western Science and Mathematics acquired a character of universal modes of thought. With small differences, is now practiced with the same characteristics, in research institutes and schools all over the world. The new technologies of information and communication reinforce this trend, but also facilitates a transcultural approach to knowledge, which may contribute to achieving the mayor goal of achieving UNIVERSAL PEACE.[76]

The Encounter of Cultures in the New World

I foresee a broad encounter of cultures with the generalized use of the new technologies of communication and information. Now, no important event in the world will go unnoticed by the entire mankind. This never happened before. Which lessons can we learn from the previous encounters, as in the conquest?

As discussed in Part 1, European navigators of the end of the 15th and early 16th centuries reached all of America, Africa, India and China. The Portuguese project of circumnavigation via the Southern Hemisphere encountered civilizations in Africa and Asia, where previous contacts had been established before. Thus the encounters of the 15th and early 16th centuries were, indeed, amplifications and deeper contacts. But meeting the "new", the unknown, the unexpected, was experienced by Columbus and the Spaniards, in 1492 and the subsequent voyages. This justifies calling these lands the New World.[77]

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[75] Gregory Bateson: *Steps to an Ecology of Mind*, Ballantine Books, New York, 1972.

[76] Ubiratan D'Ambrosio: Mathematics and Peace: A Reflection on the Basis of Western Civilization, *LEONARDO*, vol.34, nº4, 2001; pp.327-332.

[77] See the interesting study of Ivan Van Sertima: *They Came Before Columbus*, Random House, New York, 1976, and the voyages of the Chinese monk Huei Shen in the 5th century to Mexico, as reported in Juan Hung Hui:

The colonial enterprises had a sort of dualistic characteristic. We know that earlier contacts with the Americas, the motivations and behavior of earlier navigators from Spain and Portugal, and afterwards of the English, French and Dutch navigators, which resulted in creating a "New World", ignoring and depriving, in many cases destroying, native cultures,

were different from those leading to the "Old World", Africa, India and China, where native cultures were respected.

As I said above, America and, to some extent sub-Equatorial Africa, were more surprising to Europeans than what was seen in lands which had been reached by land routes, in earlier times. Particularly, America revealed peoples with new forms of explanation, of rituals and of societal arrangement. Reflections on the so-called Natural Philosophy or the Physical Sciences, particularly Astronomy, were part of the overall cosmovision of the Pre-Columbian civilizations. In other words, the sage and the wisdom, corresponding to scientists and scientific establishment, present in the society of the conquered, have not been recognized as such by the conquerors.

Illustrative of this remark is given by one of the earliest chroniclers of the encounter, Fray Bernardino de Sahagún, when he wrote, in the 16th century, that

> "The reader will rightfully be bored in reading this Book Seven [which treats Astrology and Natural Philosophy which the naturals of this New Spain have reached]... trying only to know and to write what they understood in the matter of astrology and natural philosophy, what is very little and very low."[78]

The important report of Sahagún explains much of the flora and fauna, as well as of medicinal properties of herbs of *Nueva España*. But he does not give any credit to indigenous formal structured knowledge. This is typical of what might be called an epistemological obstacle of the encounter.

Another important book is the *Sumario compendioso ... con algunas reglas tocantes al Aritmética* by Juan Diaz Freyle, printed in Mexico in 1556, the first arithmetic book printed in the New World. It has a description of the number system of the Aztecs. But this book soon disappeared of circulation and the Aztec arithmetic was replaced by the Spanish system.

Much research is needed on the Science of the encounter. But this needs a new historiography, since names and facts, on which current history of science heavily rely, have not been a concern in the registry of these cultures. A history "from below", which might throw some lights in the modes of explanation and of understanding reality in these cultures, have not been common in the History of Science. We need a new historiography, new methods of history, strongly relying on informants.

There is more availability of sources for the history of the natural and health sciences, for which the importance of the encounter is easily recognized. The main sources are the register of

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Tecnologia Naval China y Viaje al Nuevo Mundo del Monje Chino Huei Shen, *III Congreso Latinoamericano y III Congreso Mexicano de Historia de la Ciencia y la Tecnologia*, Ciudad de Mexico, 12-16 Enero 1992.

[78] Fray Bernardino de Sahagún: *Historia General de las cosas de Nueva España*, 2 vols., Alianza Editorial Mexicana, México, 1989; Tomo 2, p.478.

diseases which decimated the conquered populations, particularly smallpox, and reciprocally brought new diseases to Europe, such as syphilis. The implantation of health systems in the colonies of the New World is quite interesting.[79]

We have to keep present that the populations of Latin America have always been multicultural, with successive migrations of distinct cultural groups in Pre-Columbian times. This internal migration was followed by waves of conquerors, of colonizers, of creoles (whites born in the new lands), of Africans (brought as slaves, with distinct cultural backgrounds) and of European and other immigrants (including contingents from the Middle-East, India and the Far-East). Interestingly enough, this is the order of arrival to the cultural cauldron which is the New World.

In the late 15th and early 16th centuries, Europe was laying the ground for the Modern Science, which would be firmly established with the publication of Newton's *Principia*. It should be noticed that much of the supporting observations given by I. Newton to his theories are the result of observations made in the "discovered" lands, in particular Brazil. The early mathematicians who went to the newly conquered lands, were proficient astronomers, and made important observations. Comets were a driving force behind speculative sciences. The astronomical observations, in Bahia, of Valentin Stancel, S.J., is cited in the *Principia.* [80]

The consequences of encounters in the medical area is very important. Indeed, the recognition of traditional medicine by the WHO, as mentioned in Part 1, confirms this. Medical practices in the Iberian Peninsula in the 15th century represented, as did most forms of knowledge, the result of the encounter of Greco-Roman Hippocratic and Galenic traditions, under the dominant influence of the Catholic Church, and of Islamic tradition. The Islamic influence, a result of almost seven hundred years of domination, was strong. Islam brought to the peninsula a distinct renewal of scholasticism. We learn what was going on before Islam from the writings of Isidore de Seville (b.*ca* 560; d.636), mainly in his works *Etymologiae* and *De Natura Rerum*, both highly influential during the Middle Ages. There we read existing medical and related knowledge, in every field, in a consistent encyclopedic style.[81] In the period before the navigation, the Iberian Peninsula was subjected to a renewed influence of Greek thought brought by the Islamic rulers, which favored an important presence of Jewish scholars and practitioners.

After the *Reconquista*, accomplished in 1492, the tolerance of the Catholic kingdoms towards converted Jews (*Cristãos Novos*) allowed the introduction of Islamic science, particularly Medicine, in Europe. Converted Jews were usually practitioners of a humble socioeconomic status, as doctors and apothecaries. At the same time, the resistance of the Catholic Church

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[79] Ubiratan D'Ambrosio: Specificity of the health sciences in the Iberian peninsula at the time of the discoveries, *Advances in Gynecology and Obstetrics, The Proceedings of the XIIth World Congress of Gynecology and Obstetrics*, (Rio de Janeiro, 1988), eds. P. Belfort, J.A. Pinotti and T.K.A.B. Eskes, Parthenon Pub. Co., London, 1988; pp.29-32.

[80] Ubiratan D'Ambrosio: A matemática na época das grandes navegações e início da colonização, *Revista Brasileira de História da Matemática*, vol.1, nº1, 2001, pp.3-20.

[81] For a good account of Isidore's contribution, particularly to medicine, see the monograph by W.D.Sharpe: Isidore de Seville: the medical writings, *Trans. Am. Phil.Soc*., New Series, vol. 54; pp.1-75.

focused on the internal struggles of Christianity itself, thus building up formidable instruments of conservatism, best exemplified by the Inquisition.

It is well known that all the Portuguese expeditions to the coast of Africa used to bring a number of black "informants" to the Portuguese court. These were usually versed individuals in the Sciences as practiced by the Africans. The same is true after the Spanish reached they called the West Indies and Portuguese explored South America. On the other hand, restrictions to modern development in the Iberian Peninsula were strong, as exemplified by restrictions on dissection. This scientific restrictions, plus the waves of Inquisition Tribunals against converted Jews, stimulated a brain drain, particularly intense in the medical profession. Other European centers, mainly those under the influence of the Reformation, and also the new possessions overseas, offered a safer intellectual ground than the conservative Iberian monarchies.

The voyages and excursions into the newly conquered lands demanded extensive participation of practitioners, with great flexibility in the use of their knowledge in very different situations. Clearly, it was needed scientific curiosity and research methodology to face and understand new diseases and to propose new cures. The arrival and departure of ships from and to the New World were always a situation demanding more medical care, in most cases dealing with hitherto unknown diseases.

The early flow of information from Portugal and Spain to Europe was mainly the result of immigrants going to work in other European countries and navigators of other nationalities working in Iberian ships. The colonialist ventures of England, France and Holland would bring to Europe new sources of knowledge not only from the Americas, but equally from the East.[82] Particularly relevant was the information coming to Holland through the Dutch settlement in Northeast Brazil from 1630 to 1661, specially from 1637 to 1645, while the Governor and Captain-General of the colony was Johan Maurits of Nassau-Siegen (1604-1679). Nassau brought to Brazil artists and scientists of good standing and capable of reporting on the New World.[83]

Other visitors to Latin America in the early colonial period surely have marked the imagination of intellectuals of the 16th and 17th centuries, the moment when Modern Science was setting its roots.

Conclusion

The encounter of cultures in the 15th and 16th centuries has opened for the whole of mankind new possibilities of a good quality of life and the satisfaction of material and spiritual needs for the entire mankind. Regrettably, no one can deny that, five hundred years after the encounters, these possibilities reached only a few, and inter e intra-cultural relations are increasingly tense and violent. It is a fact that civilization is threatened and that the viability of human life is questioned.

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[82] The Portuguese Garcia da Orta has an important role in this transmission. See B.V. Subbarayappa, *op.cit.*, p.266, for a reference to this fact.

[83] Dirk J. Struik: Maurício de Nassau, Scientific Maecenas in Brazil, *Revista da Sociedade Brasileira de História da Ciência*, nº2, Julho-Dezembro 1985; pp.21-26.

Can scientific knowledge contribute to build a trustful and respectful relations among individuals and cultures and to guide mankind for a sustainable use of natural resources?

I strongly believe so. The advances in technologies of information and communication will allow for a more intense encounter of traditions. And I also believe that an unbiased view of history will allow us to recognize the mistakes of the earlier encounters and will give us directions on how to reach a planetary civilization.

The tone of this paper is an effort to appreciate the real meaning and importance of Science, Technology and Mathematics in different cultures and in different times, viewed through what might be termed "cultural lens". I hope that this approach will illuminate many areas of thought and indicate new directions of research. As a result, we may better understand the implications of Science, Technology and Mathematics research, its contents and its pedagogical methodologies, for the achievement of peace in its several dimensions: military peace, environmental peace, social peace and inner peace. This is essential for building up a civilization that rejects inequity, arrogance and bigotry, which are the behaviors which initiate and support violence. Paradoxically, the intense rejection of these behaviors sometimes are, themselves, arguments favoring violence.

The focus is the appeal to **Nonkilling** in all senses, from eliminating life to eliminating dignity.[84]

The Program Ethnomathematics is a proposal with this focus. It is a research program in the theory of knowledge based on an ethics of respect, solidarity and cooperation for all of mankind.

Educating nonkillingly is complementary

to educating nonviolently and educating peacefully

When nonkillingly we educate,

a life-supporting Humankind we strongly advocate

When nonkillingly we educate,

a killing-free global society we anticipate

When nonkillingly we educate,

lethal violence we commit to eradicate

When nonkillingly we educate,

peace/nonviolence/nonkilling education we humanizingly integrate

When nonkillingly we educate,

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[84] Ubiratan D'Ambrosio: Nonkilling Mathematics Education? *Nonkilling Education*, Edited by Joám Evans Pim & Sofía Herrero Rico, Honolulu: CreateSpace Independent Publishing Platform; 2018; pp.71-98.

a globally inspiring case for Nonkilling Human Rights we substantiate.

Francisco Gomes de Matos

Peace-nonkilling linguist, Recife, Brazil

Post-Reading Questions

1. I identify the concept of **Culture** with shared knowledge and behavior, values and language, which includes ways of satisfying needs to survive and wants to transcend, going beyond survival. A culture has appropriate ways to deal with **how** and **why** in a complementary way, which are strategies of survival and transcendence. This appeals to traditions and to will and leads to the recognition of **past** (roots) and of **future** (utopias).

   QUERY: In the encounter of two cultures, three possibilities may occur: 1. Both cultures remain the same, enriched by the encounter; 2. One culture dominates, even eliminates, the other; 3. They amalgamate, producing a new, different culture. The question: give examples illustrating the three occurrences.

2. I conceptualize **Progress** as the generation and refinement of strategies for the "hows" and "whys". The strategies result in actions performed by individuals or groups. The ideal of the refinements is to improve the strategies of action, which have been acquired and matured by a culture along generations.

   QUERY: Do you believe that Progress, thus conceptualized, implies better quality of life? Explain.

3. **Incursions and Relocations of Social Groups**: Both culture and progress are in permanent evolution. Neither is static. The dynamics of the encounter of groups of people of different cultural and ethnic heritages is common. Individuals and groups move, either fortuitously, as in the short story of H.G. Wells, or purposely, with many different objectives, such as trade, looting, exogamy and permanent settlement, as conquests.

   QUERY: Do you consider incursions and relocation of social groups, a major factor in the evolution of culture and progress? Explain.

4. **Metropolis**: Are powerful nation-states. **Colonies**: Are established settlements and political control on territories beyond frontiers, to serve the interests of a metropolis, mainly agricultural and mineral production.

   QUERY: What is your opinion of the argument, often repeated by colonizers and colonialists, that the metropolis offers advancement of the colonies?

5. **Technology**: Essential for the refinement of strategies for the hows and whys aims at improving the material needs as well as giving responses to the spiritual and imaginary queries, as discussed earlier in this paper.

   QUERY: New technologies, particularly the generalized access to television, will give marginal populations – not only indigenous, but equally urban communities in the lower economic strata – access to information which is presented in the form of graphs and statistics. With an increasing presence of computers in school systems, the access to data asks for a new kind of mathematics, which is assimilated together with informally acquired knowledge; The question: Give examples of a new mathematics techniques or theories that are associated with technological innovation.

6. **Science** is a broad concept. The word comes from the latin *scientia*, which means knowledge. The main characteristic of science is its systematic building and organizing knowledge in methods and theories which are testable.

   QUERY: The acquisition of Science by individuals may enter in conflict with her/his way of dealing with "hows" and "whys". Give examples of these conflicts.

7. **Mathematics**: provides the theoretical and practical support for Science and they are recognized as the backbone of the Modern World. Indeed, Science and Mathematics are, together, the powerful means for understanding, explaining, dealing with cosmic, natural, environmental, socio-cultural and personal facts and phenomena.

   QUERY: Give examples of mathematical concepts, theories and techniques that are needed to work in some areas of Physics, Chemistry, Biology and others.

8. **Ethnomathematics**: A broad research program of the evolution of ideas, of practices and of knowledge in the human species in different cultural environments. Essentially, it implies an analysis of how groups of humans generated ways, styles, arts and techniques of doing and knowing, of learning and explaining, of dealing with situations and of solving problems o their natural and socio-cultural environment.

   Ethnosciences: A corpora of knowledge established as systems of explanations and ways of doing, accumulated through generations, in distinct natural and cultural environments.

   Science and Mathematics are recognized as scholarly science: "formal" or "academic", supported by a convenient epistemology, and whose practice is restricted to professionals with specialties recognized by their peers.

   Ethnoscience and Ethnomathematics are recognized as cultural science: "practical" or "popular" or "street" science, practiced bt the common people, by the invisible society, and recognized by their effectiveness.

QUERY: Science and Mathematics are committed, in a doxastic way, to paradigms established in the course of their evolution, while the several Ethnosciences and Ethnomathematics are committed to the results. Do you believe the two approaches are in conflict or can benefit from each other?

9. **Transdisciplinarity**: a research program that goes beyond (**trans**) the disciplines. It brings together and interrelates results from cognitive sciences, epistemology, history, sociology and education and allow for a broader understanding of the Scholarly and Cultural Sciences.

   QUERY: Do you agree that environmental problems should be approached in a transdisciplinarian way? Justify your response.

Chapter 10: Understanding Mathematics Through the Creative Application of Natural Forms

An Artistic Approach to Cross Disciplinary Study

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Mathematics is a description of the natural world. It is a prescriptive approach to understanding natural phenomena. There is another link between the discipline (mathematics) and the phenomena (nature), and that is art. Art is a visual representation of the descriptive (mathematic) process based on an observational or intuitive reflection of nature. Art is a bridge between the accurate abstraction of mathematics and the visual fluency of the natural world.

To understand the history of human social evolution is to recognize its expression through art. The earliest form of communication was visual: in hieroglyphs, cave drawings, and cuneiform marks on tablets. These early forms of communication were imbued with a common thread: the basic structure we call mathematics. Mathematics is the quantification of the representational in the real world of expression. To take this a step further, just as culture or regionally specific language indicates social structure, relationships in mathematics represent a natural social evolution. The patterns in cloth, decorative designs in architecture, the perspective and dimensionality of sculpture and masks are mathematical equations that can unlock pathways to a certain type of visual literacy. There is also a correlation between the scientific method and the step by step, trial and error process of the creative epistemology in art. Mathematics and the scientific method are basic to the fundamental framework of the artistic canon.

The Science, Technology, Engineering and Mathematics (STEM) acronym is a modern designation for developing educational models. Understanding the relevant cultural sources, can make STEM more accessible to every society. Art as well as mathematics, engineering, and science in a culture is based on societal influence, as D'Ambrosio points out in his discussion of

children's perceptions of space and geometry in crowded urban mill towns in Brazil (Babaci-Wilhite, 2016). Recognizing the legitimacy of each culture's history and social dynamics is important in establishing an egalitarian connection to STEM learning. Art is a logical means for making a connection between mathematical and scientific models by presenting a cross disciplinary perspective Science Technology Engineering Art and Mathematics (STEAM), not a divided educational model or a product of the elite.

In this chapter I will discuss the relationship between certain specific mathematical principles as the basis for the underlying creative structure in art. In addition, I will promote an expansive connection between forms in nature, as well as the underlying mathematical principles.

Fibonacci Numbers and the Golden Ratio

In 1202, Leonardo Pisa (aka Fibonacci) wrote Beber Abaci, an introduction to indo Arabic numerals. Fibonacci, it must be noted, received his instruction from a "wise" Arab teacher in Bejaia, Algeria, his lesson was called the art of the nine Indian figures, the book that he later wrote posited as a solution to a mathematical problem concerning the multigenerational reproduction of rabbits over months.it introduced a sequence of numbers that was evident in the natural world (as follows: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144 and so on) This sequence represents a natural phenomenon applicable in other areas (Livio 2002). This serial pattern is found in the sunflowers face, in the pineapple fruit, or in the pine cone. The mathematical principle based on the Fibonacci sequence in natural structures is called phyllotaxis. Phyllotaxis is a developmental spiral that develops during the growth cycle of plants. For example, each hexagonal scale on the surface of the pineapple is a part three different spirals, one of eight parallel rows, one of thirteen parallel rows, and one of twenty-one parallel rows. This is part of the portion of the Fibonacci sequence 8, 13, 21.

Another mathematical application of the Fibonacci numbers is the golden triangle. The golden triangle comes from the golden rectangle, which is a rectangle where the ratio of the long side to the short side is 1.61803. It is considered to be the perfect ratio which, when superimposed on natural objects, is described in everything from the chambers of the nautilus shell to the spiral form of galaxies and even the expanse of the universe. If we look at the arrangement of florets we see this patterning of clock wise and counter clockwise spirals of 89/55 or 144/89 all ratios of adjacent Fibonacci numbers. The spiral configuration in nature and the golden ratio occurs naturally for strength and efficiency of form (Livio 2002).

Figure 10.1: Examples of fibanacci sequence / phyllotazis

Description of Relationship of Art and Mathematics

Mathematics, fundamentally, exists as a means of describing real world phenomena. It underlies everything we do. It is descriptive of most human activity and occurs naturally throughout all societies and cultures. Our earliest understanding of the environment was mathematical. An example is the mathematical basis for the Mayan calendrer which was used to predict the best time for seasonal crop rotation. Further, it can be implied that mathematics is a personal and cultural phenomenon. I recently viewed a film "Embracing the Serpent" about people of the amazon, on their buildings was a decorative pattern consisting of a motif of repeating dots: an equation represented as visual design. A cultural mathematical symbol that has mystical significance. Patterning is the logical crossover between mathematics and art. Mathematics describes, how we are in the world, but it only functions in coordination with other mediums. Equations and mathematical theorems are related to something, much as length times width references area, or y = mx + b (y= how far up m=slope or steepness and b = the y intercept or where then line crosses the y intercept) references a straight line, these are visual concepts.

Artwork comes from understanding spatial relationships, no matter what form, whether in free space or confined to a plane. Art is reliant on an innate understanding of mathematics. Often this expression can be analysed and quantified. Some artists use mathematics purposefully. An example would be Josef Albers and his studies using square forms or Barnette Newman and his use of the straight line and the rectangle. Other artists employ mathematics as a means of identifying patterns and look for structures within their work.

The artist starts with a concept and creates the environment to explore this concept. Whether it involves mixing various colors, glazing, staining, or creating screens (chemistry), layering, texturing, sculpting, or printing (construction), or the process of recognizing and repeating effects (empirical research). Art is reflective of the scientific method as seen in the trial and error approach to discovery and the repetition of findings to create certainty.

Color in Nature and the Imagination

Artists have always looked to nature for the colors of their imaginative work. Color as a phenomenon in nature is, however quite complex. Water, though transparent and colorless in reality can appear as blue from a distance, greenish at close range and transparent when upon it. The same body of water can turn black or silver in reflection of the light or lack thereof which it reflects. Color is also chemistry. The amount of acid, base, or mineral content of soil can determine the shade of color (yellow to purple) of flowers or the tint of gem stones and crystals. Pigments in paint are also examples of the science and mathematics of color, even the slightest variation in the amount of yellow admixed with blue yields not turquoise but Kelley green. The materials used to synthesize modern colors has changed from the hand mixed paints of the past when Chagall had his blue and Miro his black, this due to the fact that individual artists had their own formula for each color. The realm of color even extends to the sonal and the literary as a descriptor. How often do we hear the description of "having the blues" meaning sadness or being "red hot" with passion or anger. This raises the question as to whether color is of the brain, certainly as an optical function for assessment of color there is some basis. The range of color and light and among sighted creatures the differing perceptions of optics makes this an interesting field of research. The study of the relationship between color and form had many practioners form Johannes Ittens and his primer "The Elements of Color," to Josef Albers and his transformative studies of solid colors on the square. The color field painters of the New York school Ad Rienhardt a master of abstract purity in saturated color and Mark Rothko with his floating clouds of paint. These artists absorbed the colors of their environment and transformed them into visual language.

Visualized Imagination as Mathematics

As stated previously, I relate science, mathematics, and art as interrelated disciplines in the realm of visual imagination. An important theorist in the philosophical and scientific basis for art was the Russian Avant Garde painter Wassily Kandinsky. Kandinsky posited the relationship between color and geometric shapes; he also justified the links between planar geometry and energy. These principles were applied to his abstractions "The work of art mirrors itself upon the surface of our consciousness, however its image extends beyond, when the sensation has subsided. A certain transparent partition, abolishing direct contact. Here too exists the possibility of entering arts message, to participate actively, and to experience its pulsating life with all ones senses" (Kandinsky 1947).

His first task was to scientifically analyze from a historical perspective his theory. He referred to his work in terms of pure science and utilitarian science, the former being theoretical and the latter applied. His research into scientific analysis of the picture plane took three steps:

1. Investigation of each element in isolation
2. The reciprocal effect of elements in combination.
3. Conclusions drawn from the analysis of the first two steps.

Kandinsky treated mathematics as a living thing; he referred to the geometric point as "the ultimate and most singular union of silence and speech" (Kandinsky 1947). His further research involved understanding the relationships between objects placed on the plane (circles, triangles, diagonal lines, random marks). What resulted was a series of theoretical assertions regarding the creation of visual energy, balance, and harmony in his art work. He also researched the relationship of color to geometry and adapted his ideas into a philosophy of creating paintings.

Another artist working in the Bauhaus school during the pre-war years (1921-1931) was Paul Klee. Like Kandinsky, Klee used mathematics and scientific principles to teach his art students. His major work on the subject was contained in his *Pedagogical Notebook*. In his introduction to the notebook Moholy-Nagy the Hungarian photographer states that:

> Man painted and danced long before he learned to write and construct. The senses of form and tone are his primordial heritage. Paul Klee fused both these creative impulses into a new entity. His forms are derived from nature, inspired by observation of shape and cyclic change but their appearance only matters in so far as it symbolizes an inner actuality that receives meaning from its relationship to the cosmos. (1953)

Whereas Kandinsky based his work on a philosophical approach to the creative process, Klee used a methodological approach in four sections proportionate line and structure/dimension and balance/gravitational curve/kinetic and chromatic energy, his text ranged from a discussion of the point and line phenomena (similar to Kandinsky) to a step by step approach through all manner of possible permutations of mathematics and science. His work encompassed representative planar and structural geometry by discussing modes of energy (passive and active) related to geometric figures, concluding with mathematical equations related to form and structure. Klee continued the discussion by relating natural science to abstract geometric ideas. Klee believed that comprehending the natural world was crucial to understanding the creative process. He thought an artist needed to understand anatomical systems such as the circulation of blood and the lever and fulcrum relationship of bones and skeletal muscles, or the workings of simple mechanical forms. From this discussion, he proceeded through natural dynamism in balance, action, and symmetry using what could be called elemental physics. In his conclusion, Klee brings all the previous discussions together as a basis for color theory (balance and symmetry) and construction of images in relation to the pictorial plane.

Ubiratan D'Ambrosio, the Brazilian mathematician, is a philosopher of the mathematical aesthetic. He sees mathematics and science through the filter of culture and transcendent expressive humanity, as exemplified in his statement "[The] human mind is a complex of emotional, intuitive, sensorial, rational perceptions, involving all at the same time. Maybe we have been emphasizing too much the rational perception and denying, rejecting, and repressing the others" (D'Ambrosio 2011). He discusses the cultural narrative of mathematics in what he calls ethno mathematics. "Ethno mathematics challenges the conventional view that science, and

this includes mathematics, is a uniquely modern western phenomena, even in the absence of a recognized method" (D'Ambrosio 2011). An example of this idea that cultural groups have an innate relation to mathematics outside the western model is seen in pre-colonial Mali (D'Ambrosio 2011), where there was a system of mathematics that supported architecture. In the Americas both the Aztec and Mayan cultures developed sophisticated mathematical systems tied to specific cultural function such as astronomy, architecture or religious practice. Incans of Peru had a knotting system of multi-colored strings attached to cords called quipu, which employed an arithmetical table and abacus called a yuupana. The system was complex and specific containing qualitative and quantitative information of value to the society especially in commercial applications and the historical record. This link with D´Ambrosio´s concern:

> I am concerned with the ways, modes, styles, arts, and techniques, generated and organized by different cultural groups for learning, explaining, understanding, doing and coping with their natural, cultural, imaginary environment. (D'Ambrosio 1979)

D'Ambrosio sees mathematics reflected in the artifacts (art work and design) from different cultures. For instance, in ancient Greece we see a practical mathematics, present in art and architecture, in commerce, in military strategy coexisting with a theoretical mathematics in the Euclidian style. He also sights the value of examining folk tales, artifacts, mythologies, and fictions for mathematical correlatives to culture.

As D'Ambrosio States

> " [The] human mind is a complex of emotional, intuitive, sensorial, rational perceptions all at the same time maybe we have been emphasizing too much the rational perception and denying, rejecting and repressing the others. Indeed, there is a general feeling that as a math teacher, one has to teach serious math, that is objective reason, and to stimulate rational thinking among the students. Is it possible to build knowledge dissociating the rational from the sensorial, the intuitive and the emotional." (D'Ambrosio, 1985)

Alan Turing: Morphogenesis and the Mathematical Basis for Patterning in Nature

Alan Turing was a 20th century English mathematician best known for being the father of the modern computer and the hero who broke the Nazi enigma code, he also made suppositions about patterning in nature. In 1952, Turing proposed a chemical marker that explained the differentiation of the fertilized egg into the articulated form of the limbed being. He called the process "morphogenesis." and he provided a mathematical proof to support his reasoning. His mathematical proof described and predicted patterns based on suggesting that a system of chemicals (morphogens) reacting together diffused through the tissue was adequate to account for the main phenomena of morphogenesis. This morphogenic phenomena labelled "activator"

and "inhibitor" could also be extrapolated to account for geometric patterning such as stripes and spots on animal fur or feathers and even the patterns of sand dunes in the desert. Only recently, scientists have proven Turing's supposition to be correct in experiments on the morphogenesis of mouse paws. The proof was provided by researchers in Spain who used genetic engineering techniques to demonstrate manipulation of a certain gene created a difference in the number of digits in the mouse paw. The reduction of inhibitor genes resulted in an increase of digits much as Turing's mathematical proof theorised. Some of these mathematical ideas can be seen in the visual arts as well, using the activator/inhibitor model and the principle that pattern complexity increases with domain size can be applied to visual art such as pointillism in the paintings of George Seurat and others.

Set Theory

I want to briefly mention Set theory. A set is a well-defined collection of distinct objects. Another defining parameter of the set is that order and repetition are of no consequence. A set is composed of elements. An example of a set would be (1, 3, 5) an element of the set would be the number 3, if you change the order (3, 1, 5) this is still the same set, even the set (1, 1, 3, 5) is still equal to the original set despite the repeating element. Another principle of set theory is subset. A set is a subset of another set if every element of the set is contained in the other set, an example of a subset is (1, 3, 5) is a subset of (1, 2, 3, 4, 5, 6) since all of its elements are contained within it. Any set that contains no elements is called the empty set (this does not include zero since zero is an element). Applying algebra to set theory we see three principles. The first is the principle of union. A union is the set of elements that belong in either set, when A is the set (1, 3, 5) and C (1, 3, 6, 7) the union of the two sets is (1, 3, 5, 6, 7). The second principle is intersection. Intersection is the set of elements that belong in both sets, when A is the set (1, 3, 5) and C (1, 3, 6, 7) the intersection is (1, 3). The compliment of A is represented as all the elements in the universe not contained in A (the universal set). All of these principles of set theory can be expressed visually as Vin diagrams. The field of a Vin diagram is called a universe usually a geometric figure (rectangle) and the sets are represented as circles on the universal plane. This is Mathematics as visual art an abstraction that can be understood as visual geometry.

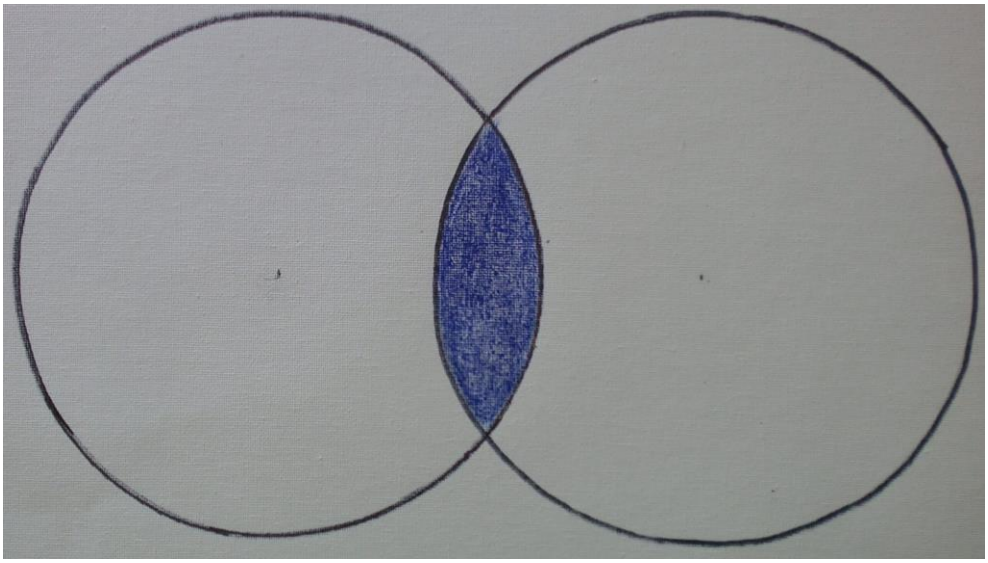

Figure 10.2a: Set intersection

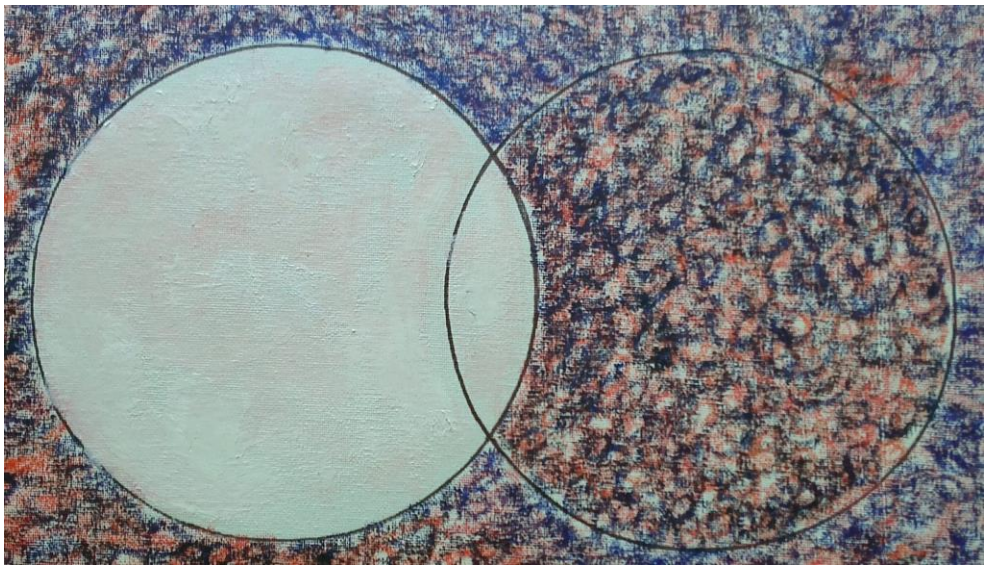

Figure 10.2b: Set compliment

Figure 10.2c: Set union

Art and Mathematics

Art, like science, is a process of experimentation and discovery. An artist over time refines his craft and within in the framework of his genre makes conclusions that can cross disciplines into compatible fields.

As a child, I had an acute sense of spacial relationships and visual perspective; I could reproduce natural images in great detail. My teachers had me draw maps of countries with geographic details such as mountains, lakes, rivers, and coastlines. I drew parasitic life cycle diagrams for my father's zoology classes. As I matured, my interest turned to photographically inspired portraiture. I began my higher education in biological science but turned to art and art history as a major interest. At some point, I realized that what fascinated me was not the image itself (figuration), but the microcosm or supporting structure. Photo realism gave way to organic abstraction. This opened new areas of exploration and creativity, new forms, and experiments in color theory.

I looked back at my art history studies to understand the dialectical and theoretical nature of western art and other cultural and art influences outside of Europe.

The Russian artists at the time of the political revolution combined theoretical discussion of social issues as related to the metaphysical and scientific prospective of art. They envisioned the possibility of art combined with science and mathematics to create a counter to the religious and romantic art of Western Europe. The suprematists sought to place art in the practical world of science, design architecture, and even politics. I found Kandinsky's book *Point and Line to Plane* (1928) especially interesting with its philosophical exploration of the effects of geometry and color on visual acuity. His discussion of the concept of weight and energy within compositional construction is a valuable tool (Kandinsky 1928).

I further argue that conceptual ideas in art were universal and culturally dependent. Every culture has an innate style or compositional framework. The Kassena people of Burkina Faso produced wall art for centuries that can be seen as related to western style modern abstract art. The French impressionists borrowed ideas from Japanese print maker by incorporating and collaging Japanese patterns into their paintings. Picasso and Braque took their inspiration from African sculpture and developed the cubist style. Like scientific discoveries, styles in art were occurring coincidentally all over the world during various eras of political change and expansion.

M.C. Escher: Tessellations of a Plane

My earliest study related to mathematics was an exploration of the repetitive patterning undertaken by M C Escher (figures 1 and 2). Escher was a master of the mathematical genre of tessellation, which is the arrangement of shapes closely fitted together, especially of polygons in a repeated pattern without gaps or overlapping. In the years 1938-1942 the Dutch graphic artist Escher developed what he called his "layman's theory" on regular division of the plane by congruent shapes. During this time he also experimented with making repeating patterns utilizing decorated squares employing combinatorial algorithms. Escher was concerned with certain patterns within a set of four squares, which when rotated sequentially produced variations on the original set. Working through combinations of four squares, he created a mathematical system, the number of variations possible in a set pattern. By limiting his patterns (field), he could come up with a formula, which was accurate and predictive. After exhausting the square format, Escher moved on to patterning on triangles and even three dimensional cubes.

> Escher did investigate some things of the plane triangles and create patterns for describing triangles, but these were not equilateral triangles. The focus of that investigation was not the patterns, but rather the number of different ways in which a triangle could tile the plane in a "regular" way, that is in which every triangle was surrounded in the same way. (Davis 1997)

The idea of limitation of scope as a methodology creates an effective area to make certain conclusions. Escher was interested in probability or the predicative power of his controlled manipulation of the geometric fields - aesthetics were a secondary effect of his patterning. I improvised on his basic premise, but his method of reflective systematic experimentation was also important. He used the same methodological approach that research scientists or theoretical mathematicians employ. This is a good example of the similarity in approach between disciplines.

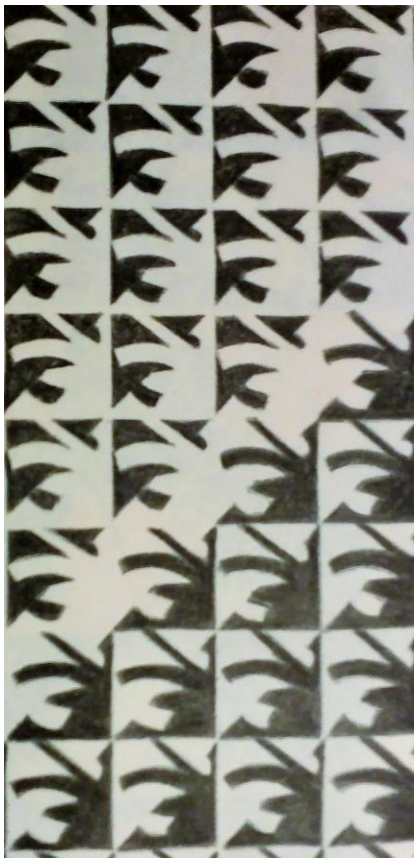

Figure 10.3: Example of tessellation

A Synthesis of Art Mathematics and Nature

My work is intuitive. After I begin to work in a certain way, I analyze and assess what I have done and use what I have learned to move forward. At present I see the relationship between my work and certain mathematical theories clearly. I utilize the Fibonacci numbering sequence (1+2+3+5+8 etc.) in either patterns of 1:5 or 1:3 and variations of those patterns, using developed color theory against the pattern to create a synthesis with another type of geometric patterning similar to pixels, called circle packing. This theoretical process is related to set theory a relationship of the circular form to a geometric plane (triangle/rectangle/square). The Venn diagram being the classic example.

Figure 10.4: Circle packing

My previous work, which I still revisit, is related to fractal geometry as proposed by the mathematician Benoist Mandelbrot (Mandelbrot, 1982). It is the reduction of an image into rough or complex shapes. I experimented first with symmetrical patterning (similar to ink blots) then broke them down into multiple repetitions of simultaneous structural elements. These earlier works (concentrating on black and white forms without color) produced images on a plane exhibiting field ground reversal.

Some of this research has led me to an interest in natural forms. The intuitive and positive nature of design through evolutionary function as described by Fibonacci sequences can be seen in flora. How could these natural structures be used in design or engineering projects? The premise being that natural forms are perfectly designed for things that will become vital in the future. The conservation of energy, the proper utilization of dwindling resources, the growing threat of climate change, and the natural aesthetic of harmony with the environment.

Educational Technique

The idea of this exercise is to learn mathematical concepts directly from observations in nature and additionally to utilize art as a foundation for expressing those concepts. Initially the learner chooses a natural form based on personal preference; examples being pine cones, succulent plants, leaves, seed pods, or shells. The first step is to identify patterns by using the selected object as a model. This can involve linear description of the object or tactile reproduction. Once the learner has described their object, the next step is to discover what it is that appeals to the learner visually in a series of creative manipulations of the original form into various permutations. This step is creating a calculus or equation from a natural form. It is a visual mathematical exercise. The last step is using the various permutations to create a new object. This can be based on anything the learner wants that transforms their permutation into a recognizable (practical) design. The designs can range from architectural structures, to

mechanical devices (such as an airplane), to completely imaginary objects with an expressed function. The discussion follows and ties the project to the mathematical principles behind each step.

Concluding Comments

In conclusion, there are historical, theoretical, empirical, and cultural interdisciplinary linkages between the arts, science and mathematics. I have employed aspects of these disciplines in my art work. This synchronicity of expression can be explored in an educational context to expand and enhance the curriculum of science, technology, engineering, art, and mathematics (STEAM). Cross disciplinary activity could also lead to innovation in related fields such as architecture, design and environmental technology. I would also add that an emphasis on art in the cultural context makes mathematic study more relevant in disparate cultural groups.

Cross-disciplinary study of mathematics and science using the filter of art is a creative activity that can bring the emotional and sensorial perspective in line for educational purposes. By using this practice, we may have some influence in expanding interest and increasing the development of any subject We can conclude by arguing for a new approach to presenting mathematics to students. There is an internal mathematics that is expressed visually in art and this visual approach can demystify mathematical instruction.

Post-Reading Questions

1. In regard to art, what does the term “visual literacy” indicate?
2. What is the relationship of mathematics to an understanding of the natural world?
3. Who was Leonardo Pisa and what was his contribution to the history of mathematics?
4. What is unique about the Fibonacci sequence?
5. What configuration derived from the golden rectangle is seen as repetitive pattern inn nature?
6. Color follows form and influences perception. Give an example?
7. Kandinsky was an artist who used science and mathematics. What was his methodology?
8. What is the theory that connects mathematics to culture in a meaningful way? Explain.
9. How does art follow a cultural framework?
10. How is mathematics applied to the patterning in nature?
11. Who proposed the theory of morphogenesis?
12. Name three phenomena explained by set theory.
13. What is a Venn diagram?
14. How does MC Escher use the principal of tessellation?
15. Who is Benoit Mandelbrot and what mathematical phenomena did he create?
16. What is the advantage of cross-disciplinary instruction as a methodology in education?

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Chapter 11: Digital Storytelling for Academic Literacy

Culturally Responsive Multimodal Composition Course Design

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Introduction

With the pervasiveness of digital technology, the kind of composing that modern students engage in is not limited to alphabetic text, but often incorporates multimodal, audio-visual means (Jenkins, Clinton, Purushotma, Robinson, & Weigel, 2009). As a result, writing instructors are increasingly expected to leverage students' engagement with, and interest in, multimedia in ways that are culturally responsive to the needs of 21st century learners (Conole et al., 2008; Roschelle et al., 2000). In general, 21st century learners are digital natives who have spent their entire lives in the digital age and engage in digitally-situated participatory cultures (Prensky, 2001; Jenkins et al., 2009).

Within this digital learning context, participatory cultures of 21st century learners are those that place a high premium on creating and sharing content and ideas online; engage in collaborative multimodal projects and problem solving; and provide and solicit peer-to-peer feedback via online platforms and social media (Jenkins, 2009). Thus, culturally responsive teaching for the 21st century learner is grounded in teaching across these multiple cultural contexts for the purpose of "allowing each student to relate course content to his or her own particular context" (White, Cooper, & McKay, 2014, p. 125). Culturally responsive teaching presents curriculum in a manner that is relevant to students' lives, accesses students' funds of knowledge, and values students' contributions to the classroom (Gay, 2010; White, Cooper, & McKay, 2014).

Multimodal uses of technology, including the integration of multimedia, affords unique opportunities for students to engage their instructors in culturally responsive teaching (Conole, de Laat, Dillon, & Darby, 2008; Roschelle, Pea, Hoadley, Gordin, & Means, 2000). In this respect, the strategic integration of technology into classroom teaching offers instructors opportunities to connect course content to students' real worlds while meeting the cultural needs of 21st century

learners (Conole et al., 2008; Roschelle et al., 2000). As such, inclusion of multimodal uses of technology into a curriculum can be seen as a culturally responsive pedagogic strategy for meeting the cultural needs of today's students. Multimodal projects integrating technology as pedagogic strategy can assist students in engaging with their community and peers across multiple contexts (Conole et al., 2008).

One effective multimodal project that instructors can assign includes essays integrating the use of multimedia, which we define here as multimodal composition. Studies have demonstrated a myriad of effects when students create multimodal compositions, including the development of 21st century skills and positive cultural and agentive identities (e.g., Katz & Hull, 2006; Yang & Wu, 2012). Within this context, agentive identities are conceptions of self that couple the desire to acquire new knowledge and skills with "who we want to be as people" (Katz & Hull, 2006, p. 43). To this effect, multimedia projects, such as assignment of multimodal composition, afford students opportunities to actively engage with the course content, peer groups, and feedback, as well as make connections to real-world contexts (Roschelle et al., 2000).

In this chapter, the authors discuss how multimodal composition and digital storytelling (DST), the process of using digital tools to tell a story, can be used as a culturally responsive pedagogic strategy to scaffold the development of students' academic writing. To do this, we first examine the current state of composition courses in the United States. We then provide an overview of current findings related to composition and DST. We conclude by showcasing a novel university writing course that strategically integrates composition and DST as culturally responsive pedagogy for a diverse population of students.

Background

University Composition Courses

There is a growing body of students enrolling in U.S. higher education institutions who have a basic command of the English language but little familiarity with the academic literacies and discourses needed to become effective writers in postsecondary writing classrooms. These students can be international students or those labeled L1.5 – children of immigrant parents who have been educated in the U.S. but still struggle with English academic discourses (Thonus, 2011). For example, at the University of California, Irvine, the number of 1.5 learners increased by 50% from 2007 to 2010 (UCI). Understanding the background of these underprepared writers is essential to understanding their writing instruction needs.

Many underprepared undergraduate students come from remedial classes in U.S. high schools and have received few opportunities to engage in extensive academic writing. Research has shown that high school students in remedial classes are socialized into literacy practices that differ from those used in higher tracks (Harklau, Losey, & Siegal, 1999). In remedial writing classes, instruction focuses almost exclusively on substitution drills, dictation, short answer, or writing from models. This is in stark contrast to the experience of college-track students, who are taught argumentative and analytical writing and have experience writing research papers. As a result, although these students may have the cognitive skills needed for college-level courses,

their academic writing preparation may not reflect this ability and may prevent them from keeping up with their more-prepared peers.

Reid (1992) argues that adequate preparation for college writing requires students to be exposed to authentic writing tasks across content areas so that they become aware of the schemata, purposes, and rhetorical conventions needed for academic writing. Although many of these students have a full command of oral English, they have not been socialized or enculturated into the practices connected to the particularities of academic discourse. They bring with them writing and learning strategies that are potentially detrimental to the writing process (Silva, 1997). These emerging writers see the act of writing as a test of their knowledge of the mechanics of writing instead of as a recursive process to communicate ideas. Therefore, they might focus their attention on the surface construction of an essay and showcase their command of colloquial rather than academic English (Singhal, 2004).

Digital Stories

Educators and academics working with the medium define DST in a variety of ways, but the general meaning is that it is a short narrative told in the first person, uses digital images or videos coupled with sound and text to describe personal experiences or interpretations of life events, and expresses an opinion or thought (Robin, 2006). However, this goes beyond the use of technology as a tool to re-contextualize images and sounds and tether them to flying texts or the "bells and whistles" one might see in a PowerPoint presentation. DST is a narrative that allows students to use their imaginations and creativity to tell a story that has meaning and the potential to be transformative for the storyteller or those who witness the story.

At the primary grade level, Sylvester and Greenidge (2009) examined DST and literacy, focusing on three young students in their development as writers. They noticed that employing the process of DST and the digital technologies involved in this process motivated these students and mediated the learning of traditional literacy, repositioning the young students as more confident writers. The researchers described three possible explanations of this result. First, DST expands the audiences of emerging writers by giving them a myriad of electronic distribution channels and social networks, such as Facebook, to show their work. In an era of Youtube, the potential audience can be the whole world. Second, for students who might be disinclined to revise their writing, an increase in viewership is a good impetus to reevaluate their work before showing their final product to a wide audience. Finally, in the case of easily distracted writers, DST encourages them to stay on task due to the frequency of interactions with classmates and those who might view their projects on computer screens while they are working.

The use of DST at the adolescent levels is broad and not limited by subject matter, content, or curricular objectives (Ohler, 2013). Although DST use is versatile and applicable across the curriculum, its natural home is in English Language Arts (ELA) classrooms where students have been encouraged to create personally meaningful digital stories that challenge them to reflect on their past experiences with immigration (Robin, 2016), learning a new culture (Cummins, Brown, & Sayers, 2015), or the negative effects of marginalization (Benmayor, 2008). In addition to these personal narratives, students have been asked to create digital stories based

on novels that they have read (Ohler, 2013) or in lieu of writing an essay to demonstrate their understanding of a text (Ballast et al., 2008).

Digital Storytelling and Cognitive Writing Strategies

At the university level, the rubrics used to grade composition clearly define a quality essay as one that demonstrates critical thinking, analysis, and rhetorical knowledge. Yet, some students, especially English learners, have not acquired the knowledge or skills to compose essays that meet these criteria. Both writing and sharing stories are an externalization of thoughts that become visible only after a writer has gone through the process of planning, translating, reviewing, monitoring, and finally producing them on paper or screen. The process of producing text is viewed as a "process of generating and editing text that is constrained by structure, content, and goals" (Collins & Gentner, 1981, p. 52).

Within the cognitive-processes model of writing by Flower and Hayes (1981), there are three systems: The Writer's Long-Term Memory, Writing Processes, and Task Environment. The act of producing a text requires the writer to dynamically move between and through the systems and to shift attention between the mental and physical acts of writing, retrieving information, evaluating its importance, organizing it coherently, and at the same time, paying attention to the rhetorical problem. Those who can juggle the intricacies of the writing process are capable writers. For those who are not able to see this fluid writing process, DST makes it visible. When Georgetown University students who participated in a DST class were asked to reflect on the relationship between writing and DST, they suggested that DST makes composition strategies visible in new ways (DST Archive, n.d.). The researchers theorized that "the unfamiliarity of the (DST) form makes students slow down and think about their work in new ways. This produces an increased attention to the construction of argument which can feedback directly to traditional writing assignments" (DST Archive, n.d.).

In addition to the increased awareness, the process of creating digital stories makes the writing process visible in several other ways. First, in planning a digital story, students usually produce storyboards that visually organize the flow of information with images and descriptors of these images. The process of storyboarding in DST often highlights gaps in detail that some students might otherwise overlook by allowing them to visualize the story in pictures, rather than just words. Second, the process of DST can be highly collaborative and dialogical (Robin, 2016). In team-based DST productions, every step entails communicating ideas and negotiating meaning. From the "pitch," students must convey their story concept and participants must work as a team to decide the worth of each idea. By working in groups and conceiving stories, participants in DST build literacy, collaboration, and organizational skills. It is an exercise in communication and a creative process that requires participants to visualize and use their imagination. Finally, by using digital stories, teachers can help emerging writers visualize their mistakes, self-correct, and incorporate the metacognitive skills necessary to become competent writers (Sylvester & Greenridge, 2009).

Aside from the contributions that engaging in DST can make to students' writing processes and cognitive writing strategies, Hull and Nelson (2005) add that "conceptions of the self have much to do with how and why we learn; the desire to acquire new skills and

knowledge is inextricably linked to who we want to be as people" (p. 43). This concept is exemplified in a comment by a Georgetown University student who took a course in DST:

> After that [DST] class, I started putting the 'I' in all of my papers: This is my conclusion. It wasn't: Based on this research, it can be concluded that…, but based on my research, I believe this to be true. I turned a lot of my writing into personal writing, and a lot of my professors were really stoked about it and supported me (DST Archive, n.d.).

Digital Storytelling for Academic Literacy

For L2, L1.5, and international students, succeeding in U.S. institutions of higher education involves learning the specialized practices of academic reading, writing, and speaking that characterize college-level communication. These academic literacy practices represent particular views of the world, uses of language, and ways of constructing knowledge within academic disciplines. Learning academic literacy involves engaging in a range of academic social practices; this effort entails much more than learning to speak or write in a new language. Rather, gaining academic literacy involves negotiating various academic discourses in multiple circumstances. For many students, academic literacy is a hidden barrier that stymies their educational efforts. Ultimately, students without sufficient experience in appropriating and using English academic literacies may not be afforded the ability "to make their voices heard as they move through the academy and into a complex world" (Weiner, 1998, p. 102). In what follows, we introduce a DST course that strategically iterates DST as a culturally responsive pedagogical tool for academic literacy development.

Course Design

In the case of multimodal composition, this intervention scaffolds students' social and cognitive skills to help them engage with the traditional academic literacies and discourses valorized in U.S. higher education institutions (Scollon & Scollon, 1981). This course has three kinds of learning objectives: content, language, and strategy. That is, the course is designed to position students to take ownership of academic literacies in three ways: by learning relevant content (what counts as a coherent argument), ways with words (how does one craft a coherent argument), and cognitive strategies (employing metacognition related to academic writing).

Table 11.1

Learning Objectives	
1. Content Objectives	To learn and to be able to utilize the writing structures most common to English academic discourse To write essays for academic purposes To provide effective feedback and peer assessment

2. Language Objectives	To convey meaning and purpose through digital media and text-based assignments
3. Cognitive Strategy Objectives	To plan and organize digital media and written assignments To storyboard a digital story To write with purpose and for a specific audience To visualize text-based assignments

The course design for this writing intervention is grounded in sociocultural and multiliteracies pedagogy theories.

Course Theoretical Framework

Sociocultural Theory. Sociocultural theorists view literacy as a set of practices, situated in cultural, economic, and material contexts. Accordingly, literacy and identity are positioned as two sides of the same coin. According to Vygotsky (1978), "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; the first, between people, and then inside the child" (p. 57). Vygotsky further believed that this development principally took place through a form of apprenticeship learning in which interaction with teachers or peers allowed students to advance through their zone of proximal development, defined as the distance between what they could achieve by themselves and what they could achieve when assisted by others. In this view, learning, whether by children or adults, is not an isolated act of cognition, but rather a process of gaining entry to a discourse of practitioners via apprenticeship assistance from peers and teachers. A sociocultural approach places a premium on learners' experiences, social participation, use of mediating devices, and position within various activity systems and communities of practice.

Building on these sociocultural perspectives, researchers have developed a sociocultural framework called New Literacies to examine students' novel forms of expression and communication afforded by digital media (New London Group, 1996; Lankshear & Knobel, 2007). This approach moves beyond a traditional view of literacy attainment focused on students' individual development of discrete skill sets within reading and writing in print-based environments. Instead, New Literacies provides a new context for literacy attainment that encompasses a broader ability to make and share meaning in multiple modes across multiple formats (Dobson & Willinsky, 2009).

Within this context, multimodal composition, is a critical form of New Literacies. Multimodal composition integrates multiple semiotic modes, such as text, speech, visuals, sound, movement, and gesture, into the design of a narrative product (Kress, 2003). The practice of using DST as a form of multimodal composition has attracted much attention in education due to the effective ways in which it leverages the power of technology to motivate and engage students. With DST, students can leverage the availability of online resources and reflect on their own learning (Yang, 2012). It can be especially empowering for learners with limited language capacity to pair their writing with multiple semiotic modes that carry particular meaning. These

multimodal means afford additional layers of meaning and complete the message (Smith, 2017). In addition, digital stories help students engage in meaningful communication both inside and outside of classroom, bridging the gap between in-class and out-of-class informal literacy practices (Oskoz & Elola, 2016). This helps students develop positive student identities through the linking of school, community, and culture (Cummins et al., 2015). As such, DST has been found to amplify student voices and networks, simultaneously develop traditional literacies of reading and writing, and develop new literacies of digital production and communication (Cummins, 2004; Cummins, Hu, Markus, & Montero, 2015; Smeda, Dakich, & Sharda, 2014).

Multiliteracies Pedagogy. Interrelated with New Literacies is multiliteracies pedagogy, which examines the implications of societal changes on how literacy is taught in twenty-first century schools (Cummins, Brown & Sayer, 2007). A multiliteracies approach to teaching literacy places a premium on literacy practices that recognize that students are engaged in literacy activities involving multiple forms of communication and technologies that move beyond a traditional "paper and pencil" approach with the goal of addressing "the realities of a globalized, technologically sophisticated, knowledge-based society" (Cummins et al., 2007, p. 46).

Multiliteracies pedagogy draws on transmission (teacher to student/student to teacher), social constructivist (co-construction of knowledge), and transformative (interconnections between what is learned and how it is applied) orientations to teaching and learning with an ultimate goal of equipping students with twenty-first century literacy and research skills that are more knowledge-driven, participatory, collaborative, fluid, and distributed in nature than traditional literacies (Cummins et al., 2007). It does so by employing "a variety of technological tools to support students' construction of knowledge, literature, and art and their presentation of this intellectual work to multiple audiences" (Cummins et al., 2007, p. 220). This pedagogical perspective promotes the integration of digital tools and supports, such as DST, in multimodal writing instruction.

The integration of DST as a component of multimodal writing instruction addresses the multiple literacy needs of twenty-first century students by providing opportunities to engage in meaningful experiences relevant to students' cultural fountains of knowledge as digital natives (students who have spent their entire lives in the digital age) within a learning community (Prensky, 2001). Incorporating DST into writing curriculum thus affords students opportunities to build on their cultural capital (prior knowledge) by promoting positive engagement with instructional content, a central objective of multiliteracies pedagogy (Cummins et al., 2007).

In this course design, we hypothesize that transmediating (i.e., translating work from one mode to another) traditional writing assignments into digital multimodal products supports students' academic literacy development by presenting the writing process in a digestible format for the 21st century learner (Smith, 2016). Multimodal composing adds additional cognitive and creative layers that afford *properly supported* students opportunities to process instructional content in innovative ways that tap into their cultural capital as digital natives (Prensky, 2001; Smith, 2016).

The authors use the term *properly supported* to indicate making extended opportunities for technology engagement available to students who might not have access to technology at home, for example through the provision of extended media lab hours or the implementation of

a technology borrowing program (Warschauer & Matuchniak, 2010). While limited technology access is a real and significant contributor to intersectional inequalities that have the potential to normalize social stratification along digital lines (Warschauer & Matuchniak, 2010), it is a topic deserving of its own space. As such, this chapter pre-supposes adequate access to digital technologies for the purposes of discussing how instructors might integrate multimodal composition into a traditional writing curriculum in service of the literacy needs of 21st century learners.

Course Assignments

For this particular course, students write a literature review on a topic related to writing pedagogy and submit it as their final project. Prior to submitting the literature review, students are required to take the following steps:

1. Write an essay describing their experiences in writing classes
2. Make a video of that essay
3. Develop an outline of the literature review
4. Write a draft of the literature review
5. Produce a video of the literature review
6. Revise the draft of the literature review

Through these activities, we believe that transmediating ideas from traditional writing assignments into digital multimodal products supports students' academic literacy development by helping them break down the stages and components of academic writing (see Figure 11.1). As Smith (2016) suggested, multimodal composing may add additional cognitive and creative layers that require students to think about learned content in innovative ways.

Figure 11.1: The stages of the digital storytelling process and how they align with the traditional academic writing process

In the next section, three student cases are presented to illustrate how course design might affect writing in L1.5, L2, and international student writers. These students, who are language minority students with little initial interest or background in academic writing, took a 10-week undergraduate writing course designed and offered by the first author of this study in 2017, and reflected on their digital storytelling experiences during a series of interviews.

Voices from Students

Case #1: Alejandro

Alejandro is a L1.5 generation student who speaks both English and Spanish. He has experience with multimodal projects in previous composition courses and describes his writing experiences as a transition from more descriptive, storytelling writing to academic research papers. He admits, however, that academic writing does not motivate him as a writer—he finds greater interest in illustrative freewrites (Reynolds, 1984). Alejandro can easily think of ideas, but has trouble putting them into words. He also struggles with expressing his ideas in writing and gets easily distracted during the writing process.

Alejandro's literature review topic is one that relates directly to his own concerns with academic writing: student motivation and engagement in the classroom and how it affects writing and literacy acquisition. In doing the multimodal project for his literature review, Alejandro had the following to say about his own motivation and engagement:

> It motivated me to write because it was telling the story of the narrative, I was able to see areas where I repeated myself and needed to change it. It showed me there's a beginning and end to it. Transitions needed to be seamless, and flow. And even the imagery behind it and what picture you want to paint, and overarching bird's eye view of it is... The images have to be strategic with the images you're placing, it helped me understand the content, and I was envisioning what I was writing and talking about.

Also evident is the role that multimodal projects play in making visible the editing process for Alejandro. For more artistic writers like Alejandro, multimodal projects can help visualize their essay structure and ideas, showing them where to place ideas and how to transition them smoothly.

Case #2: Isaiah

Isaiah is a L1.5 generation student, bilingual Spanish and English, and has little experience with DST. He describes himself as a confident English speaker, but a weak English writer. His writing experience has been mainly academic essays both in English and in Spanish and he takes on a systematic approach for writing, focusing on the grammar, format, and points in his essays. Isaiah's areas of need lie in the structuring of his essays, specifically with paragraphs and transitions.

Isaiah's literature review looked at multimodality and bilingualism, particularly in the way that bilingual students compose multimodally. He shared that he preferred the multimodal composition project to the written literature review, due to his lack of confidence as a writer. However, he stated that he was able to leverage his oral English abilities, despite his lack of written composition skills, in the multimodal composition:

> Yeah, the part that helped me most was my speaking skill because I had to put thought into what I was going to say and what order I was going to say it in and how I could express myself.

Engaging in multimodal projects also allowed Isaiah to better engage with the various stages of writing including the planning, organization, and drafting of his paper:

> I just didn't know how to organize my ideas. I could come up with some ideas but it wasn't... there weren't many at first. It wasn't until the video project that I got my ideas... the video project gave me an outline for the paper...

The multimodal project allowed him to take advantage of his strengths as a public speaker and better organize, plan, and structure his ideas and content. Isaiah was then able to transfer and expand these ideas to his literature review.

Case #3: Sarah

Sarah is an international student who spent most of her childhood in Korea and attended high school and college in the United States. She has experience with multimodal projects in other writing courses and most of her experience with writing consists in learning how to compose research papers. Sarah is not a confident English speaker, which she feels carries over to her writing abilities. She uses English in her schoolwork, but reverts to communicating in Korean with her peers and housemates when possible. She sees herself as a weak writer with areas of need in word choice and grammar. Sarah says the following about the intersection between her oral language proficiency and her difficulties writing as an international student:

> The challenges in navigating the two different languages in writing are translation and language barrier. It is hard to translate my thoughts and opinions in English and in writing as well. I am used to think[ing] and speak[ing] in Korean, so it is hard to translate the mental process.

Sarah's literature review looked at the utility of using DST to scaffold students' writing processes. She had the following to say about her experience using DST to improve her own writing:

> I could use the images, sounds, symbols, and any other things to convey and inform my thoughts rather than just written literature. For me who is [an] English as a second language [student], the DST made me easier to participate and express my opinion with many visuals...To make the DST, I had to read some articles carefully to quote and to give credibility, and I had to do some researches to support my opinions. Also, I found some related images to make it [visual]. This process helped me understand the content better and let me memorize the content for a long time.

For Sarah, the use of DST in multimodal composition capitalized on the cultural capital she brings to the classroom as a digital native. For students such as Sarah, the use of DST in multimodal composition can serve as a digital scaffold that bridges language barriers by allowing for expression of ideas through multiple mediums. For students who struggle with understanding content and ideas in a second language, multimodal compositions can help strengthen understanding with visual cues and representations.

Conclusion

DST has been used in a variety of contexts at the college level. Research demonstrates its effectiveness in engaging students, developing identity, and also improving writing skills. Meaningful technological integration in a university classroom builds on curricula utilizing authentic tasks that intentionally and actively help learners to construct their own meanings from thinking about experiences (Jonassen et al., 1999). Digital stories are a form of communication, and as they are created, students utilize critical thinking skills while selecting

the appropriate media to convey the story's message to the audience. This technology provides the student with a learning environment in which to apply communication skills, work collaboratively, and think critically while addressing content standards and improving their academic writing skills. Using the power of narrative, coupled with relevant technological tools, teachers can motivate students to write and argue in traditionally-accepted academic registers and engage in a cornerstone of critical literacy: using language as a way of organizing knowledge and shaping one's voice. Despite this significant potential, several challenges of DST implementation were noted from our broader interview and open-ended survey data, including troubleshooting technical problems, time constraints, and the need for highly sophisticated cognitive skills as students juggle multiple transmediation tasks, which involve intensive planning, synthesizing, and organizing during DST. As a result, without meaningful and seamless integration into the curriculum, scaffolded support, and explicit learning objectives, the educational affordances of DST might not be realized, as previously noted in a district-wide case study of DST (Vu, Warschauer, & Yim, in press). The authors hope that the course design and case studies presented in this chapter serve as a useful illustration of how DST can empower underserved L1.5, L2, and international students in their academic literacy development.

Post-Reading Questions

1. Three systems in the cognitive-processes model of writing by Flower and Hayes include all of the following, EXCEPT:

   a. Writer's long-term memory
   b. Writing processes
   c. Task environment
   d. Grammar check
2. _____ is defined as a short narrative that uses digital images or videos, sound, and text to describe personal experiences or interpretations of life events, and expresses an opinion or thought:

   a. Social media
   b. Youtube
   c. Digital storytelling
   d. Personal narratives
3. _____ theory views literacy as a set of practices situated in cultural, economic, and material contexts.

   a. Sociocultural
   b. Writing
   c. Cognitive learning
   d. Distributed learning
4. Twenty-first century learners have been called _____ natives, those who have spent their entire lives in the digital age engaged in digitally-situated participatory cultures.

a. Social media
b. Internet
c. Digital
d. Computer

5. Culturally responsive teaching presents curriculum in a manner that:

a. Is relevant to students' lives
b. Accesses students' fountains of knowledge
c. Values students' contributions to the classroom
d. All of these

6. _____identities are conceptions of self that couple the desire to acquire new knowledge and skills with "who we want to be as people."

a. Cultural
b. Positive
c. Agentive
d. Fusing

7. Which of the following describes the kinds of instructional strategies one might find in a remedial writing class:

a. Substitution drills
b. Dictation
c. Writing from models
d. All of these

8. As compared to remedial writing classes, college-track writing classes general focus more on:

a. Personal narratives
b. Argumentative and analytical writing
c. The writing processes developed by Flowers and Hayes
d. Digital storytelling

9. Which of the following scholars is associated with sociocultural learning theory:

a. Chomsky
b. Reid
c. Vygotsky
d. Kress

10. Twenty-first century literacy and research skills are:

a. Knowledge-driven
b. Participatory
c. Collaborative
d. All of these

11. Transmediation is defined as the act of:

a. Traveling across continents
b. Using a word from another language
c. Translating work from one mode to another
d. None of these

12. Emerging writers see the act of writing as a test of their knowledge of the mechanics ~~of~~ writing instead of as a recursive process to communicate ideas.

a. True
b. False

13. Adequate preparation for college writing requires students to be exposed to authentic writing tasks across content areas.

a. True
b. False

14. An example of properly supported instructional practice is the provision of extended media lab hours.

a. True
b. False

15. Multiliteracies pedagogy examines the implications of societal changes on how literacy is taught in twenty-first century schools.

a. True
b. False

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Chapter 12: Humanistic Literacy

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> Humanistic: Treating people with respect and making certain they are safe, happy, healthy, etc.
>
> Literacy: Knowledge of a particular subject, or a particular type of knowledge.
>
> Cambridge Dictionary of English Language

> "It is only when people feel free to think for themselves, using reason as their guide, that they are best capable of developing values that succeed in satisfying human needs and serving human interests."
>
> Isaac Asimov

In the late 1950s a movement called Humanistic Psychology arose, claiming that humans perceive the world according to their own experiences; that they possess personal agency and are motivated to use free will in pursuing things that will help them achieve their full potential. This was not a novel suggestion, philosophers have been making similar claims for centuries, but what *was* new, was the idea that such a claim can be empirically supported. If it was possible to provide empirical evidence for the claim that individuals are intrinsically motivated to achieve their best selves, and thus, better understand how they perceive their own agency, one could also craft educational programs that foster a humanistic perspective and encourage humanistic action.

This chapter proceeds in two related parts. In the first part, I discuss the theoretical underpinnings of what I have termed "dynamic humanistic literacy". The sense in which I use the term encompasses Freirean (1970b) scientific literacy based on humanistic principles, but is broader and more multi-disciplinary, blending theories from the fields of human rights, development economics, psychology, and critical pedagogy. In common to all the theories and approaches I discuss is the notion that human beings are active participants in, rather than passive recipients of their cultures. I argue that it is both an empirical fact of psychology that individuals *do* develop through interacting with their social world, and a requirement of social justice that they *ought to* partake in it. Central to dynamic humanistic literacy is the idea that all humans are equal, to the extent of being reasoning agents with goals, values, and emotions, which drive their reasoning and bear upon their decision making. Fostering humanistic literacy

then, allows the individual's reasoning capacity to encompass a range of perspectives, in order to be analytical and socio-culturally responsible. In the first section, I will thus, review the affordances of Human Development and Capabilities Approach (Nussbaum, 1996; Sen, 1999), rooted in the philosophical ideas of human rights and dignity, and the economics theory concept of Human Development Index (Sen 1986). I will show how cultivating this approach, along with relying on insights from psychology to understand the process of reasoning, can lead to development of humanistic literacy. In the second section I will discuss the practical applications of dynamic humanistic literacy to teaching and scholarly research.

Why and How Should We Be Literate in Human Rights?

Although the idea of universal human rights is often portrayed, and often criticized on the same grounds, as an idea borne out of the Western philosophy of the Enlightenment, its core premise, that all persons are equal in virtue of their human dignity, is neither temporally nor intellectually tied to the Enlightenment. All major religions, and many cultural traditions have ways of underscoring the importance of dignity, the value of human life, and the need for individuals to be protected from harm. Such ideas and practices have been dated to Roman law and the Middle Ages, to Antiquity, to Calvinism, to the Islamic Ottoman Empire, and so on, to the nineteenth century.[85] That recently, the Universal Declaration of Human Rights enshrined these principles into a document which proceeded to have a profound influence on international human rights law, has not changed the fact that the principles themselves have cross-cultural ownership. Indeed, it is to a great extent, because of the universal appeal[86] of the idea that all persons deserve an equal treatment and a right to have rights, that the signing of the declaration was possible.[87] Moreover, the creation of human rights laws and institutions in the wake of the Second World War and over several decades later, and their global proliferation is a testament to the enduring appeal of the Declaration. Yet, matters are not so simple, and many disagree with this narrative of success. Critics of human rights doubt and question whether the human rights movements, strategies, and discourses have actually improved people's lives in measurable ways (Posner, 2012; Douzinas, 2007; Assad, 2012; Brown, 2004;), and some even suggest that they have had a negative impact insofar as they have enabled abuse for their own purposes (Moyn, 2016; Hopgood 2018). A growing amount of empirical evidence disproves these claims and some scholars argue that the backlash against human rights is actually a positive sign – it proves that the movement is disrupting the status quo.[88] The details of these debates are not the

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[85] See Samuel Moyn, *The Last Utopia: Human Rights in History*. Belknap/Harvard University Press, 2010.

[86] For alternate views, see Mark Goodale, "Letters to the Contrary" (2018).

[87] Hannah Arendt's phrase the right to have rights from *The Origins of Totalitarianism* (1951), refers to the idea of gaining equal rights through citizenship. In human rights discussed in relation to stateless persons See: Alison Kesby (2012). The Right to Have Rights: Citizenship, humanity and international law. Oxford University Press.

[88] See Kathryn Sikkink, *The Justice Cascade: How Human Rights Prosecutions are Changing the World Politics*. New York: W.W. Norton and Co, 2011. Also, Beth Simmons, *Mobilizing for Human Rights: International Law in Domestic Politics*, Cambridge University Press, 2011.

immediate purpose of the present discussion, so I will not further elaborate on them. What does presently matter, is the indication that for human rights to have practical value they need to be able to ground a theory of justice, and also offer an actionable agenda for human development. But what should that look like? What might this new way of thinking, becoming literate in human rights, allow and facilitate? One answer to this challenge is offered by Martha Nussbaum and Amartya Sen in their Human Development and Capabilities Approach (HDCA). HDCA offers theoretical and practical guidelines for human thriving, as both a theory of justice based on welfare economics, and a political project based on the principals of human rights.

Capabilities Approach Overview

In attempting to translate the principles of development economics to a theory of justice, Sen (1985) brought together a range of ideas traditionally not included in approaches to welfare economics. Focusing on the "real capabilities" of individuals, Sen emphasized the importance of freedom of choice, heterogeneity of cultures, and multi-dimensional nature of welfare. For Sen, measuring how well nations are doing was not primarily a matter of economics and their GDP, but a matter of human thriving. Sen proposed measuring thriving with a Human Development Index (HDI). Used by the United Nations Development Program (UNDP), to rank countries into tiers of human development, HDI is an index that represents a composite statistic of life expectancy, education, and per capita income indicators. A country, thus, scores higher on HDI when lifespan and the level of education, not just GDP, are higher. Presented in UNDP's annual Human Development Reports the concept of HDI as progress towards greater human well-being, expanded not only common understanding of the concept of development itself, but also the availability of measurement and comparison tools used by governments, NGOs, and researchers.

Based on the idea of the HDI, and in collaboration with Martha Nussbaum (2000), Sen proposed the Human Development and Capabilities Approach. At the core of HDCA were two normative claims; that the freedom to achieve well-being is of primary moral importance, and that such freedom ought to be understood in terms of real opportunities that people have to do, and to be, whatever they have reason to value. The approach makes a distinction between "functionings," which are states or activities such as being healthy, safe, able to work; and "capabilities," which constitute the freedom to achieve valuable functionings. Capabilities represent one's opportunity and ability to generate valuable outcomes, as a free agent. More concretely put, an opportunity and freedom of each individual to achieve good health and good education is what matters and what ought to be measured, rather than existence of good hospitals and good schools (which may not be affordable). Moreover, being a free agent, within the Capabilities Approach, means being a member of the society with an ability to participate in the sociopolitical life, in order to achieve substantive freedoms. Public debate and democratic practice, therefore, are a key part of agency and wellbeing. Rather than a passive or a prescriptive theory, the Capabilities Approach is thus, a dynamic, participatory framework that acknowledges, indeed encourages, human ability to make decisions. As such, it is a framework that depends in great measure on what those agents think is encompassed by the two core claims; what they view as issues of primary moral importance, and what they understand their

entitlements, opportunities and access privileges to be. I will come back to this crucial point shortly. In other words, the Capabilities Approach provides an idea of what sorts of things are intrinsically valuable and hence desirable for people, facilitating an assessment of individual wellbeing. It further provides metrics for translating those philosophical goods into practical policies, and at the same time enables an assessment of those policies. On the whole, therefore, the HDCA provides tools for measuring social change and human thriving by explicitly claiming that ends (like a decent standard of living), rather than means (like income per capita), matter. The ends matter because people's abilities to transform means into valuable opportunities (e.g. equal access to healthcare) or outcomes (being heathy) are likely to differ considerably. A wealthy but repressive society, (e.g. Saudi Arabia) may have a high GDP but a low HDI because people have unequal means to access educational or healthcare options, or they face racial, ethnic or gender barriers, even if they do have the means.

By enlisting a wide range of metrics for, and outcomes of wellbeing, the Capabilities Approach ensures that many different dimensions that reflect human diversity are included in the assessment of their wellbeing. But what sorts of capabilities actually matter to people, and why do they matter? Nussbaum argues (2006: 76–78) that her ten "central human capabilities" which include: life, bodily health, bodily integrity, senses, imagination and thought, emotions, practical reason, play, affiliation with other species, and control over one's environment, "are due to each citizen" at a minimum threshold and cannot be traded off against one another. Nussbaum justifies her list by a claim that each of the capabilities is vital for a human life to be "not so impoverished that it is not worthy of the dignity of a human being" (2000: 72).

As a metric for both designing and evaluating social and economic policies that promote equality and justice, HDCA is socially responsible, undergirded by critical thinking, and focused on human thriving, while also supported by the principles of welfare economics. However, what the Capabilities Approach does not encompass, or venture to explain is the vantage points of the individual beneficiaries with which it is concerned. What does it mean, from the point of view of those individuals, to "thrive" or have equality? What means-ends reasoning do people employ in making judgments about their own and others' wellbeing? Human thriving and social justice are as reliant on egalitarian policies as they are on people's ability to reason critically. In the words of Thomas Jefferson, "An enlightened citizenry is indispensable for the proper functioning of a republic. Self-government is not possible unless the citizens are educated sufficiently to enable them to exercise oversight" (Jefferson, 1817). So, how can "citizenry", or to put it more inclusively, people, be "educated sufficiently"? In what ways can individuals be made aware of the entitlement of every person to equal rights and opportunities, and how might that awareness help them think critically about what human thriving and social justice require, and look like? In other words, how can this "humanistic literacy" be achieved and fostered?

There are two essential steps in that process. First is understanding how people reason and why they make judgments and decisions they do. Second is applying that understanding to approaches in teaching and instruction. The first step, therefore, is within the realm of cognitive moral psychology, the second is within the realm of critical pedagogy. Both serve the purpose of raising consciousness that leads to dynamic humanistic literacy. Humanistic literacy, in turn, allows for fostering the Capabilities Approach. Finally, cultivating a wellbeing-focused approach to development and justice facilitates a better understanding of human diversity and of the

heterogeneity of people's reasoning. Within this cyclical process (Figure 12.1), each stage continuously reinforces the next.

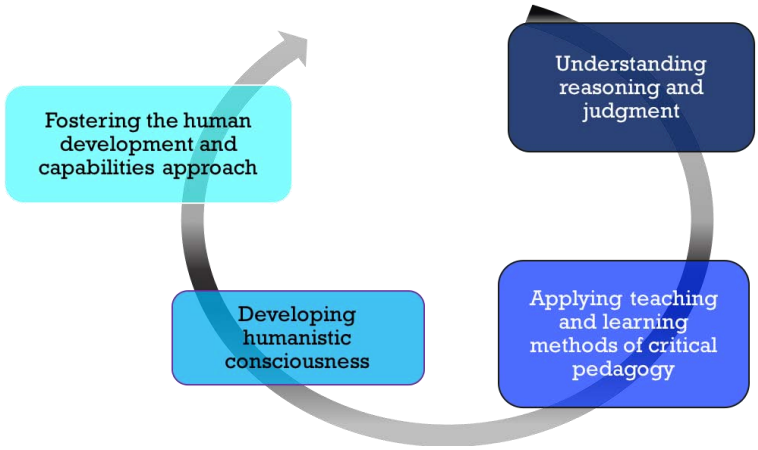

Figure 12.1: The continuous process of teaching and reinforcing humanistic literacy. Understanding reasoning leads to applying critical pedagogy methods, which leads to developing humanistic consciousness, which allows fostering the Capabilities Approach to development, which in turn leads again to better understanding of reasoning processes.

Understanding Reasoning and Judgment

In his chapter "From Is to Ought: How to commit the naturalistic fallacy and get away with it in the study of moral development," Lawrence Kohlberg (1977) set out to show that we must clearly distinguish cultural relativity (value diversity among cultures) from ethical relativity (the belief that there are no principles by which to resolve such diversity). An assumption that "everyone having their own values" should mean that "everyone ought to have their own values" (p.107) is a naturalistic fallacy, a conflation of ethical relativity with ethical tolerance, he stated. In line with this argument, it would be a fallacy to assume that repressive social arrangements or regimes should be deemed acceptable just because they exist within the parameters of a different culture. Equally, it would be misguided to assume that people who belong to those cultures or social environments are necessarily accepting of their predicament and of their barriers to thriving.

What we can assume, however, given empirical research in psychology, is that people everywhere, reason about their social world and about systemic injustices that they are, or could be victim to. Understanding *how* people reason though, presupposes acknowledging that cultures are not homogeneous and that the diverse people that make up cultures are active, rather than passive participants in their social worlds. Studying the ways in which individuals interpret and push back against cultural practices can tell us a lot about how they understand their own capabilities, as well as how that reasoning develops over time and across different contexts.

Starting from the premise that people construct forms of social knowledge through their reciprocal relationships with the social environment, Turiel (1983) developed a framework for

understanding the process of reasoning. According to Turiel's Social Domain Theory, reasoning develops within three distinct cognitive domains: the moral, the social-conventional and the personal. The moral domain encompasses reasoning that has to do with how individuals ought to behave toward each other, and deals with concepts related to rights, justice, and welfare/ harm. Moral prescriptions are seen as universal and not legitimated by agreement or law. Furthermore, decisions about moral issues involve reasoning, whether straightforward or complex, but they are not products of mere intuitions (beliefs *without* conscious reasoning).[89] The social-conventional domain concerns reasoning about social rules and authority, as well as how those apply to the coordination of social interactions. The personal domain concerns judgments understood to be "one's own business" and thus not governed by societal rules (Nucci, 1981). The framework of Social Domain Theory, insofar as it is focused on understanding the psychological, social, and moral features of how people function, can, therefore, be instrumental to developing humanistic literacy. If the objective of dynamic humanistic literacy is to serve the aspiration of human development and thriving in a manner that involves assuring rights, welfare, and justice for all people, then understanding how people reason about those moral concepts, is a crucial piece of the puzzle. The strength of Social Domain Theory, with regards to that objective, is that it is not just a theory of human development, but also an empirical methodology for studying development. Through the use of the Piagetian clinical interview (Piaget, 1932), studies within Social Domain examine not only how individuals evaluate social situations (is the situation acceptable or not), but also by what process (domain) of reasoning they justify their judgments. Importantly, empirical findings from the Social Domain methods maintain cross-cultural validity - they have been corroborated in studies done in the Middle East, Africa, North, Central and South America, Europe, and Asia (e.g. Killen & Wainryb, 2000; Smetana, 2002, 2011; Turiel, 2002, 2006; Wainryb, 1997, 2006). With over a hundred of cross-cultural studies with children and adults, regarding issues of social justice and equality, Social Domain research has shown that people's reasoning is complex and multifaceted. Nevertheless, even young children are able to distinguish moral issues from the non-moral ones. Helwig (1995, 1996, 1997), for example, gives evidence that children at the age of five or six, are able to understand that rights (e.g. freedom of speech or religion) are obligatory and applicable to all people. Yet when people do not endorse equality, and sometimes they do not, Social Domain research has found that the reason is not their inability to understand the concept but rather their propensity to subordinate equality and rights to other social concerns. Otherwise put, the idea of rights and equality might be well understood, but given less priority compared to other competing social and moral concerns particular to a given social context. For example, research on exclusion (Conry-Murray & Turiel, 2012; Killen et al., 2001) has shown that, in the abstract, and in certain situations, people believe it is morally wrong to exclude somebody on the basis of race, ethnicity, or gender. However, concerns for group cohesion, societal arrangements, and personal prerogatives are often coordinated with moral goals (such as fairness and equality) when making conclusions about excluding certain people from certain activities. Furthermore, Social Domain research shows that individuals' positions in society

[89] For more about the notion unconscious moral intuitions see *Haidt*, J. (*2001*).

shape what considerations they prioritize and whether they use moral, conventional, or personal justifications when thinking about instances of exclusion or inequality (Horn, 2006; Neff, 1997; Turiel &Wainryb, 1998). What these and many other studies indicate is that people's reasoning about their own and others' rights, circumstances and thriving is often bounded by the awareness of the limitation of the social structures within which they exist. That is, people do not necessarily misunderstand or fail to care about injustices or inequalities, rather they focus on different aspects thereof, and prioritize those aspects differently, as they try to live with, or in spite of their cultures. Given that reasoning in each domain of judgment develops with age, how individuals coordinate those domains when making a decision changes as they mature. Understanding the findings and applying the empirical research methods of Social Domain Theory, therefore, can help us better understand how individuals evaluate the full complexity of their social world when making a critical judgement, and why they coordinate the different domains of reasoning, often subverting the moral considerations to the conventional or personal.

Part II – Translating Theory to Practice

As I discussed above, aspiring to local and global communities that are characterized by social justice, equality and mutual respect of all human beings, requires a certain way of thinking about the entitlements and the obligations people have towards each other and their communities. In other words, such a goal requires a certain kind of dynamic humanistic literacy. As a theory of justice and development based on welfare economics, the Capabilities Approach, as earlier described, outlines both a conceptual and a practical roadmap towards fulfilling those aspirations to global social justice. By asking that the quality of development be measured not only in economic terms but also in terms of social thriving and human wellbeing, the Capabilities Approach shifts the focus from GDPs of countries, to the lives and real educational and healthcare needs of people. However, it does so under an assumption that its principles are self-evident, or at least coherent and acceptable to people they concern. This may or may not be the case, and I have proposed that the sort of humanistic literacy required to understand and embrace such principles, can only be achieved by understanding how people reason about social justice. Empirical findings from cognitive developmental psychology are not only helpful, but necessary for understanding reasoning, and I have shown how Social Domain Theory can be instrumental in comprehending the process of judgment and the complexities involved in it. In the pursuit of humanistic literacy, then, understanding the practical benefits and implications of these theories of political justice, welfare economics and developmental psychology, serves as a crucial platform for action. Such a platform allows for developing creative, multidisciplinary and evidence-based methods for teaching. Critical thinking, thus, translates into critical pedagogy and practice.

Applying and Teaching Methods of Critical Pedagogy

Critical pedagogy involves the notion and the practice of critical thinking, but it also goes beyond it, concerned with both how analytically people process information, and how that information is served and presented to them (Freire, 1970b). In other words, critical pedagogy is

concerned with the kind of education and cultural formations that perpetuate or legitimize social injustices with the ways in which those who are socially, economically, and politically disenfranchised can be enabled to resist the inherent power differentials. Both critical thinking, concerned with thought, and critical pedagogy, concerned with action, advocate education that can help individuals to be more deeply analytical about the world around them and about the scope of human possibilities. This includes questioning assumptions and being more discerning in recognizing ambiguous or poorly constructed arguments and sweeping generalizations with lack of evidence, as well as acting in ways that reflect that kind of thinking. The way of acting that critical pedagogy inspires is concerned with social injustice and with how might inequitable, undemocratic, or oppressive institutions and social relations be transformed (Freire, 1977). Put otherwise, it is concerned with how to raise humanistic consciousness. Why is this important?

Various authors (e.g. Paul, 1994) in this tradition have come to recognize that teaching content and skills, even critical thinking skills is not sufficient if learners do not also develop the habits or inclination to look at the world through a critical lens. Moreover, for those who worry (see e.g. Thayer-Bacon, 2000) that the standards of critical thinking, and the conception of rationality that underlies them, are culturally biased in favor of a masculine or Western mode of thinking, which implicitly devalues other "ways of knowing" critical pedagogy is a reassuring response, because it seeks to dismantle hierarchies and acknowledges there are many ways of knowing. Besides, emphasizing respect for alternative world views and styles of reasoning need not come as a challenge or an opposition to forms of education that stress the importance of logic, conceptual clarity, and scientific evidence. Fostering a dialogue which requires thinking from the perspective of others and recognizing social and contextual factors that impact judgments of others, is in line, as I earlier discussed, with what psychology tells us about the process of individuals' decision making. In a practical sense, then, if, as Jefferson urged, people can be educated, in such a way as to advance humanistic literacy and thus contribute to human development and thriving, there are specific steps educators can take. In the light of what was discussed so far, I propose four practical steps:

- Teaching critical thinking skills
- Adopting a critical pedagogy approach
- Building a Human Rights Education (HRE) curriculum
- Aligning theoretical instruction with praxis

Teaching Critical Thinking Skills

In order to effectively teach critical thinking, it is important to understand what critical thinking entails and aspires to, as well as how it differs from critical pedagogy. Critical thinking assumes no set agenda of issues that must be addressed, so to teach it precludes identifying a fixed set of questions about social, moral, political, or cultural issues. Teaching critical thinking skills should be impartial, maintaining the distinction between fact and value (Siegel, 1989). What is crucial to examine is the interplay of evidence, reasons, and arguments. That is, to be able to describe the issue, draw out assumptions that have direct bearing on the argument, and give reasons for and against the argument. Critical thinking, in that sense, does not entail a focus on any specific "big

picture" (e.g. larger social structure, or racial inequality), as different "big pictures" may exist, nor does it prescribe a context for discussion. As such, it can be criticized for lacking social accountability, being artificial, abstract, or even misleading and reductionist, for not all issues can be fully explained or resolved through dispassionate analysis and logic. One may question then, in the real world, and in the real lives of individuals, what is the use of acquiring such skills if they are of limited benefit to understanding and addressing social injustices? On the other hand, one may recognize that there is merit to impartiality and inquiry that is not bounded by political presuppositions. A balance of both critical thinking instruction and critical pedagogical approach thus seems to be the most effective way forward. But how does critical pedagogy work?

Adopting a Critical Pedagogy Approach

Critical pedagogy is an effort to work within educational institutions on challenging inequalities of power, and the ways that belief systems which perpetuate inequalities become internalized (Gruenewald, 2003). While critical thinking aims to develop analytical skills and dispositions, critical pedagogy includes also developing *pedagogical relations* between teachers and students, as well as among students. This includes acknowledging the equal value of all individuals and thus their equal entitlement to hold and express an opinion. Furthermore, it includes acknowledging that in any social space, there is a plurality of perspectives and that in making their judgments people prioritize concerns differently (Turiel 1983, 2002). Nevertheless, as earlier discussed, psychological studies in Social Domain Theory have shown (see Killen & Rutland, 2011; Nucci, 2001; Smetana, 2011; Turiel, 2002), that in spite of any potential cultural differences between them, people everywhere are concerned with obtaining justice, rights and welfare. Keeping this in mind when creating a space for learning is crucial. Further, the objective of critical pedagogy is to encourage challenging not only false beliefs, but also those that are biased, or implicated in the preservation of social injustices. This is why for one of the most influential authors in the critical pedagogy tradition, Paulo Freire (1970b), the educator's task is to help develop *conscienticizao* - critical consciousness. For Freire, this begins with the recognition of a system of oppressive relations, as well as one's own place, or one's multiple places in that system, and gradually leads to dispelling the belief that an unjust system is inevitable and necessary. Henry Giroux develops this idea further by distinguishing a "language of critique" from a "language of possibility" (Giroux, 1988), both of which are essential to social justice education. As he puts it, the critical educator should "raise ambitions, desires, and real hope for those who wish to take seriously the issue of educational struggle and social justice" (Giroux 1988, 177). Developing a language of possibility as a part of what makes a person critical, therefore is of key importance. However, critics of critical pedagogy (Knights & Perl, 2000; Nygreen, 2011; Elsworth, 1989) often point to the fact that there is an implicit political agenda in this approach, which may or may not be problematic in itself, but which presents a challenge for an educator wishing to remain non-partisan. Teaching critical thinking allows, indeed requires, such nonpartisanship, yet as aforementioned, teaching critical thinking alone, without a complementary critical pedagogical approach is not sufficient for developing humanistic literacy. In other words, there is a fine line between non-partisanship and shirking of social responsibility. So how can this tension be

addressed? It will be recalled that the earlier discussed Capabilities Approach discussed the idea that measuring human development and thriving has to involve recognizing and remedying social injustices. In teaching both the skills of critical thinking, and adopting a critical pedagogical approach, therefore, educators can inspire learners to be able to resolve that dissonance. Ideally then, learners should be able to move from impartial, logical and rational analysis, to considering the historical and sociopolitical context of a given issue, to examining their own positionalities and biases, to finally considering in what ways they could act towards social justice. This kind of education would be based on thinking, feeling and doing. A Human Rights Education (HRE) curriculum lends itself well to those principles and aspirations.

Building a Curriculum for HRE

What might an HRE curriculum look like? Different societies will have different priorities they might need to address through HRE, ranging from more specific issues such as women's rights, economic rights or refugee issues, to the broader ones, such as the development of civil society and the rule of law. To be sure, the role of education in supporting social change and human development is complex, and the language of human rights education is broad. Nevertheless, many of the core principles of HRE can be built into different educational models. According to the United Nations, the core purposes of HRE are "the strengthening of respect for human rights and fundamental freedoms; the full development of the human personality and the sense of its dignity; the promotion of understanding and tolerance... among all nations and groups; and the enabling of all persons to participate effectively in a free society" (Tibbits, 2004, 162). This means that HRE should include instruction about human rights law and related mechanisms of protection, as well as take on a pedagogical approach in order to help build skills and attitudes. Building an educational model that fulfills these requirements and serves to develop humanistic literacy would involve a two-step process combining different approaches. An educational model focused on building knowledge and critical human rights consciousness should be guided by the following criteria (Meintjes (1997, 68):

- the ability of students to recognize the human rights dimensions of, and their relationship to, a given conflict, or problem-oriented exercise;
- an awareness and concern about their role in the protection or promotion of these rights;
- a critical evaluation of the potential responses that may be offered;
- an attempt to identify new responses, decision about which choice is most appropriate;
- a recognition of responsibility and influence in both the decision and its impact.

This model[90] aligns with the principles of critical thinking, and is, as such, vulnerable to the discussed shortcomings of relying on critical thinking alone. However, integrating this model (as a first step) with a more pedagogical and interactive model (as a second step), could provide a more comprehensive and dynamic path to developing dynamic humanistic literacy. A

[90] Some examples are inclusion of human rights-related lessons within citizenship, history, social science and law-related classes in schools, and infusion of human rights themes into youth programming (e.g. Human Rights Day)

path that would also include thinking, feeling and doing. A second step in the process would constitute what is referred to in HRE literature as the Transformational Model (Tibbits, 2002). Within this type of model, education is geared towards empowering the individual, or a whole community, to recognize human rights violations and commit to their prevention. This involves pedagogical techniques based partly on developmental psychology, that involve self-reflection and support within the community of learners. Using insights from psychology as to how people reason about their own and other's rights and welfare (Social Domain Theory empirical findings will be recalled) is of crucial importance for a transformational model. Some of the key components of such a model would include:

- Building a safe a supportive learning community
- Acknowledging the needs, the knowledge, and the dignity of each learner
- Facilitating self-reflection for the purpose of recognizing one's and each other's biases
- Facilitating a dialogue that reveals multiple perspectives and priorities people hold
- Recognizing hierarchies within social structures and one's own position(s) within them
- Identifying historical or sociopolitical causes of social inequalities
- Identifying and committing to steps for transforming those inequalities

Implementing a transformational model would depend upon sustained support of others (school, family, community). Nevertheless, educational programs should be designed with a goal of supporting a more fully realized human rights culture in the whole society, which may elicit that necessary support. One way to assure that a program is designed with community needs in mind is to involve the community. This brings me to the last of the four practical steps I proposed.

Aligning Theory with Praxis

For Critical pedagogy, "criticality" requires that one be moved to action (Burbules & Berk, 1999); interpreting the world is not sufficient, one must also be willing and able to act towards change. Integrating community engaged research and scholarship into a theoretical curriculum is one way to act and to practice participative citizenship, by fostering partnership between educators and community organizations, intended for community improvement. Bridging the gap between theory and practice community engaged research leverages different perspectives of academics, practitioners and community members to collaboratively generate knowledge. A full literature review on community engaged scholarship is beyond the scope of the present discussion (for a broad review see e.g. O'Meara, 2002). However, central to all those research trajectories is the effort to bring more clarity and rigor to community engagement efforts (Barker, 2004).

Practices of community engaged scholarship that are particularly well suited to developing humanistic literacy are Participatory Action Research (PAR) and Youth PAR / YPAR. PAR is a process through which people participate in research in order to better understand the root causes of problems that directly impact their communities. That participation further involves disseminating their findings to influence policies and to bring about systemic change (Powers, 2012). As such, PAR represents an effort to legitimize and validate inquiry-based

knowledge production of those who experience the contexts that scholars study. Actively participating in the production of scholarship and developing expertise about community needs through research has educational benefits that go beyond what can be achieved with theoretical instruction alone. Conducting research using data collection and critical analysis allows seeing issues from many perspectives - one of the most important aims of humanistic literacy. Moreover, taking direct action helps develop literacy, communication and strategic thinking skills, which can improve civic efficacy and participation.

Critics of PAR have expressed various concerns about the standard and the scientific rigor of PAR. Frideres (1992) has argued that PAR is the anti-thesis of social science research in which one's personal views must be put to the side, and which must be an objective process with methods that have rules, logic and rigorous validity and reliability criteria. However, for PAR, research process must be democratic, equitable, liberating and life enhancing. Thus, PAR forms alliances with the disenfranchised, in order to not only investigate the root causes of social injustices, but to begin transforming them by empowering those affected. In that sense, PAR breaks from traditional research in a similar manner that Sen's methods of measuring human development by looking at wellbeing of people, broke with traditional, GDP-based measurements of development.

Conclusion

I have started by suggesting that dynamic humanistic literacy, as a notion, or an aspiration, involves seeing all human beings as equal in their value and dignity, worthy of equal respect and equal opportunities. As such, humanistic literacy is of crucial importance for safely navigating our multicultural realities. However, as researchers from across the social sciences have been finding for decades, to achieve it is a complex task. A challenge that no discipline can, or should, wrestle alone. Enlisting evidence from research in political philosophy, psychology, education, and welfare economics, I have tried to show how theory and practice might work in concert, supporting and reinforcing each other, within a cyclical and multidisciplinary process. Humanistic literacy at once requires and enables individuals to be holistic and visionary about perceiving the world, to transcend the ideological boundaries, and to act upon the world collaboratively. Therefore, developing and cultivating humanistic literacy requires understanding how people reason about their social worlds, how human development can and ought to be measured with human wellbeing in mind, and how both critical thinking and ethical critical action can be taught and translated into community conscious practice.

Post-Reading Questions

1. Which theoretical perspective does NOT belong to the Humanistic Literacy Model?
    a. Theoretical Human Rights
    b. Moral Development
    c. Social Emotional Learning
    d. Capabilities Approach
    e. Critical Pedagogy

2. When Humanistic Psychology emerged, what about it, was new?
   a. The direct connection to the philosophy of humanism
   b. The idea that human motivation and agency can be empirically studied
   c. implementation of experimental studies with human subjects
   d. The dangerous political and social message
   e. Its attempt to explain the biological difference in human empathy

3. The idea of universal importance of human life and dignity originates from:
   a. The Universal Declaration of Human Rights
   b. The philosophy of the Enlightenment period
   c. The time between the two World Wars
   d. Most major religions and cultural traditions
   e. The doctrine of Christianity

4. To calculate a country's Human Development Index (HDI) one would use a combination of several measures two of which would be:
   a. Per capita income and happiness
   b. Life expectancy and education
   c. Population health and level of employment
   d. Wealth to poverty ratio and human rights institutions
   e. GDP and UNDP ranking

5. Human Development and Capabilities Approach (HDCA):

   HDCA has two normative claims; that the freedom to achieve well-being is of primary moral importance, and that such freedom must be understood in terms of real opportunities that people have to do, and to be, whatever they have reason to value. The approach makes a distinction between "functionings" and "capabilities" and underscores the importance of being a "free agent." Explain each of these concepts, distinguishing the difference between the two, as well as why the difference matters.
   a - Define functionings
   b - Define capabilities
   c - Define free agent
   d - Explain the difference
   e - Why the difference matters?

6. Turiel's Social Domain Theory suggests that reasoning develops within distinct cognitive domains, each of which has to do with specific concerns. Which of the bellow pairing is correct?
   a. Moral domain is concerned with different cultural definitions of morality
   b. Personal domain is concerned with issues people do not want to disclose

c. Social domain is concerned with the ways groups rather than individuals treat each other
d. Moral domain is concerned with issues of fairness and harm
e. Biological domain is concerned with inborn differences in capacities

7. What is Critical Pedagogy concerned with?
   a. Humanistic Literacy
   b. Ability to think analytically and impartially
   c. Resisting the inherent power differentials in the society
   d. Critique of other theories of learning
   e. How learning translates to behavior

8. Critical Pedagogy relies on several important ideas. Which one does NOT belong to the critical pedagogy process?
   a. Teaching critical thinking skills
   b. Developing relations between teachers and students
   c. Focusing on the big picture
   d. Aligning theoretical instruction with praxis.
   e. Going beyond objective analysis and logic

9. In the Transformational Model education is geared towards empowering the individual, or a whole community. One of the processes this involves is:
   a. Identifying historical or sociopolitical causes of social inequalities
   b. Evaluating past educational models for best lessons
   c. Changing how the classroom space and experience is set up
   d. Designing personally transformational learning models
   e. Using evolutionary psychology to understand how we learn

10. Participatory Action Research is:
    a. A method for tracking people's sociopolitical participation
    b. A method for measuring how effective any given research activities are
    c. A tool for allowing communities to participate in post research evaluation
    d. Not an actual research method, but a concept that can be used to test researcher bias
    e. A democratic community-based approach to doing research

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Chapter 13: Integrative, Interdisciplinary Strategies to Enhance Global Literacies

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> "For students to be successful contributors to a global society, geographic literacy must be a mainstay of the higher educational curriculum, particularly in undergraduate geography courses."
>
> Fritz Kessler (cited in Rogers, 2016)

Pre-reading Questions

1. Why is it important for students to develop global literacies?
2. What are global literacies?
3. How can students enhance their global literacies?
4. What is the "crisis of representation"?
5. What kinds of global literacy are there?
6. Why are students in the Global North so ignorant of the non-Western world?
7. Why in the Global South is there so much ignorance of each other?
8. What can be done about these last two problems?
9. How can popular culture play a role in enhancing global literacies?

Context

Currently globalization is a dominant pervasive force influencing societies and cultures across the globe. We define globalization as increasing interconnectivity in all realms aptly described by Frances Cairncross (2001) as the "death of distance". As part of this phenomenon, there are

now globally more than 65 million refugees according to the UN (Yeung, 2016) and rapidly increasing intercultural contact among diverse peoples. The late Stanley Tambiah (2000) at Harvard argued that diaspora studies are among the most cutting edge in the social sciences and there are several key journals focusing on the study of diverse cultural diasporas, namely, *Diaspora Studies and Disapora: A Journal of Transnational Studies*.

Given this multicultural global context, it is important for both young people and adults to develop and enhance their global literacies. Unfortunately, there is a "crisis of representation" reflected in much ignorance and prejudice (Tsvetkov, 2012). Despite the U.S. being a relatively powerful and rich nation, its people shockingly lack global literacy and knowledge of the broader world (Lewis, 2014). Paul Pillar (2017) recently did a book focusing on how and why "Americans" so badly misunderstand the rest of the world. Only 35 percent of those in the U.S. currently hold passports, reflecting how isolated the U.S. remains. In contrast, though the United States and Canada share much in common as major North American nations, 77% of Canadians hold passports and that nation is a bilingual one.

But it is not only those in the U.S. who are "globally illiterate". Those in the Global South often know more about Europe and the U.S. than they do about their own neighbors in the South. In many countries such as Japan and Thailand, history is taught from an ultranationalistic perspective leading to much miseducation, misrepresentation, and distortion. The influential U.S. intellectual, Noam Chomksy (2009) laments the presence of so much *historical amnesia*. Those in the U.S. are largely unaware of how U.S. foreign policy has led to interventions in the politics of other nations such as Iran, Guatemala, Chile, and Cambodia, leading to much unnecessary human suffering and turmoil (Alegría, 1980; Chua, 2003; Hitchens, 2001).

Chapter Problem Statement

In general in the Western world, there is pervasive ignorance of the non-Western world. And in the non-Western world itself, there is a clear lack of knowledge of each other. Those in Africa know little about Southeast Asia, and vice versa. Even those in Southeast Asia surprisingly know little about each other (Lim, 2018; Madasari, 2016; Rosarin, 2017). This chapter provides diverse pedagogical and educational strategies for addressing this key problem and issue. Also not surprisingly there is extremely little extant literature on this problem and issue, another rationale for the importance of this chapter.

Learning Expectations and Outcomes for this Chapter

This chapter will provide students with insights and strategies for enhancing their global literacies. They will also learn to be more critical of cultural representations of "the other". And the chapter is also designed to inspire and motivate them to enhance their global literacies, a critical 21st century skill. They will also become aware of many exciting endeavors in the non-Western world to enhance global literacies. Given the context of globalization and rapidly

increasing intercultural contacts among diverse peoples, it is imperative that students enhance their global literacies to enable them to be successful in responding to the challenges of the 21st century and the new 4.0 economy (Schwab, 2016, 2018). Students will achieve these learning outcomes by encountering many new ideas, approaches, and strategies for discovering and developing appreciation for the non-Western world and enhancing their global literacies.

Objectives

The purpose of this chapter is to share strategies for enhancing global literacies in classrooms at all levels of education through diverse approaches and methods. Scholars such as Rosen (2000) and Gundling, et al. (2011); Gundling & Caldwell, (2015) have done extensive work on the development of global literacies in the context of the international business world. Global literacy involves both culture-generic and culture-specific capabilities and knowledge. Both are addressed in this chapter as well as different genres of education which can contribute to the development of global literacies.

Theoretical/Conceptual Frameworks

Three frameworks guide this chapter, namely:

1. Cultural democracy (Ramírez & Castañeda, 1974). There are two basic elements of cultural democracy. First and foremost, all cultural groups have the right to retain and be proud of their linguistic and cultural heritages. Second, individuals, regardless of their cultural or linguistic backgrounds, should have equal opportunity to achieve their full potential as human beings (Teo, 2018, p. 123).

2. Social contact theory (Allport, 1979). This theory postulates that contact between diverse cultural groups will break down prejudices and lead to enhanced cultural understanding. Pettigrew has done extensive meta-analyses which provide strong empirical support for the validity of Allport's theory (Pettigrew & Tropp, 2000, 2011).

3. "The crisis of representation". The important work of the Palestinian scholar Edward Said led to greater awareness of how Western journalists and scholars have often distorted the non-Western world (Döring & Stein, 2012; Said, 1978, 1981, 1993). The Polynesian scholar, Linda Tuhiwai Smith (2012), has also been highly critical of how those in the West have distorted the non-Western world.

A Culturally Diverse Approach to Thinking about Global Literacies

It is important to define carefully and precisely the terms globalization and global literacies. The former, defined as accelerating interconnectivity in all realms, is a phenomenon which has problematic elements and which has generated much polarized controversy (Barber, 1995; Bhagwati, 2004; El-Ojeili & Hayden, 2006. Rosen (2000) has defined global literacies in a

business context as multi-dimensional, including having an international mindset, being globally-centric, being knowledgeable about major national business cultural practices and norms, and achieving leadership competency through understanding other cultures. In a higher education context Nair et al. (2012: 1) have defined global literacies as existing when universities "create settings that foster students' understanding of the intersection between their lives and global issues and their sense of responsibility as local and global citizens". They also stress that "students should have sustained opportunities to learn about: the human imagination, expression, and the products of many cultures; the interrelations within and among global and cross-cultural communities; means of modeling the natural, social, and technical worlds" (p. 1). Their conceptualizations derive from perspectives developed by the Association of American College and Universities and reflect the curricular philosophy being implemented at Carnegie-Mellon University. With regard to the Asia-Pacific region, Soong & Cominos (2018) have recently completed a new volume on Asia literacy viewed from an Australian perspective.

The Thai co-author of this chapter argues that there are two Thai language concepts highly relevant to the promotion of global literacies. The first is the Thai root word for education, *suexsa*, which based on its Sanskritic roots, means to become capable (HRH Princess Sirindhorn, 2018). This concept not only underlies this chapter but all the sessions of this book, in that young people need to acquire the many key literacies emphasized in this volume to become capable and have the critical skills needed for the 21st century. HRH Princess Sirindhorn (2017) also emphasizes the potential importance of visuals in promoting global literacy (see Johnson, 1992). In the increasingly global and multicultural era described above, one cannot be capable without being globally literate, a basic operating assumption of this chapter and the valuable sessions of this volume.

The second Thai concept, *khit-pen*, was developed by the father of Thai adult and non-formal education, Dr. Kowit Varapipatana, the only Thai in the Alternative Education Hall of Fame (2018). Literally *khit-pen* means to be able to think, but it connotes the ability to think critically/analytically and to be able to problem-solve in practical ways through applying knowledge. We also view this trait as an integral part of developing global literacies and being highly critical of cultural distortions and misrepresentations.

Our Key Value Premises and Positionality

The late Nobel laureate, Gunnar Myrdal (1969) and the prominent cultural anthropologist, Ruth Behar (1996), both strongly argue that researchers should make explicit the value premises underlying their work. Two key value premises underlie our strategies for enhancing global literacies presented in this chapter, namely:

1. Binary thinking often is common in the West. Said's influential critique mentioned above reflects this directly as he stresses the overly simplistic "us versus them" syndrome. Currently one view of global affairs developed by Samuel Huntington at Harvard emphasizes "the clash of civilizations". An alternative perspective stressed by Appiah at NYU focuses on civilizational dialogue and the development of a cosmopolitan ethic (Appiah, 2006; Keyes, 2014). We strongly adhere to the second positive Appiah view of the world and reject Huntington's negative stress on cultural conflicts and clashes. The

Huntington view has contributed to the U.S. pursuing wrong wars (see West, 2011) resulting in the tragic and unnecessary loss of hundreds of thousands of innocent lives and trillions of dollars.

2. We also strongly believe in the so-called "diversity advantage" and the need to preserve and promote cultural democracy across the globe (see Van Roy, 2017). Cultural democracy and enhanced global literacies are complexly intertwined. Awareness, for example, of threatened languages, may lead individuals to support language policies fostering the preservation of diverse local languages and use of mother-tongue education.

Method

The research method underlying this chapter is multiple case studies (Yin, 2018) from culturally diverse parts of the world and involving different levels and genres of education. All the case studies presented are from or involve the non-Western world.

Multiple Case Studies Related to Fostering Global Literacy

In this chapter diverse genres of case studies are used (different units of analysis), including a textbook project; educational institutions (formal and non-formal at different levels); and a proposed volunteer organization. Though this approach is not common in case studies research, it adds cultural richness to the chapter and provides valuable special insights.

Case Study of the Development of an Innovative Textbook for Promoting AEC Literacy

This project is the initiative of one of the co-authors of this chapter, Dr. Rosarin Apahung, of Thailand (Rosarin, 2017). At the end of 2015, the ASEAN Economic Community (AEC) became a reality to strengthen the ASEAN (Association of Southeast Asian Nations) international regime (Fry, 2008). As the result of the formation of the AEC, it is more important than ever for the youth and citizens of this Southeast Asian region to know more about each other. In the past, actually the youth and citizens of the region have known more about Europe and the United States than about each other (Madasari, 2016). There are multiple reasons for this such as Western "academic imperialism" (Alatas, 2003), media and publishing biases, and powerful colonial and neocolonial legacies (Teo, 2018).

This innovative textbook project is based on the fundamental principles of integrated and interdisciplinary learning (Klein, 2005; Kline, 1995) and is focused on basic education. The textbook being developed utilizes mathematics and arithmetic tools to learn about the countries of the AEC region. Commonly math is taught in a boring totally *decontextualized way*, but in this innovative text, students develop math skills and tools as they learn about the countries of the

Southeast Asian region. The first part of the textbook is largely descriptive and students might compare the ratio of the islands of Indonesia to the islands of the Philippines and Thailand. Or students might compute the percent of each AEC country's population (10 in total) which is Muslim, and the percent of countries that were British, French, U.S., and Dutch colonies respectively.

The second part of the book challenges students to *khit-pen* (think analytically) and to come up with hypotheses about the region which they can test with actual empirical data. As part of this process, students learn to search for data on the Internet and make use of English. They learn to plot data on simple graph paper to look at statistics from the region and possible statistical patterns and relationships. For example, the students might test the hypothesis that the richer the nation, the happier are its people. They would then gather these two data points for the 10 countries of the AEC region and plot the data on a graph. Using the simple math tools of addition, subtraction, squaring, multiplication, and division, they can actually calculate by hand a Spearman rank-order correlation to see the relationship between these two variables. The teachers' roles in this process are as a guide to help the students in their quest to *discover by themselves*. The approach of this textbook is totally counter to the banking approach to education (Freire, 2000) and the "sage on the stage" model (Morrison, 2014).

In working through this textbook, students simultaneously improve their math and research skills, while learning much about the 10 countries of the AEC region. Figure 13.1 shows the colorful cover of this "math" textbook developed by Dr. Rosarin and shows greetings in each of the 10 AEC languages. Table 13.1 provides an example of the kind of data students find and analyze. In this exercise students study the possible statistical relationship between the sufficiency economy promoted by HM the late King Bhumipol the Great and human happiness (Avery & Bergsteiner, 2016; Seppälä, 2016). First, students collect the data from the Internet, then plot the data on a simple graph, and then use basic arithmetic to determine the rank correlation between these two variables. Actually, the data in Table 13.1 strongly support the validity of the King's concept. In the process, students are also discovering the basic research process of thinking about hypotheses and then testing them with empirical data. The role of the teacher is as catalyst, advisor, and mentor. This is also a vivid example of *constructivist learning*.

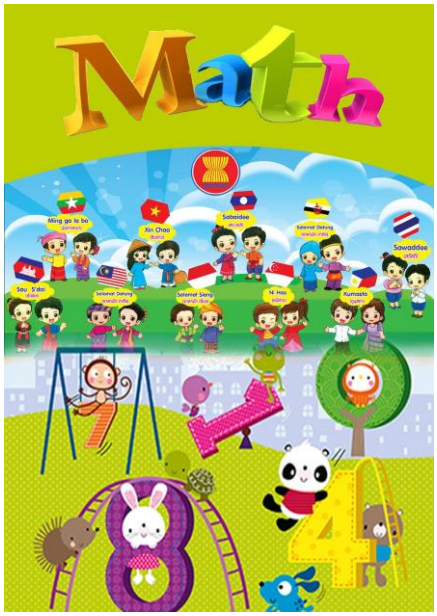

Figure 13.1: Cover of Dr. Rosarin Apahung's Innovative new textbook

Table 13.1: Arithmetic exercise from Dr. Rosarin's innovative text

Nation	Consumption as a percent of GDP	Level of Human Happiness
Brunei	21.7	NA
Cambodia	78.3	4.2
Laos	62.6	4.7
Malaysia	55.2	6.1
Indonesia	56.5	5.3
Myanmar (Burma)	57.9	4.5
Thailand	50.9	6.4
Vietnam	65.6	5.1
Philippines	73.6	5.4
Singapore	36.1	6.6

Before looking at an important non-formal education case study, we turn to two more K-12 case studies, one, the Islamic College of Thailand, and one the Al-Amal School, a major private Islamic school in Minnesota.

The Islamic College of Thailand

This unusual institution is actually not a "college" in the U.S. sense, but is a public Islamic secondary boarding school (offering all six grades of secondary education), located in Thonburi, Thailand, across the river from Thailand's capital, Bangkok. It was established by the Thai

Ministry of Education long ago back in 1945 to provide a quality secondary education for Muslims throughout the Kingdom and is fully supported financially by the state. The school was established to help prepare young Muslim students effectively for college or employment. In Thailand, there is no separation of church and state and moral/religious education is an integral part of the curriculum (Fry, 2018).

The school serves approximately 2,800 students from around the country. While most of the students are Muslim, there are also Buddhist and secular students. Interestingly the Buddhist students learn about Islam, the Muslim students learn about Buddhism, the dominant religion in Thailand, and all students are also exposed to a secular curriculum. Among courses contributing to the development of global literacy are communicative Arabic, Thai, communicative English, Buddhism, Islamic philosophy, and Islamic economics. Many of the graduates of this college are multilingual which brings with it many cognitive and cultural benefits and brain enrichment (Marian and Shook, 2012; Vince, 2016; Wein, 2012). Interestingly the vision of the school emphasizes peace and cooperation, responsive to Appiah's ideal of civilizational dialogue discussed earlier.

Anecdotal evidence suggests that alumni of the school have done well and the college has a loyal alumni base who have generously donated to the school. The school has impressive physical facilities including an Olympic swimming pool and an excellent library.

The prominent Singaporean economist of education, Dr. Pang Eng Fong (1975, 1976, 1982) (Pang & Pak, 1975), pioneered the idea of doing rigorous tracer studies to determine what happens to the graduates of diverse educational and training programs. To our knowledge there has been no study of the alumni of the Islamic College of Thailand. With a loyal alumni base going back to the 1940s, it should be possible to do a rigorous study of what has happened to the graduates of this distinctive and unusual college and to see how this kind of unusual education has contributed to their global literacies. But clearly the college represents a vivid living example of an attempt to implement cultural democracy and promote opportunities for intimate contact between Muslims and Buddhists, responsive to the key theoretical concept of social contact theory previously articulated.

The Al-Amal School, the Major Islamic School of Minnesota

This school was established in 1994 by parents frustrated that their children were not being well served by Minnesota's public schools with their secular curriculum and pervasive discipline problems. It grew out of a rapidly expanding home school. Given the separation of church and state in the U.S. political culture, it is necessarily a private school charging a relatively high tuition fee to meet its costs of operation. The school offers a complete 15 years of P-12 schooling, including three years of pre-school.

The diversity among the faculty is extraordinary. During a visit to the school, we met individuals originally from Egypt, Somalia, Pakistan, Palestine, Morocco, Lebanon, Bangladesh, and numerous other Islamic nations, as well as a Japanese-American teacher and several Caucasian teachers. We have visited many schools during our career, but we have never encountered a faculty as diverse as this one, with so many of the teachers being born in another country.

The school emphasizes both academic excellence and an Islamic moral education, with an emphasis on the building of character and responsibility. A major curricular theme is ethics across the curriculum. Students are expected to learn to "do the right thing". The idea of equality is also fostered through the ideal of "we are all God's people".

Students at the school are minimally bilingual and many multilingual. All students study Arabic for 150 minutes a week, at all grade levels. As noted above research clearly indicates the many cognitive and creative benefits of being genuinely bilingual.

To minimize costs and to maximize academic preparation, many juniors and seniors spend considerable time at local colleges and universities taking college-level course work. There is also an emphasis on doing internships and community activities. This enables the Al-Amal students to interact intensively with the larger "mainstream" community. Also, because there are misrepresentations of Islam, the school's strategy is to provide its Islamic students extensive opportunities to interact with individuals in the larger U.S. society who are not Muslim. The principal emphasizes reaching out to the larger community and helping people understand the real essence of Islam, in contrast to media distortions. She stated: "We intentionally let students connect to the world and be able to function, to give good things back to the community and be good citizens" (Fry and Chun, 2018).

As with the Islamic College of Thailand, we need tracer studies to see what happens to the alumni of the Al-Amal School and how this kind of learning environment has contributed to the development of their global literacies. Also this school, in terms of social contact theory, reflects a quite extraordinary example of contact among diverse Islamic cultures promoting a deeper more profound understanding of *Islamic diversity* (Ramadan and Reed, 2017). The media tend to distort Islam as both being Arabic and monolithic.

Hmong 101

This is a special course developed by the Hmong Cultural Center (HCC) in Minnesota and an example of non-formal education to promote global literacy. Minnesota has a huge diaspora of Hmong people (most originally refugees from Laos) approaching 100,000 people. HCC is a not-for-profit NGO primarily promoting Hmong cultural preservation and citizenship education. It also actively seeks to promote knowledge of Hmong culture, society, and history among Minnesota's non-Hmong population. Hmong 101 is offered both in person and as an on-line course to promote knowledge of the Hmong world (Lee and Pfeiffer, 2018). Through this special non-formal education offering, thousands of individuals have developed a better understanding of the Hmong and their culture, society, and history. Similar courses could be designed to help develop understanding of other important cultural diaspora such as Kurdish 101, Syrian 101, Afghan 101, Pakistani 101, and Vietnamese 101 (highly relevant to the new multiethnic Korea (Lie, 2014)). But in developing such courses, multicultural educators must be particularly mindful not to "objectify" or essentialize "the other" and must stress the important distinction between useful scientific generalizations about culture (cf. the work of the influential Dutch cross-cultural social psychologist Geert Hoftstede, et al. (2010, 2018) and dangerous inappropriate stereotyping. With respect to the latter, the recent publication of Einstein's travel

diaries provides a shocking example of cultural stereotyping by a brilliant scientist (Einstein & Rosencranz, 2018) (cf. Russell, 2011).

Development of Regional International/Intercultural Cooperation Corps

This idea originates with the late Dr. Surin Pitsuwan, who proposed the idea of an ASEAN Cooperation Corps. Surin made this proposal when he was Secretary-General of ASEAN and such a corps would provide a valuable way to promote global literacies through South-South collaboration. As a young person, Surin was "discovered" by a U.S. Peace Corps volunteer and encouraged to study further. He had an extremely valuable intercultural experience in Minnesota on the AFS program (AFS, 2017). The late brilliant Surin, of a humble Muslim background, eventually earned two doctorates from Harvard and went on to be Thailand's able Minister of Foreign Affairs and then dynamic Secretary-General of ASEAN, 2008-2012. As a politician, he was also elected to parliament seven times.

A corps of this type would enable young people from the 10 AEC countries to volunteer to work in a country of the region for a period of two to three years. As part of their training they would study intensively the language of the country where they would be serving. Given the great economic and educational disparities among the 10 Southeast Asia countries, volunteers in their training would be exposed to the harsh critique of Illich (1968) of service learning that can tend to be patronizing and/or patriarchal. Both David Jefferess (2011) and Clare Talwalker (2012) are also concerned about how volunteers can perpetuate global inequalities and the reinforcement of cultural stereotypes such as that of "poor" children having nothing but "simple smiles". Instead the focus would be on the volunteers becoming primarily respectful *cultural learners* who could possibly make some modest work contributions.

They would also be exposed to strategies for learning about the culture(s) of the country where they would volunteer. Upon returning to their home countries after their service, they could play a valuable role (as educators, teachers, leaders…) in sharing their knowledge of the country and its culture where they served (see Textor, 1966). The growing alumni of such a corps would have acquired valuable global, cultural, and linguistic literacies.

This kind of regional corps could also be established in other regions of the world, such as Meso-America, sub-Saharan Africa, South Asia, northern Africa… The existence of such corps and their growing alumni would represent an invaluable contribution to enhancing global literacies.

The Growth of Transnational/Pan-Regional Universities

This is another exciting development related to the enhancement of global literacies. Five case studies constitute this section of our chapter, namely:

1. The University of Central Asia (UCA)
2. The African Leadership University (AFL)
3. Incheon Global Campus (South Korea)

4. The Asian Institute of Technology (AIT) (Thailand)
5. The ASEAN University (proposed)

The University of Central Asia (UCA)

This institution, founded in 2000, as a private, not-for-profit secular university, is an inspiring example of a new transnational pan-regional approach to higher education. It serves primarily the mountainous nations and communities of Kazakhstan, the Krygz Republic, and Tajikistan, but also includes students from other Central Asian nations such as Turkmenistan. It is one university, three campuses in three different nations. The vision underlying this institution has been articulated as:

> UCA's campuses are deliberately located on the Silk Road, a historic trade and transportation route that facilitated the global exchange of goods, cultures and ideas. Each campus also lies within 150 miles of the contemporary economic and political powerhouse of China. By locating our campuses in mountain communities, UCA hopes to be at the heart of an intellectual and economic transformation. (UCA, 2018)

UCA was made possible by the generous financial support of the Aga Khan Foundation. His Highness the Aga Khan shared the inspiring goal of UCA at its founding ceremony on 6 July 2004 at Khorog, Tajikistan:

> By creating intellectual space and resources, the University will bring the power of education and human ingenuity to the economic and social challenges of mountain societies in Central Asia and elsewhere.

The university offers a diverse interdisciplinary curriculum delivered in English. Students, being from the five diverse nations of Central Asia, are learning much about each other and enhancing their global literacies.

Among its academic partners are the following prestigious institutions:

- University of Technology Sydney, Australia BA, Communications and Media
- University of Toronto, Canada BSc, Computer Science
- University of British Columbia, Canada BSc, Earth and Environmental Sciences
- Stockholm School of Economics/Riga, Latvia BA, Economics
- National Research University's Higher School of Economics, Moscow, Russia BA, Economics
- University of Victoria, Canada

The African Leadership University (ALU)

ALU was founded in 2013 by the renowned Ghanaian educationalist Fred Swaniker. It has a campus in Mauritius known as the African Leadership College and another campus in Rwanda. It serves students from throughout Africa as well as the rest of the world. The university

emphasizes holistic relevant learning, with students expected to do numerous practical internships as integral to their programs of study. There is an emphasis on the use of progressive student-centered pedagogies. The institution also places special importance on training future leaders and entrepreneurs who will contribute to both development and job creation. The university plans to expand its coverage in the future and aspires by the year 2060 to train three million young Africans with leadership/entrepreneurial skills and ethical values. The presence of this kind of pan-African university is certainly contributing importantly to the development of global literacies of future African leaders and entrepreneurs and students from the diverse African nations are learning much about each other on these two campuses.

The Asian Institute of Technology (AIT)

This university was established in 1959 as the SEAMEO Graduate School of Engineering. In 1967, it became an autonomous independent technology-oriented university renamed as the Asian Institute of Technology. Over time it has expanded its curriculum to cover more areas of study. Currently it has approximately 2,000 students from over 50 countries. Its staff is from over 40 countries. Though located in Thailand, only roughly 30% of its students are from Thailand. Thus, it is an extremely international campus. The following quotation shows its remarkable success in becoming one of the world's most international campuses:

> AIT has been consistently ranked the top university in the world for its "international orientation." It was ranked the top international university by UMultirank for two consecutive years in 2015 and 2016… In 2016, it was the only university from Asia to get a perfect score in international orientation. It was the only university in Asia among the top 41 universities in the world to receive full scores under "international orientation" earning straight "A" grades for student mobility, international academic staff, international joint publications, and international doctorate degrees. (Inquirer.Net, 2015)

Incheon Global Campus (IGC)

This innovative campus was established in 2007 in the Incheon Free Economic Zone as a way to foster the global literacy of Korean students needing 21st century skills. It is a joint venture with several top universities from around the world. Currently there are five academic partners, namely, 1) State University of New York (SUNY) Korea, 2) George Mason University Korea, 3) University of Utah Asia Campus, 4) Ghent University Global Campus, and 5) the Fashion Institute of Technology, ranked top five in the world in this field of study. The ultimate goal is to have 10 leading academic partners. Though studying primarily in Korea, these students get their degrees from the participating international universities. Also Korean students must spend at least one year overseas studying at the partnership institution, from which they are receiving their degrees. Thus, both the Korean and international students at IGC have excellent

opportunities to develop and enhance their global literacies and develop intercultural understanding.

The Call for an ASEAN University

While Africa has its African Leadership University, Central Asia has its University of Central Asia, East Asia has its Incheon Global Campus as well as several other impressive pan-regional initiatives such as CAMPUS Asia (Collective Action for Mobility Program of University Students in Asia), and the Ritsumeikan Asia Pacific University (APU) in Ōita, Japan; Southeast Asia has no regionally-focused university. A campus should be established with students, staff, and faculty primarily from throughout the region. It should be both a real campus but also offer on-line courses for students throughout the region. The main campus should be in a centrally located area such as Thailand or Malaysia with relatively low costs, but with branch specialized campuses in each of the 10 nations of Southeast Asia, building on existing facilities. A key course on the main campus would be a History of Southeast Asian Civilization (see below) to ensure that students are aware of the rich cultural heritage of the region and its prominent writers, thinkers, and artists. Given the growing economic wealth of the Southeast Asian region, there is no reason for not establishing such a campus. Such a campus would contribute valuably to the development of global and regional literacies and strengthen the cultural foundations of the ASEAN Economic Community (cf. our first case study).

Final Thoughts on the Case Studies and Social Contact Theory

When Allport (1954) originally articulated social contact theory, there were four strict scope conditions required for the theory to apply. Thomas Pettigrew and Linda Tropp (2000, 2011) in subsequent years have done extensive research which strongly supports the validity of social contact theory, even when these strict scope conditions are not met. The eight-year International Cooperative Learning program directed by the Japanese scholar and administrator, Terushi Tomita, demonstrated rather conclusively the validity of social contact theory (Tomita, et al., 2000; cf. Eastwood, et al., 2009).

Summary of Main Ideas from the Chapter

The main ideas from this chapter can be summarized as follows:

- There is a serious crisis of representation with much distortion and misrepresentation of the non-Western world.
- Those in the Global South and non-Western world, often know far more about Europe and the Western world than they know about their own Global South.
- Pan-regional education has much potential for enhancing global literacy among students.

- Given the enduring explanatory power of social contact theory, cultural and socioeconomic diversity in educational institutions needs to be actively promoted. In this chapter, some inspiring examples of such institutions are provided.
- Informal, non-formal, and formal education must all be utilized to enhance global literacies.
- We need to move from Western liberal education to global liberal education in which students develop in-depth knowledge of African, Asian, Middle Eastern, and Latin American, and indigenous civilizations.
- The case studies presented in the chapter in conclusion suggest three basic genres of global literacy, namely: 1) transcending miseducation, 2) culture-specific global literacy, and 3) culture-generic global literacy and *how to learn* about other cultures.

Concluding Remarks and Reflections: Three Genres of Global Literacy

The multiple case studies described above all should contribute to the development of global literacies. To conclude and synthesize this chapter, we delineate three major genres of global literacy.

Transcending Historical Amnesia and Relearning to Correct Miseducation

Unfortunately, across the globe there is both much miseducation and the convenient ignoring of important historical realities, reflecting our important theme of the "crisis of representation". Noam Chomsky (2009) at MIT laments the prevalence of *historical amnesia.* It is important that young Japanese learn about the tragedy of the Korean comfort women (Soh, 2008). And young people in the U.S. need to know about the Trail of Tears and President Roosevelt's horrific Executive Order which incarcerated thousands of innocent West coast Japanese-Americans during World War II (Zinn, 2001). And they need to know about the U.S.'s nefarious political interventions abroad to promote U.S. interests in such places as Indonesia ("The Berkeley Mafia"), Cambodia, Chile ("The Chicago Boys"), Iran, and Guatemala (Hitchens, 2001). These interventions have led to gross human rights violations and atrocities (see also Chua, 2003). Also relevant in this regard are McNamara's (1995, 1999) revisionist reflections on the U.S. war in Vietnam, which understandably really angered U.S. military veterans (cf. Westmoreland, 1976).

In terms of distortions and misrepresentations, the maps used in our educational institutions represent a major problem. For maps of the world, the Mercator projection is commonly used. This Eurocentric map grossly distorts the size of places. Greenland appears to be the same size as Africa, but in fact it is only 10% the size of Africa. In fact, Africa is far bigger than depicted. Europe appears larger than South America, but in reality is only half the size of that region (Kessler, Rogers, 2016). The Pacific Ocean represents 33% of the world's surface, but on this map, it is projected on the far left and right peripheries and appears to be about only 5% of the world's surface.

A useful exercise is to have students critically evaluate diverse world maps produced in various countries and look for distortions and misrepresentations (Battersby & Kessler, 2012; Bednarz, et al., 2006; Kessler, 2018). The Chilean scholar, Francisca Mattéoli (2016) has produced an elegant book showing how maps can lead to all kinds of valuable discoveries.

Developing Important Culture-Specific Global Literacies: The Call for a Global Liberal Education

In general in the Western world, there is an appalling ignorance of the non-Western world. And in the Global South itself, there is ignorance of each other. Those in Southeast Asia know little about Africa or the Middle East, and vice versa.

"World" literature texts in the West, tend to ignore literature of the non-Western world. At the University of Oregon, we had a special project to develop a true world literature text, so that undergraduate students in the U.S. would have a true global liberal education and become aware of great writers and thinkers of the non-Western world (Westling, 1999).

To enhance global literacies, it is important to develop both regional and global interdisciplinary civilizational courses, that will acquaint students with the great civilizations of the non-Western world. Such courses will serve to help overcome the serious problem in the academy of a few key schools of thoughts dominating discourse, research, and curricula (Santos, 2014, 2018). Five key courses would be the History of African Civilizations, the History of Middle Eastern Civilizations, the History of South Asian Civilizations, the History of Southeast/East Asian Civilizations, and the History of Latin American Civilizations. These courses would integrate perspectives from the humanities, social sciences, and natural sciences to transcend the disciplinary divides long noted by the influential intellectual, C. P. Snow (2008). The exclusion of important perspectives from the Global South is in no way natural or random, but a product of powerful and persisting historical forces of domination (colonialism and neocolonialism).

Since students in the current modern era are so visually oriented, as part of this global liberal education, there should also be classes on African, Middle Eastern, South Asian, Southeast Asian, and Latin American film. Students love to learn via popular culture. For these classes students would view critically films from and about the non-Western world. For example, for the Southeast Asian civilizational class, students could critically look at three highly influential films dealing with Japan's military engagement with Southeast Asia during World War II, namely "Bridge on the River Kwai" (based on the French novel by Pierre Boulle (1954) (Davies, 2012; Dunlop, 2005; Spiegel 2000)). "Sunset at Chaophraya" (Kittikorn, 2013; Thommayanti, 1969), an indigenous Thai film; and the Japanese film "Harp of Burma" (Takeyama, 1966, 1994). Related to the African Civilization class, students would critically review and reflect on films such as "Out of Africa", "Hotel Rwanda", "Sarafina", "I Dream of Africa", and "Amistad". Again whenever possible it would valuable to compare and contrast an indigenous with a Western film dealing with the same country or culture. Related to the Middle Eastern Civilization class, students could critically review and reflect on films such as "Taste of

Cherry", "Fatima", "The Past", "Head On", and "Promised Land" (Cornell University Library, 2018).

With the type of civilizational courses described above, young people can become much more aware of the great minds and artists of the non-Western world. Among such thinkers and writers that they need to know are José Martí (Cuba), José Rizal (the Philippines), Nguyễn Du (Vietnam), Wole Soyinka (Nigeria), Pablo Neruda (Chile), Naguib Mahfouz (Egypt), and Kenaburō Ōe (Japan) as examples. Among artists who are largely unknown are the Indonesian painter, Sindudarsono Sudjojono, who portrayed vividly island life and landscapes and the Japanese artist, Yoyoi Kusama. Students also need to be aware of volumes such as *Black Athena* to develop a greater appreciation of Africa's intellectual and cultural contributions (Bernal, 1987; see also Appiah & Gates, 1999) to the world.

Developing Generic Global Literacy, Learning How to Learn about Other Cultures and Peoples

In addition to developing cultural-specific cognitive knowledge of other cultures and societies, young people need to enhance their cultural intelligence (Ang and Van Dyne, 2015) and intercultural competence (Bennett, J., 2015), becoming ethnorelative and developing capabilities that will enable them to learn effectively and responsibly on their own about the diverse cultures and societies of the world. They can do this thorough multiple means such as intelligent, reflective travel (Podell, 2015); reading important authors of the world, especially from the non-Western world; and developing their social wealth through friendships with people across the globe. In the process, they should have the potential to develop valuable Protean cultural adaptability (Lifton, 1999). These global literacies and related capabilities will enable individuals to experience the world's greatest revolution:

> Contact with other worldviews represents an important paradigm shift and represents a major revolution in the world. The authentic implementation of diverse religious ideals and the promotion through multicultural education the deep understanding of other religions and value systems is central to fostering world peace and harmony. Contact with other world views can result in a shift of perspective, along with a concomitant appreciation for the diversity and richness of human beings. This paradigm shift is the kind that one writer has described as "the greatest revolution in the world…one which occurs with the head, within the mind." (Ferguson, 1980, pp.17-20) (cited in Fantini, 1995, p.152)

Post-Reading Questions

1. Culture-specific knowledge is much more important than culture generic knowledge

   a. True

b. False

2. Cultural democracy and political democracy are essentially the same thing.

   a. True
   b. False

3. There is strong empirical support for social contact theory

   a. True
   b. False

4. Cultural intelligence and intercultural competence are important "soft skills".

   a. True
   b. False

5. Huntington's powerful concept of the "clash of civilizations" provides an insightful lens for understanding the forces of globalization.

   a. True
   b. False

6. In Thailand public schools can include religious teachings and training.

   a. True
   b. False

7. The origins of most Hmong people who moved to the USA are China.

   a. True
   b. False

8. Western scholars and journalists have often distorted and misrepresented the non-Western world.

   a. True
   b. False

9. All of the following are international regimes, EXCEPT:

   a. EU
   b. ASEAN
   c. UCA
   d. NAFTA

10. The University of Central Asia serves students from the following countries, EXCEPT:

    a. Kazakhstan
    b. The Kyrgz Republic
    c. Iran
    d. Tajikistan

11. The following are universities noted for emphasizing internationalization and global literacy, EXCEPT:

a. AIT
b. Incheon Global Campus
c. APU
d. Yonsei University

12. Which of the following are good strategies for developing global literacy? Choose all that apply:

a. studying important writers from the non-western world
b. having internships in other countries/cultures
c. visiting major tourist sites in many countries
d. learning multiple languages

13. All of the following are Muslim countries of ASEAN, EXCEPT?

a. Indonesia
b. Malaysia
c. Brunei
d. India

14. Which of the these is the largest Muslim country in the world?

a. Indonesia
b. Pakistan
c. Brunei
d. India

15. Explain what it means to be ethnorelative.

16. Explain why it is important to have a high level of global literacy.

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Chapter 14: Precursors to Teaching Critical and Cultural Literacy

Use of New Knowledge Systems and Postcoloniality in Academic Writing

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Introduction

The principal aim of this chapter is to explore precursors to Critical and Cultural Literacy in Academic Writing for students. I do this by applying key concepts from New Knowledge Systems and Postcolonial Theory. I am using these theoretical avenues of exploration because they provide a new perspective on the impact of globalisation, as seen in a continual movement of people from one country to another. Many call their new place 'home' or 'place of residence'. With this physical movement, there has been a continuing transfer of cultures, differing systems of education and diverse social systems. A subsequent repercussion of this movement is that the world has turned into 'a global village'. Another effect of this has been the impact on classroom teaching. A resultant class may have a diversity of students from a number of cultural backgrounds, speaking different languages and with many levels of speaking and writing in English, which is the language being used in many Western classrooms.

Some students, upon entering a class, may already have studied under more than one educational system. The responsibility of imparting knowledge in the most effective way possible to this diverse group can be a daunting task for any teacher in general and more particularly so for pre-service teachers, as experience, background knowledge and the strategies to apply, play a major part in how content is relayed to students to produce effective learning outcomes. In a number of cases, the response to this has been to teach students to adhere to a standardised form of Critical and Cultural Literacy that is Western. If the student is not able to meet that standardised requirement, the trend to bring students to the required level of Academic Writing has been from a reactive rather than a proactive approach. Thus, a contention made, at the global level, is that students from multifaceted educational, cultural and social

backgrounds have had their Critical and Cultural Literacy subsumed in the standardised form of Academic Writing.

The intent of this chapter is to foreground an exemplar of practice to show a way of approaching Critical and Cultural Literacy in Academic Writing for students from multifaceted backgrounds. The rationale for taking this approach is explored through, 'Re-imaging the Teacher'. Leading from this is a review of literature in Critical and Cultural Literacy. Following this, is an exploration of how Critical and Cultural Literacy can be aligned with the two disciplines of New Knowledge Systems and Postcolonial Theory by setting up a methodological framework called 'Strands of Knowledge'. The Strands that are conceptualised are historicality, languages, cultural hybridity and agency. Using an autoethnographical positioning, these Strands are used to show how productive outcomes in Critical and Cultural Literacy can be achieved through Academic Writing, for students from multifaceted educational, cultural and social backgrounds.

Re-imaging the Teacher

In 'Re-imaging the Teacher', I begin with three questions that set the basis for my exploration. I show how these questions influence my approach to teaching. I explain the reasons for taking an autoethnographic positioning. I then provide a context for my students in relation to their Academic Writing.

When I first started teaching, a student approached me and said, 'I know I am speaking standard English but my lecturer and the students in my class don't understand me'. This very telling and powerful incident evoked in me three questions. The first was:

- Even though this student is using the right linguistic items how is it that other people from other parts of the world cannot understand this student?
- From this, I began to ask a second question: How does this element of not understanding on the part of the teacher, reflect on the student's level of literacy and ultimately their Academic Writing?
- The second question led to a third one. This was: what influence does a student's educational, cultural and social background have on the way a student listens, speaks, talks and writes?

In the constructing of these questions, I borrow from Lo Bianco (2001, p. 187) in saying that my 'questions are constitutive of social realities, these being framed and made in discourse and therefore in language in use'. They led to my taking the following approach in my teaching.

Approach to Teaching

In my approach, I use three pathways: the formative, the summative and the reflective. Using Alistair Irons (2008) *Enhancing Learning through Formative Assessment and Feedback,* I apply a formative assessment for learning to help shape my teaching by empowering student self-assessment and reflection. I use John Dewey's (1997, p. 2) summative assessment of learning to show the necessity of the introduction of a new order of conceptions leading to new modes of

practice. I practise Timperley, Wilson, Barrar & Fung's (2007) reflective stance to explore an emerging knowledge base to promote teacher learning and productive outcomes. In all of these pathways, I am conscientious in seeing my teaching as a journey where I am teaching and learning at the same time. For these reasons, I use an autoethnographic, narrative and discursive positioning.

Autoethnographic, Narrative and Discursive Positioning

I choose an autoethnographic, narrative and discursive positioning in carrying out my exploration. The *auto* (my emphasis) in auto /ethnography is being operationalised as a method and a product (Roth, 2009, p. 4) in which I, as the 'Self' have a hand in productive outcomes. In relation to applying the narrative, there are several sources from where I narrate my journey. In this, I have used my teaching and advisory experiences in the secondary and higher education sector. Empirical data and autoethnographic reflexive experiences were used in the exploration. A historical review of literature was used to examine policy review and provide background information.

There is a particular purpose in my use of the term 'discursive positioning'. This is to maintain a dialogic standpoint in the academic teaching and professional relationship that I build with the students. In this way, I hope to open pathways that extend the learning of the students in my classes. In using Archana Pathak's (2010, p. 7) derivative stance, I say that I am looking for trajectories to 'more diverse intellectual engagements'.

Contextualising My Students in Relation to Academic Writing

The focus of my exploration are International and Australian Aboriginal students for whom I teach Academic Writing. This group of students have shown unique and distinctive attributes and qualities in the way they approach this writing as a result of their history, diversity and complexity of educational, cultural and social backgrounds. I look at all forms of Academic Writing including the writing of essays, theses and research analyses. I teach students on how to approach critical analysis in writing from an Academy's perspective, keeping in mind, that educational environments are determined by governance, policies and political influences.

I then relate this teaching to Cultural Literacy where I use the students' own experiences and background and incorporate this into their learning. In taking this approach, in addition to what has been outlined above, in relation to the formative, summative and reflective positioning, I am taking a reflexive, self- analytical approach in exploring how best to approach the teaching of this topical area. The use of the term 'academic writing' in this instance is in a generalist sense in that the intent is to show how groups from particular cultural areas view Critical and Cultural Literacy when developing their learning and skills.

The discussion that has been applied in this exploration relates to higher education students. Nevertheless, the discussion and strategies discussed can be modelled to students in any class who have a composite educational, cultural and social systems background. My aim in

doing this is to generate further discussion into the background of the diversity of students in a classroom and view and examine how they approach Critical and Cultural Literacy in their academic work. In putting this discussion forward, the aim is to foreground how issues are presently addressed through a literature review of Critical and Cultural Literacy. Following this, is to illuminate how the same literacies can be addressed through aligning it with New Knowledge Systems and a form of Postcolonial Theory.

Literature Review of Critical and Cultural Literacy

In getting to understand Critical and Cultural Literacy comprehensively, as a teacher, I find that it is important to explore their traditional meanings and then break them down to their contemporary levels of usage. Both Critical and Cultural Literacy etymologically originate from literacy per se. Literacy, traditionally meant the ability to read and write. In this sense, literacy was reified as the ultimate form of writing. The aim was focused on cognitive acquisition (Street, 2013). Various disciplines have called for varying emphasis on how literacy should be regarded. Street further points to the emphasis on various disciplines of literacy. For example, in 'sociolinguistics there is the difference between literacy and orality …in education on 'problems' of acquisition and how to remediate learners with learning difficulties (p. 1). Being 'functionally illiterate' was a definition that described literacy as 'a residue of a period when literacy was conceived as the teaching of reading and writing' and was seen to produce a cognitive disposition for individuals who were able to read and write Mór (2007, p. 41).

Progressively, literacy has come to mean the capacity to use a range of skills these being the use of language (s) symbols and various forms of technological devices to convey information. Gregory and Cahill (2009, p. 7) provide insight to these definitions by contending that to be literate suggests that there are political and ethical considerations inevitably tied to achieving literacy. It is important to note Norton's (2007) argument that literacy is understood in larger institutions as being negotiated. In such situations, there is an imbalance of accessibility to power, either socially, economically or politically. These perceptions have led to a broadening of literacy to encompass the term 'critical literacy'.

The definition of Critical Literacy was first promulgated by Paulo Freire in his influential text, *Pedagogy of the Oppressed* (1968) in which he drew focus on *literacy* by linking it with the term *illiterate*. In this way, he drew attention to communities that were disadvantaged. He also drew attention to education and culture as empowering forces to contest the effects of a historiography that has classified groups, communities and populations as being academically and culturally deficient and deficit. Through the critiquing of this form of Critical Literacy, Freire showed that a social transformation was possible. It is through Freire and Macedo (cited in Gregory and Cahill, 2009, p. 6) that we see Critical Literacy as a way of 'reading the world' through encoding power structures and the roles we play in these processes'. To 'read the world' with relevance to the topic of this paper suggests reading an awareness of particular content that presents particular points of view (Ciardiello, 2004). This suggests a strategic use of language.

Recent insights from ethnography, cultural studies, and feminist theory have led to increasing recognition that literacy is not only a skill to be learned, but a practice that is socially constructed and locally negotiated (Luke, 1997 cited in Norton, 2007, p. 6). In a similar vein, Luke and Freebody (1997, p. 1) have argued that the term *critical literacy* has encompassed a range of philosophies and curricula to show a 'parallelling' between what were considered initially perspectives. I focus on curricula to foreground the discussion of Amanda Guttierrez (2008) who asserts that an awareness to critical literacy brings out the increasing awareness of unequal outcomes, disadvantage and exclusion and a questioning of the role of curriculum in academic institutions. Rather than reflect on past methods of critical literacy, it would do well to move beyond it (Misson, 2005). As suggested by Lankshear (1997, p. 42) it needs to be established that 'critical literacy is not a finite established entity'. This suggests a move towards viewing critical literacy through another lens. This is the lens of cultural literacy.

The concept of Cultural Literacy as part of what I term, 'the written word' first began with E.D. Hirsch (1987). It is the capacity of an individual to be conversant, comfortable and participant in a culture. This means that they understand the signs, symbols, languages, stories, idioms, nuances, idiosyncrasies, histories to be able to fully take part, relate and understand the symbolic, figurative and literate meaning of a written word. Being culturally literate is being culture specific in that whenever one enters another person's cultural environment, apart from the visual signs of dress, speech, food and customs, there are the not so visible signs and patterns of behaviour such as values, beliefs, behaviour, traditions, and perceptions that one has to become familiar with, understand and move freely in. In borrowing from Gregory and Cahill (2007, p. 8), I foreground the criticality of literacy by linking it to Cultural Literacy and refer to it as a form of cultural capital that develops our historicity. I address this in my teaching through an alignment with New Knowledge Systems and Postcolonial Theory.

Alignment with New Knowledge Systems and Postcolonial Theory

New Knowledge Systems align with the term 'Indigeneity'. Indigeneity comprises the many Indigenous nations around the world. As noted by Sandberg (2014) the nations are the 'descendants of groups which were in the territory at the time when other groups of different cultures or ethnic origin arrived there…because of isolation they have almost preserved intact the customs and traditions of their ancestors…similar to those characterised as Indigenous. Of significant bearing, is that as much as research is drawn from knowledge traditions, that are centuries older than the academic institutions in which they work, the aim is transformative (Kumar & Pattanayak, 2018, p. 5). It thus becomes important to explore New Knowledge Systems in relation to Aboriginal and Torres Strait Islander cultures of Australia.

According to Rose (2018, p. 163) 'carbon dating validates that Aboriginal and Torres Strait Islander cultures date back to between forty to sixty thousand years, thus denoting that this society has the world's oldest culture'. As Rose further discusses, 'this has led to the elevation of "old knowledge" being called "new Knowledge"' (p. 163- 164). Rose further asserts (p. 164) that whilst there does 'exist a plethora of definitions for Indigenous Knowledge, it is

often held in community…according to protocol 'in situ' rather than 'ex situ' production of jaundiced interpretations by the West. This speaks loudly of issues around the need for epistemological purity devoid of a multiplicity of power-laden assumptions within a dominant and privileged arrangement'. A telling point by Linda Tuhiwai Smith (cited in Barrett 2018, p. 191) points out that that 'indigenous research …expressed through personal narratives …is changing according to context and who is doing the telling. The knowledge that emerges moves from the personal and particular to the general through audience participation and because of this participation…it is relational'.

Postcolonial Theory originates from the work of Edward Said, Gayatri Spivak and Homi Bhabha. Said (1978) offers insight into language as being connected to location, interpretation and context. Similarly, Spivak (1999) focuses on how knowledge is overtly, displayed. As she further discusses, this leads to particular information being ignored which in turn leads to the marginalising of groups that display that particular knowledge. Spivak also foregrounds the concept of agency as being a fundamental corollary of what is called "being" (Spivak 1993, p. 231). Bhabha in his discussion of hybridity makes use of the Third Space 'from which other positions emerge' (1990b, p. 211). He expands on this by bringing to the fore a conceptualisation of cultural hybridity which he describes as a fusion of the Third Space and hybridity, Bhabha (1990a, p. 216). Using the above theoretical studies as a basis for a formative, summative and reflective analysis for myself as a teacher who is trying to produce positive and productive outcomes in Academic Writing for students who come from multifaceted backgrounds, I construct my methodology of 'Strands of Knowledge'.

Methodology of Strands of Knowledge

'Strands of Knowledge' (Kumar, 2003; 2004) is a metaphor of strands that are carefully woven on a spatial backing of tapestry to produce a visual space of continuous perceptions and insights. As the image of a tapestry suggests, strands of knowledge that are particular to an area can be added to or substituted or replaced. This methodology allows the use of relevant methods or tools in analysing data from similar bodies of knowledge. Thus, in this instance, it can be combined with New Knowledge Systems and Postcolonial Theory to construct especial 'strands of knowledge' to allow a reflective awareness of how students perceive Critical and Cultural Literacy. As a focus of my exploration in this chapter, I apply the concepts of historicality, languages, cultural hybridity and agency from the above two bodies of knowledge to create my 'Strands of knowledge'.

Historicality

In approaching Critical and Cultural Literacy, I find that I need to be aware of two areas of learning for my students. One is to firstly take note of their multi-faceted historicality. The second is to see how that historicality is received. Both these aspects set in motion the 'wheels' so to speak, for their positive Academic Writing. The reason for exploring historicality stems from colonisation and postcoloniality when a particular form of discourse had been implemented for both International and Australian Aboriginal students. Historically, the presence of International

students in Australia began with the Colombo Plan (Kumar, 2004; Kumar & Pattanayak, 2010). Through a series of strategic moves on the part of the Australian government, to initiate the entry of international students into Australia as a form of aid and then as a hub of learning to provide economic gain for Australia, education as a trade, was set up for students from mainly the South-East region. The most recent figures from the Federal Government show that there are 554,179 full-fee paying international students from the South-East Asian region (Doyle, 2017). This indicates the impetus of the various forms of Critical and Cultural Literacy that teachers need to be aware of in their teaching.

The historicality for Australian Aboriginal students also has a political agenda. The origin for this lies in the colonisation of Australia by British and European settlers. The students in this exploration are linked to the establishment of the first Australian University which was established in 1850 (Kumar & Page, 2016). However, political and social challenges thwarted the accessing and completing of higher education for Aboriginal students. It was one hundred years later in 1850 that the first Aboriginal person graduated with a degree (Perkins, 1975). After undergoing a series of Reviews, in 1957, 1976 and 2006 (Kumar & Page, 2016), a mixed- mode program of teaching that combined short-on campus teaching with longer periods of off-campus and distance education was implemented in educational institutes that were targeted towards the education of Aboriginal students.

For both these groups of students, a reflexivity of teaching has shown that for Critical and Cultural Literacy to be progressive, a dialogic rapport has to be built initially, between the teacher and the student. I note that there is a particular reason for the students expecting dialogue from the teacher before attempting any form of academic writing. Here, the intention of the student is to position the writer (his or herself) and the reader (the teacher) in the Academic Writing task that they are assigned.

This first step in their writing, which I term 'backgrounding' is a necessary preliminary stage in understanding how the students will approach their Academic Writing. The 'backgrounding' is to build, a spatial positioning of historicality. This happens before the two groups of students under my tutelage actually attempt the academic writing task. For example, when a student is faced with an essay question that begins: 'what is…' a number of students become confused. This is because historically the literacy of their culture vis a vis *cultural literacy* (my italics) needs to be inserted into their writing as part of their historical space before any such question can be answered.

For Australian Aboriginal students, this can be in the form of outlining their Nation and their Country (use of capitals here in 'Nation', 'Country' 'People, Community and 'Clan Group' is explained under 'Languages' below) and where and how they are positioned within it. For example, the student will position him/ herself by writing: 'I am a (name of male or female) from a particular Nation or Language group belonging to a particular People and Clan Group. They will then trace their bloodline from both parents, history and Country before aligning themselves to the present. In outlining this, they also show their connection with their Aboriginal history and Spirituality, all the while, keeping their cultural focus and how it relates to their academic writing.

Before attempting their Academic Writing, the group of International students that I teach would like to hold a dialogic consultation with myself. They will then explain what

country they are from, for example, 'mother Indonesian, father Chinese Malaysian'; 'second-generation Singaporean citizen, Tamil, from Sri Lanka'. They will then explain what education system(s) they have experience of, for example, 'had a British system of education, but the Cantonese language was used to explain it'; 'private school in Malaysia'; 'Christian Secondary School'; Christian, Islamic and Hindu schools. Sometimes their primary education was conducted in a mother tongue, for example, 'Bahasa Malayu'; 'Vietnamese'; 'Indonesian' 'Mandarin'. They will then discuss how this has influenced their Academic Writing. An important aspect of this consultation is their necessity to explain to the teacher, their level of the command of the English language in their Academic Writing. This is outlined further under 'Languages' below.

Languages

For Australian Aboriginal students, the conceptualisation of Languages takes on a significant perspective of linguistic structure. Differing Australian Aboriginal and Torres Strait Islander communities are defined by the term NATIONS (my use of capitals) (Kumar, 2016, p. 56). Further to this, according to Welch (2018), NATIONS in Australia are really 'language groups' as determined by tradition, customs and values passed down from one generation to the next. Past history indicates that at the time of European settlement, there were over 250 Indigenous Australian language groups (Australian Institute of Aboriginal and Torres Strait Islander Studies, 2018).

There are particular features of Academic Writing that need to be conceded to, in the academic writing of Australian Aboriginal students. In their use of the standard English language, the grammatical form of the article: 'a', 'an' and 'the' is absent in the conceptualisation of particular terms such as: Country, Nation, Community and People. This is because these concepts show a functionally important purpose of Aboriginal history. This was when the terms of 'Country', 'Nation' and 'Peoples' depicted entities of Clan Groups within the land mass within which they had built their livelihood. The Clan Group may not be linked to any other Language Group, that may be residing on the land mass, hence, the coinage of the term 'Country', 'Nation' 'Community' and 'Peoples' depicting the land area they occupied as a single, unique entity. This entity was holistic in that it was interconnected to Land, Spirit, People and a Language Group. This is in contrast to a contemporary definition of what is known today as the continent of Australia. Today, all the Nations of the land mass are linked to a Federal Government which is generally Western in its educational approach. Another example of equal importance is the use of the double plural, for example, the use of the term *'Peoples'* instead of *'People'*.

I also take note of oral tradition in Australian Aboriginal culture as it plays an important part in the way knowledge is transmitted and encoded. A telling comment from a student, in relation to a Western discourse in academic writing, which I am aware of in my reflexivity of teaching, is: 'the way this is written down is not the way my People think'. In the delivery of teaching, a teacher needs to be both critically and culturally aware of these factors as there are two modes of teaching being depicted here. For example, feedback from Aboriginal students has shown that sending written flyers or notices to a Nation, vis a vis a Language Group, which

communicates through Oral Literacy, can be insulting and may lead to ostracism of the individual from Country.

Conversely, empirical evidence (Kumar, 2004; 2011) and experiential teaching has shown the positive effects of rote learning for international students. This is done alongside a process of applying particular academic skills which in a number of cases leads to mastering critical literacy. Particular strategies that lead to this outcome are: firstly, to build a 'bank' of vocabulary in the English language that relate to the topic or statement that is to be discussed. Secondly, it is to decipher the meanings of the vocabulary. Thirdly, it is to differentiate the subtleties of meaning and engage in short critical thinking writing exercises, so leading to an analysis of the literacy.

As a result of the effect of colonisation, postcolonialism and its aftermath, both international and Australian Aboriginal students are multilingual in various ways. Generally, for Australian Aboriginal students, this becomes evident from the Language Groups. For international students, this becomes evident through speaking different languages, dialects, creole and or the vernacular. Overriding their speaking and communication in the many repertoires of languages is the importance of knowing the English language. Both groups of students have undergone the learning of English to a particular level of competency. Moreover, there are particular types of English that are both spoken and written. These may include Aboriginal English, British English, Indian English and Singaporean English.

Also, of importance to my teaching, is that dialogic consultations with International students show that there is blending in the meanings of mother tongue, first language and second language in relation to the English language. According to Kumar (2004, p. 142) 'it is relevant to note at this point that in language learning, mother tongue and first language is said to be the language spoken by the parents. Usually this is racially and culturally oriented in that the mother tongue and first language arise from race and culture. Second language is the language learnt in a formal process of educating one to speak in a particular language'. The students however, feel the need to make a further differentiation as noted from the following examples. A student from Singapore said that English, was his/her first language. However, he/she spoke the general Chinese language in school and Hokkien at home. A student from Sri Lanka said Sinhala was her/his first language but at home they always spoke English. An Indonesian student said his/her first language was Indonesian and English. A Chinese student said that Chinese and English were his/her first language.' Other students associate the term 'first language' with a formal learning process. They regard English as another first language but one that was learnt at school. It is noticed that the range of the languages they converse in and use, form their worldview.

Cultural Hybridity

For the group of students that are the focus of this discussion, cultural hybridity is a springboard of a colonised history where the students' educational, social and cultural systems operate through a sync that is multifaceted in a structure that is both culturally based and western oriented. I liken the students' cultural hybridity to Bhabha's (1994, p. 26) discussion of it being 'a translation that shows a transference of meaning'.

For example, a noteworthy insight from both groups is that the students want to be recognised in all their differences in correlation with the differences present in the diverse group of individuals that form part of their class. I again, liken this to Bhabha's (1990a, p. 216) description of cultural hybridity as a new area of negotiation of meaning and representation. The students see the classroom as a space to negotiate issues and subsequently reach productive outcomes. In the process 'negative polarities between knowledge and its objects; between theory and reason are reduced' (Bhabha 1994, p. 25).

Additionally, empirical evidence (Kumar, 2004) from International students show that knowing another culture's values are important. An influential point from a student that summarizes what the group means is 'what is the point of living in a diverse society if you cannot understand another person'. An important factor of relevance here is that the students say that being aware of the values of other cultures makes it easier to see themselves as it gives them better perceptions and 'opens up their minds' (Kumar, 2004, p. 135).

With Australian Aboriginal students, cultural hybridity recognizes the ownership of knowledge as belonging to a Community and Nation rather than to an individual. Related to this is a negotiated process of discussion in the form of 'Yarning Circles' (Department of Education, Training and Employment, 2018, p.1-2) before a decision is operationalised. An integral part of this process is the many ways in which protocol has to be maintained, as respect and values for every individual must be acknowledged, maintained and followed in written literacy.

Formative and reflexive teaching has shown that acknowledging and recognising differences through a positive approach becomes an avenue for new knowledge and information to be implemented. This can be brought about by applying the strategies of cultural hybridity where there is reworking of the principles of teaching, to make them part of the daily learning for a class. Crucial to this exploration, is the fact that in both the groups of students, there is the accommodating of cultural borders and boundaries.

Agency

Agency as used in this chapter is the empowerment of the student to take action in their Academic Writing through the mentoring and guidance of the teacher. I have shown aspects of how this type of agency can play a part in historicality, languages and cultural hybridity. Experiential teaching has shown that also prevalent is another agency. This is an empowerment of Self for the student through the use of names and naming. Another contention made in addition to the one outlined above, where I stated that, at a global level, students from multifaceted educational, cultural and social backgrounds have had their Critical and Cultural Literacy subsumed in the standardised form of Academic Writing, is a further one, that is evident at the local or classroom level. This is that the way names are perceived, handled, spoken and written down makes students an agency of their learning. Every student that enters a class comes in with a name. Of especial significance, is how well these names are received by the participants in a class. Teaching of students from multifaceted backgrounds has shown that their names are influential signifiers of their culture (s) and their background. It denotes their positioning and place within a society's structure. I further explain this with data. Some

students say that the way their names are pronounced, makes them a laughing stock of the class because it connotes a derogatory meaning (Kumar & Pattanayak, 2010). Encapsulated in the thoughts of one student are the comments of a group as seen from the following. The student was told that he/she had to take an Anglicised name because the teacher could not pronounce their particular name. Experience has shown that the method by which names are handled and/or articulated can have either a positive or negative impact on the student's approach to the way they learn. This is impacted on the learning of both Critical and Cultural Literacy as much of what is taught in these areas requires an embodiment of the holistic being of the student. This embodiment is encompassed within the name with which a student enters a class.

Standard Activity to Help Students Understand Critical and Cultural Literacy Through the Key Concepts of Historicality, Languages, Cultural Hybridity and Agency

This activity can be used in any class in that it can 'reticulated' according to the English language competency of the class. This may take 3-5 sessions.

1. Students draw a chart of the number of students, cultures and languages that are present in an Academic Writing class. This can be in the form of a matrix, concept map or in the form of tables.
2. Students are grouped with a partner from another culture from the chart.
3. The partners network for half an hour together and then introduce each other to the rest of the class outlining who the person is; where they come from; their hobbies, interests and their future aims, goals and aspirations from being in the class.
4. Each student then writes a 100 - 250-word essay titled 'Who am I', outlining who they are; where they come from; their hobbies, interests and their future aims, goals and aspirations from being in the class and interacting with the students. This exercise may involve a draft and final copy.
5. All the students' writing is then put on a chart for the rest of class to read.
6. Question time. The students ask questions of their classmates in relation to what has been put up.
7. Cultural Event. Each student dresses up in a cultural costume and brings a cultural dish to share with the class. They share their recipe with the class. The recipes are bound together. Each student gets a copy of the Cultural Recipe Book to keep.

Outcomes

The students have familiarised themselves with the concepts of historicality, languages, cultural hybridity and agency by achieving the following outcomes.

1. Interact academically with another student from another culture and do some Academic Writing describing their partner.

2. Do some Academic Writing about themselves by following the structure outlined in Number 4, above.
3. Know the students in the class from the write- up presented on the charts.
4. Have class ownership with the collating and binding of the recipes.
5. Form social and cultural friendships with one or more students.

The following are the outcomes for the Teacher

1. Assesses the Critical and Cultural Literacy of the students through their writing.
2. Establishes the academic thought patterns and structure of writing through: the linguistic terminology, sentence structure and vocabulary of 'Who am I'.
3. Builds a dialogic rapport with the student in relation to their Academic Writing.
4. Structures short exercises to help students reach their capacity in Academic Writing and so lead to higher levels of Critical and Cultural Literacy.
5. Develops a feedback chart to see how students understand historicality, languages, cultural hybridity and agency as leading to Critical and Cultural Literacy.

Summary of Main Ideas

A summary of the chapter has presented the following.

1. A reimaging of the teacher and the student by:

    a. Asking three questions which lead to:

    - types of 'Englishes' that are difficult for interlocutors to understand,
    - negative reflection on student's level of literacy, and,
    - impact of student's cultural, educational and social background on Academic Writing.

    b. Reasons for an autoethnographic, formative, summative and reflective positioning.

    c. Contextualising the complexity of the student's composite educational, cultural and social background.

2. Literature review of Critical and Cultural Literacy.

3. Alignment of New Knowledge Systems and Postcolonial Theory with Academic Writing.

4. Methodology of 'Strands of Knowledge' to review Critical and Cultural Literacy through concepts of historicality, languages, cultural hybridity and agency.

5. Standard Activity to help students understand Critical and Cultural Literacy through the key concepts of: historicality, languages, cultural hybridity and agency.

Conclusion

In this chapter, I explored the precursors of Critical and Cultural Literacy in Academic writing for students who come from multifaceted educational, cultural and social backgrounds. I showed how the present trend in improving Critical and Cultural Literacy was reactive. I showed how this could be overturned into a proactive measure by applying the key concepts of historicality, languages, cultural hybridity and agency through the disciplines of New Knowledge Systems and Postcolonial Theory. Taking into consideration, the impact of globalisation and the diversity of students within a classroom, I showed how the use of these bodies of knowledge and key concepts when applied through a 'Strands of Knowledge' framework could be used as an exemplar of best practice in the teaching of Critical and Cultural Literacy through Academic Writing for students from multifaceted backgrounds. In outlining this approach, my intention is to extend an invitation for collaboration, dialogue and further research to improve practice.

Post-Reading Questions

1. When the author says that the world has turned into 'a global village' she means:

   A. the world has reduced in size.
   B. the world only knows some people.
   C. knowledge can be shared by everyone in the world.
   D. people from different parts of the world are connected through movement, cultures and systems.
2. When there is a diversity of students in a class, there will be:

   A. students who speak different languages.
   B. students from many cultures.
   C. students who have differing levels of English.
   D. all of these.
3. The implication in the expression 'teach students to adhere to a standardised form of Critical and Cultural Literacy' is:

   A. there is only one form of critical and cultural literacy.
   B. there are many forms of critical and cultural literacy that are taught.
   C. there is only one form of critical and cultural literacy that students are taught.
   D. there is no form of critical and cultural literacy that is taught.
4. According to the text, the purpose in using the formative, summative and reflective pathways is because:

   A. the teacher is teaching and learning at the same time.
   B. the teacher is forming opinions.
   C. the teacher is summarising issues.
   D. the teacher is reflecting on what the student said.

5. In using the formative approach, the teacher is empowering students by:

   A. providing student self-assessment and reflection.
   B. providing a new order of conceptions leading to new modes of practice.
   C. providing teacher learning and productive outcomes.
   D. none of these
6. In applying an autoethnographic approach, the teacher is a

   A. participant in the productive outcomes for the student.
   B. not a participant in the productive outcomes for the student.
   C. applying other people's experiences for student outcomes.
   D. using other students' experiences to help a student.
7. The narratives that the author uses in her teaching are:

   A. teaching and advisory experiences.
   B. empirical data and autoethnographic reflexive experiences.
   C. historical review of literature.
   D. all of these
8. The reason for using a 'discursive positioning' is to:

   A. maintain silence in the class.
   B. engage students in an academic and professional discussion.
   C. allowing only one student to talk in class.
   D. having other teachers teaching in the classroom.
9. When the author says that she is looking for trajectories to 'more diverse intellectual engagements'' (Ref. Pathak) she is:

   A. looking for pathways to engage students in work experiences.
   B. looking for different ways to engage students in their academic learning.
   C. looking for pathways to support the school.
   D. looking for pathways to engage the community in student experiences.
10. In contextualising students in relation to Academic Writing, the author is trying to show that:

    A. students do not know how to approach Academic Writing.
    B. students bring unique contributions to Academic Writing.
    C. students can only be taught Academic Writing if they are a uniform group.
    D. students will not understand Academic Writing.
11. In her exploration of Australian Aboriginal and International students, the author has shown that factors that play an important part in Academic Writing are:

    A. childhood experiences.
    B. history, diversity and complexity of educational, cultural and social backgrounds.
    C. analyses of theses.
    D. a reflexive, self- analytical approach.

12. The traditional definition of literacy being only able to read and write has been expanded to include:

    A. the difference between literacy and orality on 'problems' of acquisition.
    B. use of language (s) symbols and various forms of technological devices to convey information.
    C. produce a cognitive disposition for individuals who were able to read and write.
    D. all of these
13. Paulo Freire and Macedo have defined Critical Literacy as a way of 'reading the world'. By this they mean:

    A. marginalising groups of people.
    B. deconstructing the power structures and the way we play our roles within it.
    C. helping those that are in power to stay in power.
    D. disempowering education and culture.
14. The message elicited from the writers who discuss Critical Literacy is that:

    A. Critical Literacy is a finite entity.
    B. Critical Literacy leads to incorrect forms of knowledge.
    C. Critical Literacy is a non-finite entity.
    D. Critical Literacy should not be taught.
15. The author refers to Cultural Literacy as a form of cultural capital. By this, she means that:

    A. Cultural Literacy brings different cultures together.
    B. Cultural Literacy enhances relationships within communities.
    C. Cultural Literacy helps a participant to be comfortable in various cultures.
    D. all of these
16. In the text, Indigeneity refers to:

    A. the processes of one particular cultural group.
    B. the processes through which cultural groups have preserved the customs and traditions of their ancestors.
    C. the processes through which cultural groups are marginalised.
    D. the processes of modernising traditional cultures.
17. Postcolonial Theory shows how language:

    A. is connected to location, interpretation and context.
    B. is overtly displaying all knowledge.
    C. is foregrounding only agency.
    D. is marginalising all groups.
18. The main aim of the 'Strands of Knowledge' methodology is to:

    A. show the number of strands that are used to construct this methodology.
    B. show production of a visual space of continuous perceptions and insights.

C. show how a combination of New Knowledge Systems and Postcolonial Theory allows a reflective awareness Critical and Cultural Literacy in Academic Writing
D. Show a spatial backing of tapestry to understand Critical and Cultural Literacy.

19. In her use of the term 'agency' in reference to Australian Aboriginal and International students, the author has outlined the following agencies.

A. Indigeneity, tradition and Postcolonial Theory.
B. New Knowledge Systems, Indigeneity and Critical Literacy.
C. Cultural Literacy, Re-imaging the teacher and Strands of Knowledge
D. Cultural hybridity, Languages and Historicality

20. In the use of the term 'agency' with reference to the 'names and naming' of students, the author is saying that:

A. names are influential signifiers of students' cultures and backgrounds.
B. the method by which names are handled in a classroom can have either a positive or negative impact on the student's approach to learn Academic Writing.
C. correct use and articulation of names empowers the student to take positive action in their Academic Writing through the mentoring and guidance of the teacher.
D. all of these

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Chapter 15: Language and Culture in Global Literacy

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Introduction

The Western conception of education has dominated education theories and practices worldwide. In Africa, the Western approach conflicts with a long tradition in which children learned community knowledge and history through informal learning with adults in their community. The imposition of a Western-shaped curriculum, using a hegemonic alien language is at odds with African learning traditions (Babaci-Wilhite et al, 2012a; Babaci-Wilhite, 2017). Further, the focus on literacy as the crucial aspect of education has, unwittingly, contributed to degrading African indigenous knowledge systems, to say nothing of the use of African languages (Mchombo, 2014). The problem arose from the implementation of literacy as central to formal education in Africa, against the background of colonialism. The continued use of English, French and Portuguese for educational purposes in Africa monopolizes the control of national educational policies and goals. This article explores the need to incorporate local learning and a local language of instruction (LoI) within local curriculum in Africa.

In January 2014 the cultural agency of the United Nations issued a report that amounted to an indictment of education standards in the world. The report pointed out that a quarter of a billion children worldwide are failing to learn basic reading and mathematics skills in an education crisis that costs governments $129 billion annually. The dismal observation about education in sub-Saharan Africa was that four out of ten African children 'cannot read a sentence'. In this article, we argue that the prevalence of policies that impose the use of foreign languages as LoI in Africa undermine progress in learning. Foreign languages should be taught as foreign languages for mobility. Local languages and local curriculum need to be valued and children need to be prepared in order to be reflective, critical, knowledgeable and mobile in the world (Babaci-Wilhite, 2014).

Local Languages and Local Knowledge in Schooling

At the onset of independence, African leaders had not only reviewed and rejected the logic or rationale of colonialism, but they also made efforts to re-assert the centrality of their languages and cultures to their societies. The linguistic plurality and diverse ethnicity of African countries is a topic that has received much commentary (Mazrui & Mazrui, 1998), and has led to different strategies for the adoption of languages as national or official. The most celebrated is the story of Kiswahili that spread as trade and commerce made inroads into the East African interior from the coastal areas (Mugane, 2015). Kiswahili gained the status of a *lingua franca* thus, with political backing, was poised for promotion not only to the status of national language (Brock-Utne, 2000) but, also, as one of the official languages of Tanzania, Kenya and Uganda, as well as the African Union. Kiswahili became the LoI in primary schools under the leadership of the late Julius Nyerere, the first president of Tanzania. Nyerere was elected President of Tanzania in 1962 and retained the office until his retirement in 1985. He was called Mwalimu (teacher), since he was a well-respected teacher with a strong vision of education and social action.

One of the key objectives of President Nyerere´s development strategy for Tanzania was to ensure that basic social services were available equitably to all members of society. Nyerere was the first Tanzanian to study at a British university and to obtain a university degree outside Africa. He questioned the concept of schooling and understood that colonialism had based the schooling systems in their colonies on "western" educational curricula and concepts. His idea was to rethink the idea of basic schooling in an African context. The collectivisation of agriculture, villagisation (Ujamaa) was a part of his political vision and incorporated his educational philosophy for Tanzania. Ujamaa really means "familyhood" and can be translated as African socialism or socialism built on African roots. One could even view it as the harbinger to the current philosophy of Ubuntu (Enslin & Horsthemke, 2004). He wanted the whole nation to live as a family and to work together towards a common objective. He instituted a unique blend of socialism and a communal-based life (Nyerere, 1967). This vision was set out in the Arusha Declaration of 1967 with his view of Education for Self-Reliance (ESR). According to Nyerere, knowledge should help citizens to achieve respect and freedom. But which kinds of knowledge do we recognize as important in the society? Nyerere believed that various forms of local knowledge were important, a view that the philosopher of science, Paul Feyerabend, equally championed. He maintained that "Knowledge is a local commodity designed to satisfy local needs and to solve local problems; it can be changed from the outside, but only after extended consultations that include the opinions of all concerned parties" (Feyerabend, 1987, p. 28). Nyerere was convinced that the classical, European style education that had been instituted by the British did not account for this importance of local knowledge (Nyerere, 1967). In the education sector, his new goals for education were translated into the 1974 Universal Primary Education Movement: to make primary education universally available, compulsory and to be provided free of cost to users, to ensure that it reached the poorest segments of the population (URT, 2009).

The situation was decidedly different in the neighboring country of Malawi. There, Chichewa, a dialectal variant of Chinyanja, was elevated to national language because it was the

language of President Kamuzu Banda's ethnic group, the Chewa (Mchombo, 1998, 2017). English retained the status of official language. Post-apartheid South Africa, in contrast to those two cases, addressed the language issue by declaring eleven official languages, nine African languages from its nine provinces, plus English and Afrikaans (Roy-Campbell, 2006, Desai, 2006). The national language policies of most of the other countries fall somewhere in between, with the colonial languages largely retained as official languages. This was retained despite obviously noticeable difficulties with the language. Recognition of problems with comprehension of English texts became evident when, in the early 1960s, Longman Publishing Company issued simplified versions of English literary works for non-native readers. The preface to the initial releases in the Longman Simplified English Series, explaining the rationale for the series, opened with a rather blunt statement. It said something along the following lines: "English books are written for the English, those who have spoken English since they began to speak, and have read English since they began to read. They are not written for the bilingual foreigner".[91]

The preface remarked, further, that the foreigner would not appreciate the content due to lack of proficiency in the language emanating from inability to handle the complexities of English grammar accompanied by severe limitations in knowledge of English lexis. The objective of the simplified series was to make the material accessible to the said foreigners. With regard to the content of the curriculum there were minor adjustments that did not radically alter the existing syllabuses. In Zambia, the move was to reform the educational program so that education could be instrumental to the development of the country. The program that was enunciated was that of Education for Development (Banda, 2008). Development, as it turns out, is a rather loaded term that, ironically, has been instrumental in undergirding arguments for the retention of English in African education, through appeals to the role of English in Science and Technology and, in turn, the role of those in development. Thus, in Malawi, in order to combat perceived falling academic standards, and acknowledging the centrality of English to, especially, Science, Technology, Engineering and Mathematics (STEM) education and development, the Malawi Government issued an Education Act in 2013 that states in section 78 that "(1) The medium of instruction in schools and colleges shall be English" Following on that the Education Act spells out a caveat, in the following words: "(2) Without prejudice to the generality of subsection (1), the Minister may, by notice published in the Gazette prescribe the language of instruction in schools" (Malawi Government Education Act of 2013, p. 42). This clearly rules out the use of African languages as LoIs.

The enterprise of educational reform in Africa has been two-pronged. On the one hand, there is the question of LoI or, rather, whether the use of foreign, colonial languages remains defensible in the education of African children and youth. Secondly, there is the issue of content. What should the curricula consist of and to what extent, and how, should African cultures and African Indigenous Knowledge Systems (AIKS) be incorporated? The issues constitute part of the narrative about democratic practice and the institution of basic rights in education (see Babaci-Wilhite, 2013). In the Education Act of 2103 of the Malawi Government, section 79 spells

[91] One of the authors has not been able to secure a copy of a book that has the exact wording of the introduction. This reproduction is from memory of his days in high (secondary) school.

out in plain language that the government would control the content of education. The section states that "The Minister shall exercise supervision and control of the instruction given in all schools or colleges to which this Act applies and may control the course of instruction in any schools or colleges or category of schools by prescribing the syllabus which shall be followed in the school or college or category of schools or colleges (op. cit., p. 43)". In brief, education, in both content and LoI, is determined or controlled by the government. Thus, educational reform has to be addressed by the government, as a crucial component of the incorporation of democratic practice and the institution of basic rights in society.

Language in the African Context of Learning

The advent of the written representation of language profoundly affected humans' ability to preserve knowledge. It is easy to gain access to the system of beliefs that constituted Greek mythology because of the written records that have survived. Indeed, some of the major "modern day" religions such as Christianity and Islam, like much of knowledge in science and the humanities, owe their accessibility and diffusion to their preservation in the written form. The current state of knowledge in the domains of history, culture, legends, religious beliefs, scientific developments and technological advancement, is dutifully facilitated by the availability of the information in the form of written material.

Unfortunately, this has sometimes led to an unwarranted conflation of knowledge acquisition with literacy. Furthermore, to the extent that knowledge and its acquisition are identified with education in general, the inevitable conclusion is that education is to be identified with literacy and the acquisition of the knowledge represented in, primarily, written forms. This conclusion is unfortunate, especially for education in Africa. The written representation of language is but one medium. There is a crucial distinction between language and medium (Abercrombie, 1967). Language resides in the patterns that the sounds or the markings on paper or variants thereof represent. Those sounds or markings constitute the mediums for linguistic representation. They are different, and they appeal to different cognitive skills for production, perception and processing. Every society has a spoken language but only some societies had their languages reduced to written form. Speech is part of the biological endowment of humans, a human birthright. On the other hand, writing is a social skill, not a biological attribute. As such "every normally developed person in a society that uses writing learns to speak, but not all learn to read and write" (Connor-Linton, 2006, p. 402). It is this social skill that came to define 'literacy'. Only some forms for human communications have had writing systems or orthographic conventions developed for them. In Africa, while some languages had been represented in written form too (Prah, 2008), most of sub-Saharan Africa remains preliterate. Still, knowledge is independent of the medium of knowledge acquisition and, while it may be facilitated by the permanence that the written form represents, it is not crucially dependent on or determined by, that medium (Bruce, 2013). Just as linguists distinguish between language and medium, there is a distinction between form and content with the usual observation that the connection between the two is indirect, mediated by various rules or principles, collectively referred to as "grammar". The study of grammatical structure has been central to linguistic

investigation and linguistic theory in recent linguistic scholarship (Chomsky, 1981; Bresnan, 2001; Mchombo, 2004).

The unfortunate aspect of this conception of education, where it is identified with literacy, is that it has relegated the oral transmission of knowledge, and the education that is imparted in that format, to the status of inferior or non-existent. The knowledge systems that are transmitted through oral presentation, lacking specific authorship and intellectual property rights or copyright protections, do not receive the recognition that is preserved for the knowledge embodied in written literature. The tradition of literacy has even impacted the characterization of 'language' and 'literature'. For instance, Nurse & Hinnebusch (1993) report the following view about the distinction between 'language' and 'dialect': "One would define language as national and dialect as local. A second defines language as the standard, written form; dialect as the nonstandard, substandard, or unwritten form" (Nurse & Hinnebusch, 1993, p. 37).

The characterization of language as "the standard, written form" exacerbates the situation through the conventional implication that unwritten (or recently written) languages are less than languages, charitably referred to as "dialects", a term that, for society at large, is imbued with connotations of lack of political and/or economic empowerment, or intellectual acuity. The less charitable reading takes the term 'dialect' as connoting 'primitive', characterizing signals for communication that consists of 'squeaks and jibbers', totally lacking in grammar (July, 1992). The term 'literature' fares no better. In fact, the written tradition has influenced its very definition. The fifth edition of the American Heritage Dictionary of the English Language characterizes 'literature' as follows: 1. The body of written works of a language, period, or culture. 2. Imaginative or creative writing, especially of a recognized artistic value. 3. The art or occupation of a literary writer. 4. The body of written work produced by scholars or researchers in a given field. Thus, 'literature' has to do with written material. Conversely, the body of knowledge that constitutes legitimate matter for education must be that which is accessible in written form. Alternative systems of education or embodiment of knowledge either do not exist or their existence requires lobbying.

This characterization of language and literature is, unfortunately, too narrow. Knowledge systems are, technically, independent of the medium used for their preservation or transmission. For instance, languages embody systems of knowledge that have cultural significance and practical utility. Their transmission in oral form has characterized the forms of education for all, practiced by various societies where mastery of the norms, values, practical skills, is central to the upbringing of the youth. Fafunwa (1974) made the point forcefully in the observation that: "Every society, simple or complex, has its own system of training and educating its youth. Education for good life has been one of the most persistent concerns of men throughout history. What may differ from place to place, nation to nation, or people to people are goals and the method of approach" (Fafunwa, 1974, p. 17).

The observation here is that many societies and, until the advent of the writing systems, virtually all societies engaged in education through the medium of oral transmission of knowledge. The independence of knowledge systems from the medium is accompanied by the observation that human systems of communication, languages in brief, are comparably complex in their grammatical structure. The intrinsic presence of grammar in human language means

that education need not be identified with any particular medium, any more than it is better suited to specific languages. This does not, in any way, reduce the importance of the medium with respect to its utility in long-term preservation of knowledge, a property that correlates with reduction in dependency on human memory and the vicissitudes of that, not the least of which is the (untimely) death of the knowledge bearers.

Language, Science and Technology in Education

A particularly persistent view is that advocates of mother tongue instruction merely engage in obfuscation of the problem. The subterfuge has been to recast the issue in the form of claims that it is not that African languages could not be used as languages of instruction. They may indeed be good for poetry, singing and some kinds of conversation. Rather, it is simply that they are not suited to science, mathematics, and technology. Rugemalira et al. noted that the appeal to this view, with regard to the suitability of Kiswahili in education, is the observation that "a major objection to Kiswahili has traditionally been the supposed inadequacy of the language with regard to technical terminology…and, further, that the language does not have the same international role as English…" (Rugemalira et al., 1990, pp. 30-31).

The inadequacy of African languages in the expression of knowledge embodied in science, mathematics, and technology is, really, more of an unsubstantiated axiom than anything that derives from empirical studies or theoretical validity. It is simply a conclusion based on the history of education in Africa, itself imbued with all the colonialists' prejudicial views about Africans (Brock-Utne, 2000; Babaci-Wilhite, 2015).

Science and Mathematics in particular, require the acquisition and coordination of three kinds of knowledge: *Conceptual Knowledge*, *Procedural Knowledge* and *Utilization Knowledge*. These comprise, respectively, "the ability to understand the principles that underpin the problem; the ability to carry out a sequence of actions to solve a problem; and, the ability to know when to apply particular procedures" (Cole & Cole, 1993, p. 482). Cole and Cole (ibid) further note that "…most children arrive at school with some of each kind of knowledge, and cross-cultural research reveals that even societies with no tradition of schooling and literacy use methods of counting and solving arithmetic problems…" (ibid). Clearly, the early acquisition of such knowledge is not dependent upon the child's exposure to a foreign language (Kalinde & Banda 2016; Mchombo 2018).

The statement about the international role of English, a quality that has given English its global appeal, merely spells out its importance in international communication, highlighting the advantages of gaining functional literacy in it. English is perceived as the language of power, lending itself to language politics that get intimately connected with economics and resource planning. The profile of English as the global language and language of power does not, in and of itself, constitute a valid argument that African languages are unsuitable for instruction. It serves the politics of power and elitism, acting as the "gatekeeper" for access to the realms of power and economic advantages, rather than to the purpose of education (Mtenje, 2002, Brock-Utne, 2012; Babaci-Wilhite et al. 2012b). The perennial negative results and lackluster

performance of the non-English speaking students who learn in English is ample evidence of its unsuitability as LoI.

African Knowledge in African Schools

Educational systems in Africa have largely been grounded in the history and ideas of western civilization. A good example is that attention is given in teaching to the rivers and mountains of Europe and America, with little, if any, attention given to African rivers and hills well known to African students (Nyerere, 1968; Warren et al., 1995). The near total exclusion of African studies in schools and colleges led to a reaction referred to as African "renaissance", spurring the rhetoric of self-government, independence, and equality. Africans began to ask how they could promote their values when knowledge acquisition remained oriented to that of foreign cultures, values, and systems of government, history, and literary traditions? This foreign-based educational program effectively lent credence to the view that African knowledge systems, religious beliefs, cultural traditions, values, history, legends, and literary traditions were all inferior. Commenting on the curriculum of the literature course at the University of Malawi during the 1970s, Moto makes the following, rather pointed criticism: "There was an obvious leaning toward the continued maintenance of the colonial legacy, seen in the promotion of foreign literature by such novelists, poets and playwrights as Jane Austen, T.S. Eliot and William Shakespeare. This is not to say that there is anything wrong in teaching and learning European literature, but in my view, it is not acceptable to teach and learn a foreign literature to the total exclusion of one's own literature in one's own university, and one's own country of birth" (Moto, 2009, p. 146).

To redress this imbalance there have been efforts in recent years to have the curricula reflect local knowledge. For instance, at the University of Nairobi scholars like Kimani Gecau, Micere Mugo, Ngugi wa Thiong'o and others tried to establish studies of African literature. The idea of Education for Self-Reliance (Nyerere, 1968) or Education for Development has led to the engagement of African scholars in investigations of their cultures and technical knowledge, as well as traditional religions and literary arts, all of which had thrived in oral tradition. Drawing upon on-going discussions of the issue, Banda (2008) has come to advocate the incorporation of AIKS into the curriculum to counterbalance the Western influence. Banda (2008) envisages a curriculum that would constitute a "hybridization" of the two systems of knowledge, the African Indigenous Knowledge Systems (AIKS) and the "World Knowledge Systems" (WKS). Building on previous scholarship on the content of African education (Pottier et. al., 2003) he seriously challenges educationists in Africa to address the question of Education for All (EFA). There are two aspects to the lobbying for AIKS in the curriculum. The first is that of being 'reactionary' in that it aims to counter the dominance of Eurocentric knowledge systems. Seepe (2000) states this as follows: "The African Indigenous Knowledge Systems is a counter-hegemonic discourse in the context of African renaissance. This discourse is a reaction against a Western, colonial discourse that completely dismissed African indigenous knowledge systems, as they were posited in reductionist terms and relegated to the realm of insignificance" (online).

Emeagwali (2003) supports this view. She decries the disinformation embedded in Eurocentric colonial and post-colonial education that includes the selective omission of non-

European achievements, inventions and technologies. The other aspect to AIKS is non-reactionary. It is grounded in the realization that ordinary life in the villages provided an education for all. The knowledge acquisition involved learning technical skills that were task-related as well as general cultural values, legends and history of the society, religious beliefs and practices, sacred symbols or objects, power relations and societal organization for administration, literary activity (songs of different genres, riddles, proverbs), etiquette, food production, environmental and ecological conservation, modes of politeness, the nature and determination of one's role and responsibilities, as well as socially constructed gender roles and more**..** The education included knowledge in specialized domains that contributed to continued survival and increased prosperity of the society. This related to knowledge in such fields as animal husbandry, metallurgy, meteorology, medicine, agriculture, and geography. Such informal education has the characteristic of coding the knowledge systems in a non-compartmentalized fashion. It is not divided into diverse subjects, a common feature of formal education. Msango et al. (2000, p. 20) elaborate on this arguing that: "Education covers all aspects of training and initiation into the life of society into which one has been born to live. Schooling, on the other hand, covers only the literacy aspects of training. It deals primarily with literacy and numeracy and the acquisition of knowledge in such disciplines as science, literature, geography, history etc. We learn to read and write and study various subjects in schools, but we are educated in the wider society. The school is only part of that society. Education is therefore bigger than schooling".

The hybridization we suggest would ensure that the children continue to be grounded in their cultural or indigenous knowledge while putting the new systems of knowledge in perspective, noting similarities with, and differences from, their own knowledge culled from the "traditional" education. This would reduce the "culture shock" arising from entering into formal schooling only to be straitjacketed into foreign norms and practices that are patently incomprehensible, delivered in a foreign language too. Banda, a Chewa from eastern Zambia, confronted the contradictions and experienced "culture shock" when he began formal schooling. He states the matter clearly as follows: "My struggle began when I was told I had to stand when talking to my teachers. This was a contradiction because when in the community, kneeling was the sign of respect and standing when talking to elders was a sign of rudeness. Speaking in my mother tongue, the language of my community, was a punishable offence as such languages were said to be primitive, which meant that everybody in my community was primitive" (Banda, 2008, p. 12). Those problems got compounded further: "I also learnt that while keeping quiet and looking down and listening when an elder is talking are ways of showing respect and signs of being attentive, they did not mean the same at school. The teacher would describe you as a passive learner and possibly dull (ibid). The abrupt shift from traditional and cultural knowledge systems to foreign and contradictory norms negatively impacts self-esteem. The further realization that the use of African languages in school, the language of the community, is proscribed and might constitute a punishable offence on the grounds that such languages, hence their speakers too, were primitive and could lead to grave consequences.[92]

[92] Birgit Brock-Utne (2012a) noted that the Tanzanian newspaper Majira, on 18 May 2010, had an article with the shocking heading 'Mwanafunzi afa akifanya adhabu' (A student dies while being punished). The article told that

The incorporation of AIKS into the curriculum merits serious review. It would contribute to robust development of African Studies in the educational programs and to "decolonization of the mind" (Ngugi, 1986). It would boost the knowledge base of the African academy, eliminate the image of education as serving to produce culturally alienated elites, and would lead to cultural emancipation. Banda's recommendation for "hybridization" of the curricula of formal education exploits the view that knowledge production is to be treated as "negotiated translation" rather than something that is "transferred" from one "superior" system of education to another "backward" education system. This is consistent with the Culture-based curriculum model (Barnhardt et. al., 2005) and contrasts with the positivist conception of the nature of knowledge, characterized in the following statement: "The positivist view that knowledge is unitary and systematized explains why scientists continue to regard science as superior to local bodies of knowledge, and why they believe that their superior knowledge can easily be transferred, indeed needs to be transferred, in order to replace 'backward' local [indigenous] Knowledge" (Pottier et al., 2003, p. 15).

The formulation of culture-based curricula incorporating a hybridization of the knowledge systems would be a major step towards the achievement of education for all in Africa. A program that addresses "hybridization", appropriately elaborated and promoted through policy formulation and financial support, should enhance the achievement of education for all. Naturally, there is a need for massive political will and economic investment for the program to be successful, not easily countenanced in the age of "globalization".

Language-in-education Policies and Development Aid

Bamgbose (1991) claims that the policies of language in education in Africa provide the best illustration of *an inheritance situation*. This has to do with "…how the colonial experience continues to shape and define post-colonial problems and practices" (Bamgbose, 1991, p. 69). This is exemplified in the formulation of policies in education that merely carry out the logic and practices of the past. In the case of the language in education policies, Bamgbose ruefully observes, "all former British colonies have English, all former French and Belgian colonies have French, all former Portuguese colonies have Portuguese and the only former Spanish colony has Spanish" (ibid).[93] In addition, those countries that had come under the influence of Arabs, leading to the establishment of Islam, tend to have Arabic as a school subject or as a medium of instruction, besides its status as an official language and, certainly, as the language of religion. Clearly, the inheritance situation must have some rationale for its perpetuation. In recent times "globalization" in its core usage reflects the porousness of various nations in the world to the

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a Form II student, Charles Wabea (16) from Luchelele secondary school died while performing a punishment meted out to him by his teacher for speaking Kiswahili in class. He was to dig 20 buckets of soil from a pit and the pit collapsed on him.

[93] Deo Ngonyani (p.c.) pointed out the obvious fact that even after independence Africans are referred to, and are happy to refer to themselves, as Anglophone, Francophone, Lusophone. Yet, there is no Swahilophone or any such thing.

intrusion of foreign capital and the financial institutions' access to their local resources, human or material. Soros points out that: "The salient feature of globalization is that it allows financial capital to move freely; by contrast, the movement of people remains heavily regulated. Since capital is an essential ingredient of production, individual countries must compete to attract it; this inhibits their ability to tax and regulate it. Under the influence of globalization, the character of our economic and social arrangements has undergone a radical transformation. The ability of capital to go elsewhere undermines the ability of the state to exercise control over the economy" (Soros, 2002, p. 3).

Globalization has power asymmetry built into it in that, the nations with the financial capital have the power to influence events and control resources in the weaker nations. In many respects, colonialism constituted an initial phase of globalization. Although the immediate association of globalization has to do with economic and social arrangements that have allowed financial capital to move "freely" across nations, its impact is seen as extending to other social aspects as well. These have included sports (Giulianotte & Robertson, 2009), trade imbalances, and the destruction of culture in the weaker nations. Mazrui (2001) dichotomized globalization into 1) economics and 2) culture. The main players in economic globalization are the transnational and multinational corporations seeking to extend the horizons for their markets for raw materials. Concerning culture, globalization contributes to the erosion of indigenous cultures and indigenous languages. In this quest for cultural influence, the form of education in the economically weaker nations has proved useful. Education requires massive financial investment and, for economically weaker nations facing a multitude of problems on virtually every front of state building and administration, international aid is a source of support. The aid normally comes with conditions, traditionally in the form of "Structural Adjustment Programs" (SAP) and, in some cases, the requirement that the receiving countries, especially in Africa, abide by certain stipulations about respect of "Human Rights" (Babaci-Wilhite et al., 2012b). The content of that is normally determined by the donor nations.

The International Monetary Fund (IMF) and the World Bank have, traditionally, been the organizations that have channeled the aid. As such the World Bank has certainly been viewed as one of the greatest agents of globalization (Mazrui, 2004; Babaci-Wilhite, 2014). The aid to education in Africa has, inevitably, had to go through the strictures of World Bank conditions. On the issue of language in education, while the World Bank has advocated the use of indigenous languages, especially in the lower levels of schooling, it still maintains the belief that the use of English as medium of instruction improves the quality of education. Mazrui notes that: "It is no coincidence that soon after Tanzania had submitted to the clutches of the World Bank and IMF in the 1980s, the British Overseas Development Agency (ODA) moved in, in full force, to launch the multi-million dollar English Language Teaching Support Project" (2004, p. 49).

Colonialists have retained an interest in maintaining their economic and cultural presence in their former colonies. An effective method to achieve that has been through the financial aid provided to support the continued flourishing of their languages. Their assumed importance to the improvement of academic standards contributes to the realization of that goal. This has practically contributed to the normalization of the sad situation where, after more than fifty years of independence, it can still remain 'acceptable' to shame students for using their own

languages, instead of English, on school grounds. Brock-Utne (2012a) noted about the student who died in Tanzania while performing a punishment meted out to him by his teacher for speaking Kiswahili in class (*see endnote ii*). Yet, the practice continues to thrive in schools in some African countries.

The use of Europeans languages is further boosted by local attitudes towards education, especially relating to the question of LoI. The arguments for retention of English as LoI include the view that it is the language of globalization; it is the language of opportunity and work; it eliminates isolation from the world; parents prefer to have their children taught in English because the language will give opportunities to gain employment; finally, that it would be costly to translate the books into the local languages (See Babaci-Wilhite, 2015a, 2017). The arguments are not merely confined to English. The majority of them apply to the use of European languages in education in general. The situation has held for Portuguese in Mozambique. The situation there is, in principle and in practice, comparable to the attitudes towards English that the utility of English is that it will prevent isolation from the rest of the word which is, of course, a myth, as many non-English speaking countries that use their own LoI are not isolated, for example Japan and China (Prah, 2013; Babaci-Wilhite, 2013, 2015b). Henriksen has noted that: "One of the beliefs which still persists is that the schools should do all within their power to improve the standard of Portuguese language teaching and learning, instead of wasting the meagre resources on languages that are not going to lead anywhere in academic, professional and economic terms. The ideology is surely inspired by an assimilationist position, that is, the idea that everyone, regardless of his or her mother tongue should speak the official language of the country" (Henriksen 2010, p. 22).

These arguments do not constitute a rational basis for the retention of the colonial languages as LoI. They point to the utility of the foreign languages for international communication, but as foreign languages. Their usefulness as languages of instruction is not predicated on their inherent quality to improve academic standards, although that might be incidental; but, rather, on the legacy of their centrality to upward mobility and access to arenas of power. The profile of English as the language of globalization and internationalism has led to the promotion of English education in various countries including those formerly under French/Belgian colonialism (Rwanda) and under Portuguese rule (Mozambique). The view is that the language will enhance equal participation in the globalization process. In reality the reasoning is fallacious. Globalization has to do with capital, access to markets, and extraction of raw materials. While capital has free movement, Soros (2002) does point out that the movement of people remains heavily regulated. Put bluntly, the advantages of proficiency in English or the European languages do not immediately translate into a leveling of the "globalization playing field." The control on human movement deprives globalization of the free trade doctrine. As Chomsky has pointed out: "Free movement of people is a core component of free trade. As for free movement of capital, that's a totally different matter. Unlike persons of flesh and blood, capital has no rights, at least by Enlightenment/classical liberal standards. As soon as we bring up the matter of free movement of capital, we have to face the fact that although in principle people are at least equal in rights, in a just society, talk of capital conceals the reality: we are speaking of owners of capital, who are vastly unequal in power, naturally" (Chomsky, 2006, p. 111).

In other words, the international role of English does not mean that individuals immediately get the advantage of traveling just because they are fluent in English even when they are lacking in knowledge obtained from the "right" education. The use of those languages in education merely serves the function of enhancing the influence of the former colonial powers (Carstensen, 2007). The Department for International Development (DfID) in the United Kingdom is, arguably, always on hand to promote studies and uses of English, more so given its admonition against a narrow focus on a minority language of instruction that "may reinforce social and economic marginalization" (Gacheche, 2010, p. 9). There is an instructive story from the Seychelles about another globally dominant language, French. Brock-Utne (2007) tells of a Mr. Ferrari, the leader of a new Institute for Democracy formed to distribute information on democratic methods of governance. He revealed to her that at some stage he had sought financial help from a development agency in France to further the work of the Institute. The French agency promised the aid on the condition that the Institute would use French as the medium of communication and would work for the strengthening of the French language in the Seychelles, and distribute their brochures also in French! Mr. Ferrari declined the offer. In Tanzania, a statement attributed to a Minister responsible for Education in Tanzania that the government "…did not have money to do experiments and 'waste' the few resources on the language of instruction. 'The little money that is available will be spent on improving the quality of education and not on the language of instruction'" (Brock-Utne, 2012, p. 6), must be viewed as defeatist. This is ironic especially coming from a Minister responsible for Education in the very country that set the example of promoting the use of an African language, Kiswahili, as LoI. Scheduling the reforms for the moment when the economic situation will improve, or there will be political support for them, amounts to deferment of the program to perpetuity.

China's efforts to have Mandarin introduced in African schools and Chinese culture portrayed in African media outlets provide the most recent examples of the promotion of a foreign language and culture. Confucius Institutes strategically located in educational institutions have provided the locus of the spread of Chinese language (Mandarin) and culture. In this, the establishment of Chinese language and culture clubs in secondary (high) schools is proving instrumental, as has been the case in Kenya[94] In fact, to further the goals of promoting Mandarin and Chinese culture in Africa, China has initiated "Chinese Bridge", Chinese Proficiency Competitions for secondary school students. The Chinese Bridge is a Chinese language proficiency competition initiated by the Chinese Hanban (Confucius Center), with the purpose of encouraging more youth around the world to learn and understand the Chinese language and culture. On the occasion of the 8th "Chinese Bridge" Chinese Proficiency Competition in Malawi in 2015, the Chinese Ambassador to Malawi, His Excellency Ambassador Zhang Qingyang, claimed that with the rapid development of China, "... the Chinese language has been considered more and more important internationally, and its importance has been realized by most countries in the world. Learning Chinese has become a new trend and new fashion"[95]. In Kenya the Confucius Institutes are in almost all public universities (Nairobi University, Egerton University, Moi University, Kenyatta University, etc.). In Malawi, the

[94] The Observer online: Catching them young with Chinese language clubs

[95] The Embassy of the People's Republic of China in the Republic of Malawi website

Department of African Languages & Linguistics, and Philosophy, at the Chancellor College campus of the University of Malawi hosts the Confucius Center. In October 2018, a major newspaper in Zambia published the major front-page news story in Mandarin.[96]

Conclusion

It is time that African leaders seriously back up their stated commitment to reclaiming African identity and control over African education systems that were lost as a consequence of a colonial cultural dominance. The need to acknowledge oral traditions in language and learning, the use of local language in curriculum is crucial. This should begin with a serious review of *the inheritance situation*. Other nations invest in the promotion of their cultural and linguistic heritage, with China's efforts to have Mandarin introduced in African schools and Chinese culture portrayed in African media outlets. African nations need to invest in their languages especially in the education of the youth and in a program of education for all. African development will be achieved when the education is not for the production of culturally alienated elites.

The frameworks applied for word knowledge and link-making are effective in terms of enhancing conceptual learning actively engaged in making the links. Therefore in order to enable inquiry, language facilitates the learning process and supports students in their preparation to engage with the world. Such a model, which represents an opportunity to apply a well-tested inquiry-based Science model to the teaching of Science, will lead to improved science literacy including significant scientific knowledge, and personal efficacy for students, as well as greater professional efficacy for teachers.

This will contribute to human rights in education, improve teachers and learner's confidence in their skills in STEM, and facilitate their ability to apply knowledge to projects in their community. Drawing language and cultural perspectives into educational models make teaching and learning in the classroom more accessible which we recommend as a new field of research focusing on STEM which includes the A for Arts (Science, Technology, Engineering, Arts and Mathematics (STEAM) as language and culture in global literacy is the way forward.

Post-Reading Questions

1. Name two countries which continue the use of English for educational purposes in Africa?
2. What undermines progress in learning in African countries?
3. What does Lingua Franca mean?
4. What is the meaning of 'Ujumaa'?
5. Is knowledge independent of the medium of knowledge acquisition?

[96] Thanks to Pui Ki Patricia Kwok for drawing our attention to the annual "Chinese Bridge" Chinese Proficiency Competitions in Malawi and other countries.

6. Which continents are given the attention in teaching rivers and mountains to African students?
7. Is it acceptable to teach and learn a foreign literature to the total exclusion of one's own literature in one's own university, and one's own country of birth?
8. If no, how to redress this imbalance?
9. What are the consequences of a formulation of culture-based curricula?
10. Which organizations traditionally channeled 'aid'?

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evolution of the acronym into STEAM. She has written numerous articles published in tier one academic journals, contributed chapters for many books, and authored two monographs entitled, *Language Development Aid and Human Rights in Education* published by Palgrave Macmillan, and *Local Languages as a Human Right in Education* published by Sense Publishers, both in 2015. Dr. Babaci-Wilhite also edited several book published in 2014 entitled *Giving Space to African Voices: Rights to local curriculum and local language* and a second volume entitled *Human Rights in Language and STEM Education: Science, Technology, Engineering and Mathematics* published by Sense Publishers in 2016. Her new book entitled *Promoting Human Rights in Education through STEAM: Science, Technology, Engineering, Arts and Mathematics has been published by* Springer in January 2019. She is fluent in French, English, Norwegian, Japanese and Berber with basic knowledge of Arabic, Portuguese, German, Spanish, Swahili and Igbo.

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Elizaveta started her research path at Lomonosov Moscow State University, where she completed her Master degree in Contemporary History. While working on her History thesis, she also studied International Human Rights Law at the Collège Universitaire Français and partly at the University Paris-IV Sorbonne. Since then, her research has focused on human rights in and through education. In 2018, at the University of Oslo she defended a master thesis entitled "Human Rights Education and Global Citizenship Education in UNESCO Policies: Past, Present, and Prospects", related to her experience as an intern in UNESCO Education Sector in Paris. At the moment, Elizaveta is a Project Officer at the European Wergeland Centre, a resource centre on education for intercultural understanding, human rights, and democratic citizenship.

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Dr. Gerald W. Fry is a distinguished international professor in the Department of Organizational Leadership, Policy, and Development, College of Education and Human Development, University of Minnesota. He received his BA from Stanford University, an MPA from the Woodrow Wilson School at Princeton, and his PhD from Stanford University. Previously, Dr. Fry was a professor of political science and international studies at the University of Oregon where he also directed the International Studies Program and the Center for Asian and Pacific Studies. He was the team leader for major Asian Development Bank projects in Laos and Thailand related to education reform. He has previously taught at Stanford and various universities in Thailand, Laos, and Vietnam. In 1991–1992, he was a Pew Fellow in International Affairs at the Kennedy School at Harvard. Among his many publications are the books *Pacific Basin and Oceania*, *The International Education of Development Consultants: Communicating with Peasants and Princes*, *International Development Dictionary*, *Association of Southeast Asian Nations*, *Historical Dictionary of Thailand*, and *Education in Thailand: An Old Elephant in Search of a New Mahout.*
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Greg Johnson, California College of Arts and Crafts, USA

Gregory Johnson is an Artist/Researcher from Berkeley, California (USA), who received a Degree in Art History at the College of Wooster, Wooster, Ohio (USA). Johnson continued his study at the California College of Arts and Crafts (CCAC) in Oakland, California; at the Vancouver Art Institute, Vancouver, British Columbia (Canada), and at Madison Commercial Art School at Madison, Wisconsin (USA). He additionally worked for COVANCE Research Labs as a Study Coordinator while working on several Art projects. Among his Art projects, Johnson contributed to a mural project for the National Democratic Party Government in BC (1980s), a grant mural project for city arts in Madison and Dane county arts counsel with youth (1994), and an Art on sight and sound for the Wisconsin counsel for the blind funded by the Koehler Foundation in (2000). Johnson has had art work displayed in California, Wisconsin, Illinois, Pennsylvania,

north Carolina, and New York including a museum exhibition at MMOCA in Madison, Wisconsin. Currently, Johnson has contributed to three publications on STEAM (Science Technology Engineering Art and Mathematics) and the Geometry of Arts linked to Ethno-Mathematics as well as being affiliated as a Field Manager with the Grassroots Campaign Incorporated (GCI), as an Advocate for doctors without borders (MSF). He resides in Berkeley, California.

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Phuong Nghi Le, University of California, Irvine, USA

Phuong Nghi Le is a fourth-year pharmaceutical sciences undergraduate at UC Irvine. She works as a research assistant in the study of Teaching, Learning, and Digital Media/Cloud-Based Writing within the School of Education. As a SURP Fellow, Phuong Nghi conducts a case study on multimodal compositions for struggling writers in higher education. Her research focuses on 1) how struggling writers use digital storytelling to develop their writing skills and 2) what students' perceptions of using digital storytelling in an academic writing class are.

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Margaret Kumar, University of Melbourne, Australia

Dr Kumar's forte lies in her multi-skilled qualities. She is Adjunct Professor at Centurion University of Technology and Management, Odisha, India and Senior Fellow (Hon) at the University of Melbourne, Australia. She has a diversified experience of being an Academic, an Academic Skills Adviser, a Higher Degree by Research Language and Learning Adviser, Senior Lecturer in Teaching, Research and Research Support, Master of Education Co-ordinator, Strand Co-ordinator of International Education, Lecturer in Applied Linguistics and Lecturer in Language and Literacy Education She has a deep cultural and educational awareness of the ethos of Indigenous societies and its diverse knowledge systems. This arises from her educational, cultural and social background. She has a high level of experience in interacting with cultures where protocol, hierarchical systems, customs, norms and values are an integral part of daily living, in facilitating communication within and among different educational, cultural and individual groups. Through her work, Margaret has presented challenging perspectives on how teaching and learning practices for international students could be mediated. To this end, she has a long track record of research and publications in the following areas: Indigeneity and Aboriginal Cultures; New Knowledge Systems; Cross-cultural Understandings; Cultures of Learning; Global Literacies; Internationalising the Curriculum and Interdisciplinarity. She espouses knowledge that views pedagogy as a social practice and helps students learn within a holistic and comprehensive curriculum. She utilises theoretical frameworks and methodologies to translate teaching and learning principles into practice. Her work in the area of cross cultural and intercultural exchanges has been instrumental in supporting research students in bringing New Knowledge Systems to the Academy and the scholarship of learning. Presently, Dr. Kumar is conducting research into New Knowledge Systems and teaching and learning practices for postgraduate students.

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Jabari Mahiri, PhD is a Professor of Education and holder of the William and Mary Jane Brinton Family Chair in Urban Teaching at UC Berkeley's Graduate School of Education. He has received the Chancellor's Award for Institutional Excellence and Inclusion along with several awards for mentorship of graduate students and junior faculty. After publication of "Deconstructing Race" (2017), his forthcoming book is entitled "Reframing Race and Difference: Educational Leadership for a Shareable, Sustainable World.

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Sam Mchombo received his PhD in Linguistics in 1978 from the University of London (SOAS). From 1972-1984 he pioneered studies of Chichewa and Linguistics in the University of Malawi (Chancellor College). He was the first Chair of its Department of African Languages & Linguistics. In 1984 he was a visiting Fulbright scholar in Linguistics at MIT (spring), at Stanford University (summer), then a post-doctoral fellow at MIT (fall). He has taught courses and delivered conference presentations on African languages, African linguistics, linguistic theory, at various universities around the world, including in Africa, Canada, France, Germany, Hong Kong, Mexico, Norway, United Kingdom, and the United States. He has published articles on sports, the media, religion and politics in Malawi, on African linguistics and linguistic theory, and on issues of language and rights in African education. He is the author of The Syntax of Chichewa, Cambridge University Press (2004), editor of Theoretical Aspects of Bantu Grammar, CSLI, Stanford (1993), and editor of the journal Linguistic Analysis for a special issue on African linguistics (1999). Since 1988 he has been on the faculty of the University of California, Berkeley, where he is Associate Professor of African Languages and Linguistics in the Department of African American Studies. Currently his research centers on issues of language politics and rights in African education.

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Chrissie Monaghan teaches in the International Education program at New York University. Her research focuses on three main areas: the intersection of globalization and refugee education; the historical development and implementation of human rights education programming; and the impact on children of attacks on schools and hospitals in situations of armed conflict.

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Mario Sacomano Neto is an Associate Professor of Organizational Theory at Federal University of Sao Carlos, Brazil. He is Bachelor in Business and Management from Pontifical Catholic University. Ph.D. in Industrial Engineering from Federal University of Sao Carlos and Master in Industrial Engineering from University of São Paulo (USP). He was Visiting Scholar at the University of California, Berkeley, under supervision of Neil Fligstein (Department of Sociology) and Visiting Scholar at University of Chicago (USA) under the supervision of Professor Gary Herrigel and John Padgett (Political Science Department). His current research project is funded by the Brazilian Research National Agency.
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Yenda Prado is a doctoral candidate specializing in Language, Literacy, and Technology at the University of California, Irvine. She is a National Science and Ford Foundation Honorable Mention for research proposals investigating the uses of educational technology to promote equitable literacy attainment in children with special needs. Yenda's research interests focus on investigating instructional best practices that support children's language and literacy development. Intersecting areas of interest include educational uses of technology to support diverse learners and teacher professional development. She has over 15 years of education management and teaching experience in the realm of language and literacy development working for a variety of non-profit, private, and public organizations. Yenda earned an Ed.M. degree in Language and Literacy from Harvard Graduate School of Education and a B.A. degree in Psychology from Stanford University.
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