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# Cultural Influences on Critical Thinking: A Pedagogy for Educating Immigrant Preservice Teachers

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**Abstract**
There is no single definition of critical thinking, but there seems to be concurrence that it requires effective cognitive strategies to evaluate information and to draw conclusions based on reason. This article considers critical thinking as an inherent ability to engage in reasoned and reflective thinking on the contents of knowledge associated with educational psychology. The development of critical thinking abilities in preservice teachers who are either immigrants, or first-generation Americans raised in immigrant communities, is explored to gain an understanding of the effect of cultural influences on critical thinking in immigrant populations. Epistemic philosophical frameworks are identified to encompass McPeck's critical thinking constructs and facilitate its infusion into pedagogical practices for educating immigrant preservice teachers. Further, the article examines the relationship between critical thinking abilities and cultural influences that shape ways of knowing, and discusses how immigrant or immigrant community preservice teachers might use cultural frameworks to critically analyse the tacit assumptions, beliefs, and practices embedded in the mainstream teacher education curriculum in countries such as the United States. To accomplish this connection, the authors recommend pedagogies (or androgogies for adult learners) that educators can infuse in the curriculum to foster critical thinking in the educational psychology discipline.

**Keywords:** Coherentist Epistemology, Epistemic Cognition, Immigrant Communities, Multicultural Education, Reflective Scepticism, Teacher Education.

## Introduction

The relationship between critical thinking abilities and the influence of the cultural context on the development of cognitive and affective ability in immigrant or immigrant connected preservice teachers has received negligible attention in educational research. The extant literature has insisted that critical thinking must command a place in educational institutions because it is a necessary condition of it (McPeck, 2017a); that the cultivation of critical thinking remains a primary goal of university education (Pithers & Soden, 2000; Yuretich, 2004); and that critical thinking can be taught, and with appropriate instruction, it can be improved (Halpern, 2007; Nickerson, Perkins, & Smith, 1985). However, there is a paucity of empirical evidence on the critical thinking abilities of immigrant preservice teachers, especially when they come from a variety of cultures that differ pedagogically in educational milieus. An important focus of this paper is a description of John E. McPeck's conception of critical thinking and its relevance to cultivating and enhancing the critical thinking abilities of immigrant preservice teachers. In the study of critical thinking in preservice teacher immigrant or immigrant influenced populations, it will be shown that many cultures do not require higher order thinking in educating their students because education is regarded as a body of knowledge that has been imbibed by educators who are considered as expert in that knowledge and repositories of it. More so, their education may consist of lecture, memorization, rote learning, with the educator doing the talking, without focus on constructivist types of learning. This kind of dualist thinking represents an epistemic belief that is embedded in the cultural knowledge and assumptions about the role of the student in learning.

As immigration patterns bring children, adolescents, and adults from non-Western cultures into the United States and other Western societies, concerns are expressed regarding the seeming lack of critical thinking and other higher order thinking skills among immigrant students. This phenomenon is also present in tertiary education classrooms, including learning environments that provide for the education of immigrant preservice teachers.

To this end, this paper will elucidate a conception of critical thinking that engages in reasoned and reflective thinking on the contents of knowledge associated with the discipline of educational psychology. This form of critical thinking which is rooted in reflective scepticism – knowing the right questions to ask, and the timing of the questions – will inform instructors about the most appropriate education of immigrant and non-mainstream preservice teachers. Critical thinking will be posed as a challenge to educational psychology as a required discipline of study in teacher education. Current educational psychology curricula provide increasing structure and teaching strategies that emphasize the acquisition of information while marginal interest is accorded

to promoting perspectives that represent multicultural knowledge and ways of knowing. This critique of the discipline provides the impetus for the recommendation of a new pedagogy/andragogy to be infused into the educational psychology curriculum to facilitate critical thinking. Therefore, the primary objectives of this paper are to: examine the effect of cultural influences on critical thinking; identify the potential effects of cultural knowledge and cultural ways of knowing on critical thinking within educational psychology; and propose a pedagogy/andragogy that incorporates teaching strategies associated with culturally relevant education into the curricula for educating immigrant and immigrant influenced preservice teachers.

**Background**

The term critical thinking has been used in this study to describe reasoned and reflective thinking that involves abilities. Such reasoned and reflective thinking processes are connected to subject matter or a discipline. This conceptualization of critical thinking is rooted in the work of John E. McPeck who defined critical thinking as "the propensity and skill to engage in an activity with reflective scepticism" (McPeck, 2017a, p. 8). Critical thinking has been defined as taking responsibility for one's own thinking (Uzuntiryaki-Kondakci & Çapa-Aydin, 2013). However, there is no single or agreed upon definition. Brookfield (1987) asserts that "critical thinking comprises two interrelated processes: identifying and challenging assumptions; and imagining and exploring alternatives" (p. 229). Willingham (2007) states that "critical thinking consists of seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts…" (p. 8). Similarly, Paul (1993) defines critical thinking as the ability to "analyse, criticize, advocate ideas, reason inductively and deductively, and to reach factual or judgmental conclusions based on sound inferences" (p. 22). Critical thinking is also defined as "the intellectually disciplined process of actively and skilfully conceptualizing, applying, analysing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning or communication, as a guide to belief and action" (Scriven & Paul, 2013; Paul, 2004). And, as Ormrod (2016) notes, critical thinking involves "evaluating the accuracy, credibility, and worth of information and lines of reasoning" (p. 416). From the perspective of cognitivist scientists, critical thinking is a subset of three types of thinking namely, reasoning, making judgments and decisions, and problem solving. It is also described as a self-directed activity in which the thinker takes ownership of the thinking process (Willingham, 2007). Notwithstanding the lack of a single definition, there seems to be concurrence that critical thinking requires effective cognitive strategies to evaluate information and to draw conclusions based on reason.

However, it can be argued that despite concurrence regarding the necessity of evaluating information and drawing conclusions based on reason, there are disparate conceptualizations about what is meant by critical thinking. According to Mason (2008), Robert Ennis and Richard Paul have emphasized critical thinking as constituted by specific *skills* such as the ability to infer conclusions based on available evidence. Such skills can be deployed indiscriminately across any problem or task requiring critical thought. Jane Roland Martin has considered critical thinking to be a *disposition* that is intrinsic to the individual, and John McPeck has identified knowledge of *subject content* and its epistemological structure as necessary for critical thinking (Mason, 2008). Differences in theoretical formulation have contributed to the lack of uniformity in definitional renderings and the plurality of thought on knowledge of the concepts associated with critical thinking. McPeck's (2017a) formulation of critical thinking has garnered interest with its dual emphasis on *knowledge component* of the content of a discipline, as well as, a *critical component* involving the ability to reflect upon, question, and suspend any decision related to knowledge of the issue under consideration. McPeck maintains that there is no universal skill or curriculum subject that could be properly called critical thinking, therefore, he argues that critical thinking must be taught as an integral part of other subjects.

The utility of McPeck's view in immigrant preservice teachers' critical thinking is worth considering here. Cultural upbringing is an influential factor in an individual's tendency to think or not think critically (Ormrod, 2016). In non-Western cultures, the community, including parents, teachers, and peers, and educational systems in which one is raised has a profound influence on the development of critical thinking abilities (Gauvain, 2001; Grosser & Lombard, 2008; Nisbett & Norenzayan, 2002), an epistemology that differs from Euro-American individualism and the positivistic rationality that dominates the U.S. domains of scientific thinking. These cultural differences in critical thinking are borne out in empirical research on reasoning. In a study that examined the tendency to perceive human behavior as a product of an individual's disposition, while ignoring situational behavioral determinants, it was found that there were cultural differences in assigning causal attributions. American study participants assigned more individualistic causal attribution judgments while the Korean participants, for example, assumed a holistic perspective that considered variables outside of the individual. Another study found that when logic conflicted with everyday belief, American participants were ready to accept logic instead of empirical belief (Clark, 1990). Conversely, Korean students were more willing to eschew logic in favor of empirical belief. (Nisbett, Peng, Choi, & Norezzayan, 2001). Based on the extant research, the authors can infer that the epistemic issues that underlie the critical thinking abilities of immigrant and non-mainstream preservice teachers are strongly influenced by their respective cultures. Therefore, the key to exploring the critical thinking skills of all preservice teachers is to hone in on the cultural

influences that shape their ways of knowing. One cannot emphasize enough the importance of encouraging them to view their world through critical lenses, and through reasoned and reflective thinking be able to evaluate the efficacy of their culture to critically analyze the tacit assumptions, beliefs, and practices embedded in the teacher education curriculum.

## Philosophical Framework

### *Critical Thinking and Epistemology*

McPeck (2017b) challenges our understanding of critical thinking with this question: what is the main ingredient of critical thinking – is it having knowledge and understanding, or is it having certain specific skills? The authors find agreement with McPeck that it is more important to have relevant knowledge. McPeck contends that effective critical thinking requires knowledge of the epistemological foundations of a wide range of fields. This ~~study~~ paper takes the view that it is futile to attempt to teach critical thinking bereft of factual content. There is support for this view in the extant research. Daniel T. Willingham notes that "there are specific types of critical thinking that are characteristic of different subject matter" (Willingham, 2007, p. 8), and makes the point that thinking processes are intertwined with the content of thought, which he describes as domain knowledge. An examination of McPeck's conception of critical thinking is befitting at this point. This conception purports "that the core meaning of critical thinking is the propensity and skill to engage in an activity with reflective skepticism" (McPeck, 2017a, p. 8). The use of 'reflective' as a qualifier signifies the level of deliberation necessary for offering a plausible alternative. One of the notable characteristics of critical thinking in the tradition of McPeck is its reliance on skepticism about any taken-for-granted claim to truth. This skepticism might eventually give way to acceptance, but not before considering alternative possibilities. Other characteristics of learning how to think critically include learning when to raise questions, and the relevance of the questions to be asked. This discriminating use of questioning involves reflective skepticism and the appropriateness of its use requires knowledge of factual content of the discipline or problem in question. (McPeck, 2017a). It seems clear that the 'critical thinker' possesses an inherent disposition toward skepticism, and ably demonstrates the requisite skills in the area that is subject to critical thought. Situating this description of the 'critical thinker' within McPeck's conception of critical thinking moves this discussion beyond the narrow scope of dualistic thinking. Although McPeck's conception does not address qualitative differences in critical thinking, its emphasis on the importance of alternative possibilities, and its implication of taking ownership for the resulting decision transcend dualistic thought.

McPeck's emphasis on awareness of domain knowledge that is subject to reflective skepticism positions his conception of critical thinking within a broad philosophical field of epistemology. This philosophical framework provides the basis for understanding how immigrant preservice teachers can draw on cultural knowledge to cultivate culturally responsive critical thinking abilities. Two such frameworks come to mind: coherentist epistemology and William Perry's epistemic cognition. In a general way, epistemic cognition can be viewed as a "psychological approach to the philosophical field of epistemology" (Hofer, 2008, p. 5). Epistemology has been defined by Merriam-Webster as a theory of the nature and ground of knowledge especially with reference to its limits and validity. Put simply, it is a theory about knowledge. Epistemology is generally associated with the study of knowledge and seeking to explain how it is we know what we know. Several theories of knowledge abound including those advanced by Plato, Aristotle, Descartes, and Peirce. Important characteristics of epistemology are its assumptions that are based on dualisms and its position on absolute (universal) truth. This view of epistemology has come under scrutiny and its assumption of absolute truth has been challenged for failing to withstand the test of time and the critique of contemporary philosophical arguments (Thayer-Bacon, 2004). A naturalized theory of knowing has emerged and is identified as a relational *epistemology*. The theory eschews absolute truth in favor of *qualified truths*. It accommodates opposing views of reality and truth until a more satisfying description can be formulated. However, no satisfying description is an ultimate truth since a variety of available descriptions allows for any description to be right or true depending on the prevailing perspective and the focus to be emphasized. (Thayer-Bacon, 2004). Thayer-Bacon (2004) emphasizes that relational epistemology focuses on the process of knowing as well as what is known. Its pluralism allows for the participation of others in the process of inquiry so that thinking extends beyond a single individual's limitations. A notable postulate of this theory is that "knowing is not objective, neutral, or certain, it is in a state of flux" (Thayer-Bacon, 2004, p. 227). The flexibility of the relational epistemology notwithstanding, it is the *coherentist* approach to epistemology that is more compatible with the process of belief justification proposed by McPeck and provides a more effective framework.

Coherentists purport that truths fit coherently into the extant body of knowledge. The primary assumption of coherentist epistemology is that specific truths may change as individuals change in their understanding over time. As such, truths may be revised or even replaced but the existing body of knowledge remains. Revising an existing belief or integrating a new belief into a belief system is part of a justification process that can accommodate McPeck's description of epistemology as providing the best reasons for holding a belief, and his claim that to know something, even if true, requires evidence of justification that supports the belief (2017a, p. 35). McPeck (2017a) seems to find concurrence with coherentist epistemology in his postulate that "arriving at a

justification requires the agent to suspend a given belief long enough to assess the internal coherence of the evidence for it and to integrate the belief within his existing belief system" (p. 37) This process of assessing the validity of the evidence, and integrating the beliefs and supporting evidence into an existing belief system, require critical thinking.

Perry's epistemic cognition emphasizes understanding knowledge and the ways in which *knowing* underlies the cognitive processes of thinking and reasoning. The epistemic cognition framework provides insight on how individuals understand knowledge and their perceptions about *knowing*. The benefit of this epistemic cognition framework is that it reflects how learners' *knowing* changes as they experience complexities that challenge their assumptions about knowledge. When rational thinkers reach conclusions that are different from the decisions reached by others, they review their conclusions seeking to justify them, and if they are unable to justify those conclusions, they revise them in order to find a more adequate approach to acquiring knowledge. As a result, they can move from dualistic thinking to relativistic thinking and potentially to commitment within relativistic thinking. *Dualistic thinking* is the first stage in Perry's scheme and individuals at this stage divide information, actions, and values into right and wrong, good and bad, we and they. Thinking at this stage could hardly be defined as critical thinking since it is devoid of any justification of the thinker's beliefs. The rightness or wrongness of an issue is predetermined by an established ethical standard or practice without any corresponding evidence gathered by the thinker to support the position. At the stage of *relativistic thinking* all knowledge is perceived to be embedded in a framework of thought. There is an awareness of a diversity of opinions on many topics and there is no absolute truth that supersedes other truths. Each truth is relevant to its context. Instead of choosing between opposing truths there is a *commitment within relativistic thinking* at the third stage. Thinking at this level involves formulating a more satisfying perspective that synthesizes contradictions. (Perry, 1981; 1998). Perry's stages of relativistic thinking and commitment within relativistic thinking allow for consideration of alternative possibilities and questioning that involves reflective skepticism. These two stages are more conducive to McPeck's (2017a) conception of critical thinking.

Critical thinking aligns with epistemic cognition at the level of relativism and commitment to relativism. Critical thinking also aligns with coherentist epistemology at the point of assessing the validity of evidence, and integrating the beliefs and supporting evidence into an existing belief system. Coherentist epistemology, as well as epistemic cognition, provides a process that could facilitate the infusion of critical thinking skill development into teacher education courses for immigrant preservice teachers. Therefore, faculty who teach preservice teachers must allot significant importance to learning the

cultural knowledge of all students, while simultaneously accommodating their culturally influenced ways of knowing into the teaching and learning process.

## Demographics and Critical Thinking

*Immigration Trends and Schooling*

Despite the increase in the number and proportion of racial-ethnic minority students in U.S. schools, including new immigrants, at the classroom level, Eurocentric approaches to teaching are entrenched and are assumed to be culturally neutral. The truth, however, is that "teaching is neither racially nor culturally neutral" (Bascia, 1996, p. 152). Classrooms must accommodate cultural sensitivity so that affirming the authenticity of one's cultural identity validates the particular identity and negates any approach that would purport to be a monolithic way of interpreting what counts as a legitimate cultural identity (Subedi, 2008). The United States has undergone a seismic demographic shift due to current immigration trends. Immigrant children are the fastest growing population in the United States with 80% representing Latin America, Asia, and the Caribbean. (Gryn & Gambino, 2012; Suarez-Orozco, Rhodes, & Milburn, 2009). It is estimated that 25 % of primary and secondary school-age children are children of immigrants or immigrant children born outside of the U.S. (Fix & Capps, 2005; Hernandez, Denton, & Macartney, 2007) and representing the fastest growing sector of the student population in the United States (Bajaj, 2009).

The experience of being an immigrant student is not without its challenges. English learners (ELs), or currently called Multilingual Learners (MLs) are more likely than their English-speaking peers to experience low self-esteem (Subedi, 2008), and have been identified by school officials as "troublemakers" (Subedi, 2008), as well as a "problem" (Bascia, 2006). Subedi (2008) has identified tensions in peer relationships between "immigrant and white students and also between immigrant students and students of colour" (p. 64). One example of such tension is in the relationship between black Caribbean immigrant children and African American children. These tensions are deeply rooted in cultural identity. Many foreign-born persons do not self-identify as 'American'. For instance, Haitian immigrant children who contend with being black, foreign, with lower English proficiency distinguish themselves from African Americans, and from English-speaking black Caribbean and African immigrants by their French and Haitian Kreyòl language (Thompson, 2005). Asian American and Latinx communities consist of a much larger proportion of children of immigrants than do African, Caribbean American, and European American communities. (Teng, 2006). As much as 60% of immigrant children enrolled in U.S. schools have geographic origins in Latin America and are Spanish speakers (Hernandez et al., 2007). These students speak English as an additional language and struggle academically in classrooms where teachers

focus on content areas with no attention to the needs of students who are Els (MLs). Immigrant students also experience linguistic segregation which allows Els (MLs) to be separated from their native English-speaking peers. This form of segregation deprives Els (MLs) from a form of peer interaction that is critically important for developing proficiency in an academic language (Suarez-Orozco, Suarez-Orozco, Todorova, 2008). Xenophobia and language discrimination directed at ELs (MLs) are critical factors in immigrant students rating their English proficiency lower than would be expected based on test scores. (Teng, 2006).

Another formidable challenge for many immigrant students is the seeming inability to engage in critical thinking. Paul (2004) observed that schooling of Hispanics was devoid of opportunities for critical thinking. The inability to engage in critical thinking coupled with a lack of analytical skills is evident even in higher education (Robertson, Line, Jones, & Thomas, 2000). Earlier in this paper, it was noted that cultural upbringing is an influential factor in an individual's tendency to think or not think critically. Therefore, a plausible argument can be made that when cultural morés do not promote opportunities for critical thinking in the society, and particularly in the classroom, individuals remain uninformed about their abilities to critically analyse the information to which they are exposed. In many non-Western cultures, teacher-centered approaches to pedagogy allow very little opportunity for critical thinking in student learning to the extent that learning is measured in terms of students' competence as *reproducers* of facts instead of students' competence as *thinkers* who acquire evidence and formulate arguments that support those facts (Grosser & Lombard, 2008). The deep-rooted cultural assumptions and expectations embedded in pedagogical practices in non-Western countries are based on the belief that academic development is exclusively within the purview of the professional teacher. The teacher is assumed to be a repository of information and the students learn this information, invariably by rote, without any opportunity for critical analysis, and the student becomes the passive learner (Krashen, 2004) The result is opinion imparted as knowledge. This is the normative conception of education within many immigrant communities, particularly those composed of non-Western immigrants. With the passage of time, former immigrant children enter young adulthood and many of them enrol in teacher preparation programs to pursue education degrees in U.S. institutions of higher education. This paper identifies these individuals as immigrant preservice teachers. There is another group of individuals that is similarly identified – adults who emigrate to the United States and enter the education system as preservice teachers, thus importing their pedagogical training received in their home countries.

From the point of view of the demographic changes in the U.S. population, the study of critical thinking in immigrant preservice teachers has not received attention as an important topic of discussion. Immigrant teachers, who are

themselves immigrants from the communities of the children they serve, often experience a dilemma when attempting to address issues related to their cultural knowledge in the education of their students. Immigrant teachers perceive themselves as being caught between their pedagogical training and their cultural knowledge (Adair, Tobin, & Arzubiaga, 2012). Remedying this dilemma requires pedagogical and andragogical changes that are appropriate for the cultivation of culturally responsive critical thinking abilities in immigrant preservice teachers. An important aspect of this remediation will be the dismantling of the assumptions of pedagogical training that fail to consider the cultural assumptions that affect ways of thinking in immigrant populations. Bruner (1996) observed that "[c]ulture… forms and makes possible the workings of a distinctively human mind. In this view, learning and thinking are always situated in a cultural setting and always dependent upon the utilization of cultural resources" (p. 4). The authors argue here for teacher preparation programs that accommodate cultural sensitivity while facilitating the cultivation of alternate critical thinking abilities in their immigrant preservice teachers. The result is likely to be a cadre of immigrant preservice teachers who are educated in the skills of critical thinking that are informed by appropriate cross cultural knowledge, and who will be capable of engaging in reasoned and reflective thinking on the knowledge component of their discipline.

## Discipline Specific Critical Thinking

### *Educational Psychology*

Critical thinking is specific to a discipline; thus, it is always connected with an identifiable activity or subject area, but never taught in isolation. Therefore, attempting to teach critical thinking in the abstract apart from specific fields or problem areas is nonsensical (McPeck, 2017a). "[C]ritical thinking implies a thorough knowledge of the discipline in which one is working, of its content and its epistemology" (Mason, 2008, p. 3). These statements reflect a paradigm shift that is not yet evident in how several disciplines within teacher education are conceptualized, the field of educational psychology included. As a scientific discipline, the goal of educational psychology is to provide, (a) research knowledge that can be applied in classrooms, and (b) research skills to be used by teachers to understand the factors that influence student learning. (Santrock, 2018). Generally, educational psychology has been understood as constituting a body of knowledge that suggests a dualist epistemology. In addition, the underlying assumptions of the discipline have seldom been challenged and there is a seeming lack of interest in critical thinking and its implications for classroom teaching (Kincheloe, 2004). This is particularly the case at the tertiary level where the importance of critical thinking cannot be overstated. Any reasonable expectation would be that effective pedagogy will foster the development of critical thinking skills among students. Therefore,

guiding students to think reflectively and to evaluate evidence, as opposed to passive learning and rote memorizing, are affirmed as hallmarks of critical thinking. This paper is presented from the perspective of authors who facilitate learning in the sub-fields of educational psychology at the tertiary level and they concur that the discipline has isolated topics related to teaching and learning from larger cultural processes that take into consideration the issues related to immigrant learners. This approach to pedagogy must be revised because cultural influences inform human thinking (Buchtel & Norenzayan, 2009). To reiterate the point made by Bruner (1996), the workings of the human mind are attributed to culture, therefore, learning and thinking are situated in a cultural context and depend upon the utilization of the available cultural resources. The fact that psychosocial dispositions shape the way individuals perceive the world have important implications for teaching and critical thinking (Kincheloe, 2004). This is particularly true for the discipline of educational psychology. Any assumption that educational psychology is neutral must be deconstructed because it is limited in its generalization and fails to consider the importance of interpreting psychological concepts in a cultural context.

Two potential effects of cultural knowledge and cultural ways of knowing on critical thinking within educational psychology are identified here. (1) Evidence has shown that students prefer teaching approaches that are aligned with their level of epistemic cognition, but learning is enhanced when their existing conceptions are challenged (Entwistle & Peterson, 2004). This view supports the belief that a challenge to the epistemic cognition of a learner could conceivably trigger a perspective transformation. It can be argued that culturally relevant pedagogy that accommodates critical thinking allows learners to evaluate their cultural knowledge and ways of knowing, and by developing the ability to engage in reflective scepticism they are able to understand and justify epistemic beliefs, and to distinguish between the strength of those beliefs. (2) Culturally relevant pedagogy within the discipline of educational psychology is necessary to make the connections between the principles that are informed by the dominant culture and the culture of the immigrant preservice teacher (Bassey, 2016). It is risky to assume that educational psychology is neutral because it is not. The seminal theories that are referenced in textbooks and the theoretical frameworks utilized in many dissertations are almost exclusively those of the prominent figures in the early history of educational psychology. These were mainly White males such as John Dewey and E. L. Thorndike. A paradigm shift took place with the emergence of recognized cultural contributions to the discipline in the twentieth century. Specifically, the work of Mamie and Kenneth Clark, whose research focused on African American children's self-conceptions and identity, and George Sanchez, whose research showed that intelligence tests were culturally biased against ethnic minority children, played a pivotal role in this paradigm shift. (Santrock, 2018). These contributions highlighted the

importance of cultural knowledge within a field that otherwise represented the views of the dominant culture. The contribution to educational psychology from the perspective of immigrant cultures is important for understanding how the new epistemic beliefs are altering the construction of knowledge and ways of knowing, both in the existing system of beliefs of the dominant Euro-centric culture and the system of beliefs in immigrant communities.

**Solutions and Recommendations**

This paper proposes a pedagogy of connection that is intended to develop and enhance critical thinking abilities in immigrant or culturally influenced non-mainstream preservice teachers. The pedagogy implies critical thinking that is informed by coherentist epistemic beliefs and is accepting of relativism and commitment to relativism in ways of knowing. The underlying assumption within this pedagogy is that cultural knowledge and cultural context influence the abilities that are required to engage in critical thinking. Being aware of whether or how a particular culture encourages critical thinking is important because the cultural characteristics might convey the perception of a lack of commitment to critical thinking or the inability to engage in reasoned discussions. As indicated earlier in this paper, in many non-Western cultures, schooling is often characterized as rote memorization of information imparted by the teacher. Knowledge is viewed as the intake of information without the opportunity of acquiring corresponding evidence or presenting arguments that support or dispute the information. This dualist epistemology views education as a body of knowledge and the teacher as the repository of that knowledge. Dualistic thinking might also extend to religious beliefs and medical advice. However, engagement in critical thinking might be present in other domains, such as politics. The point to be made here is that the capacity to engage in critical thinking is associated with typical human development and its demonstration is contingent upon the circumstances. Therefore, in situations where critical thinking is affirmed and encouraged, its cultivation will be successful. Immigrant preservice teachers possess the abilities to engage in critical thinking, therefore, educating them to do so requires a pedagogy that makes a clear connection between their cultural knowledge and the principles of their discipline. Furthermore, through critical thinking, they will be able to evaluate the efficacy of their culture to critically analyse the beliefs and practices that are embedded in the curriculum.

**A Preservice Teacher Population**

This paper examined a southeast Florida university that consisted of a diverse student population of preservice teachers representing mainstream White and Non-White persons that were American born, first- and second-generation immigrants to America, as well as international students with varying

competencies of English language proficiency and of varying cultural backgrounds.
In examining the teaching and learning pedagogies in each country or culture, we note degrees of differences in instructional norms. Upon examination of each preferred instructional practice and structures, it is clear to see why students might have difficulty with critical thinking within an academic setting in the United States. People who are educated in different cultures are taught through a variety of teaching and learning styles, often through rote learning and memorization. They often study in large classes, with memorization of textbook materials, showing deference, compliance, and submission to the classroom teacher. Respect for the teacher and authority are promoted, so questioning the instructor is seen as rude. No direct eye contact is demonstrated because it may be seen as defiance or insolence. In preservice classes~~,~~ students from East Asian countries report that they learn in large classrooms that are traditionally dominated by teacher-centered, book-centered methods with an emphasis on rote memory. These traditional teaching approaches have resulted in a number of common learning styles. (Liu & Littlewood, 1997; Rao, 2001)

Typically, students in the American school systems are encouraged to think critically, so they have to rely on analytical thought instead of memorization and rote learning. Critical thinking skills are found in content teaching standards. Preservice teachers in American university teacher education programs are expected to use critical thinking in everyday pedagogical practices. However, it is up to the educator to mitigate the disparity between the critical thinking expectations and one's individual reality, which is quite often due to the student's unfamiliarity with mainstream critical thinking strategies.

Immigrant teachers, who are themselves immigrants from the communities of the children they serve, often experience a quandary when attempting to address issues related to their cultural knowledge in the education of their students. As mentioned, those immigrant teachers who feel trapped between their pedagogical training and their cultural knowledge (Adair et al, 2012) are affected by discord in several areas, both in the teacher education program, and in the future classrooms the preservice teachers will be placed. Thus, it is critical to examine the relationship between critical thinking abilities and cultural influences that shape ways of knowing. But critical analysis of assumptions, beliefs, and practices embedded in the mainstream teacher education curriculum can help immigrant preservice teachers make connections between their own ~~own~~ cultural beliefs and those of the mainstream educational culture.

In addition to differences in learning and teaching styles among a variety of cultures, (Phutela, (2015; Taylor, 1990) different discourse styles of

communication can mutually confuse the instructor and the preservice teacher because variations also exist in the rules for general discourse in oral communication. Teachers and students will naturally follow the assumptions and rules from their respective cultures. These variations can cause discord within the classroom when the students behave according to culturally determined behaviours about the discourse rules in opening or closing conversations, when and how it is appropriate to interrupt, the use of silence, what topics are appropriate, when to use humour or laughter, turn- taking in conversation, nonverbal communication, when to talk and when to stop, and when the topic is finished. Cultural differences in non-verbal communications can reduce or enhance the effects of oral, verbal communication (Phutela, 2015; Upshur,1979). Reid (1997) and Peacock (2001) carried out studies indicating that non-verbal mismatches in teaching and learning styles can cause learning failure, frustration, misunderstanding, and at times serious consequences and hurt feelings due to erroneous communication signals.

Today's students need to know *what, why*, and *how* (e.g., knowing scientific or mathematical facts) in addition to understanding *how* things work (Sandoval et al, 2014). They need to know how to justify knowledge through interpreting, comprehending, and evaluating multiple conflicting pieces of information (Stromso & Braten, 2010; Braten et al, 2011; Strømsø, & Kammerer, 2016). Therefore, faculty who teach preservice teachers must grant significant importance to learning the cultural knowledge of all students while simultaneously accommodating their culturally influenced ways of knowing into the teaching and learning process.

**Teaching Preservice Teachers the Characteristics of Critical Thinking**
The American Philosophical Association Delphi panel developed a set of intellectual traits that reflect dispositions toward thinking critically. These traits can be included when developing classroom activities for promotion of critical thinking skills ((APA, 1990; Facione, 1990).

**Curiosity—** Encourage and reward inquisitiveness. Instead of just presenting information in lecture-style or a PowerPoint presentation, where the learner sits and listens passively while the presenter provides information, promote curiosity by including hands-on activities where learners are required to seek out information or find the answers to a problem from among several options.

**Be Informed—**Ideal critical thinkers have the information they need to think deeply about a problem. Educators can offer opportunities for deeper learning through complementary Internet reading materials, peer reviewed journal articles, websites, videos, Ted Talks, or other resources to gain further understanding.

**Teach Reasoning skills—**Using logic to reason through a problem, participants eventually will know and trust that they will learn to conclude correctly, and have confidence in the answers they produce. Use activities where learners have to produce solutions to a problem and then present the solution they arrived at, but also have them explain how they determined the solution. When presenting the process as well as the solution, learners can commit to their reasoning and trust their own reasoning process.

**Open-mindedness—**Learners must trust their own reasoning, and also be open to other possibilities. Complex problems usually have multiple issues to consider and are rarely just one thing or the other. Solutions and resolutions often exist in compromise, and considering all angles. In educational activities, present case studies and situations that have no absolute answers so participants have the opportunity to produce their own solutions that might be different from other students' responses. Discussing and debating these ideas openly, freely, and nonjudgmentally may provoke more open-mindedness within other participants.

**Flexible—** Offer participants practice in being flexible. Encourage flexibility within group activities by turn taking in roles such as being the leader, and in making decisions. Include activities that must build consensus on controversial topics that encourage flexibility during team building and creating rapport in the community.

**Unbiased evaluations—** Critical thinkers must be fair-minded in their evaluations and see all sides of the problem before making a final decision. To be fair, teach participants how to define and weigh the positives and negatives before making the final solution.

**Awareness of personal biases—**Teach participants to be cognizant of their own personal biases and perspectives, and be forthright with others when discussing a problem and potential solutions. Through thoughtful discussion, help lead them to examine what drives their individual choices and personal biases. Explain that this is a normal phenomenon and we are products of our individual cultures.

**Judicious in making judgments—**Thinking about the impacts a decision can have on the future is an important part of being an ideal critical thinker. What kind of ramifications could result over the short term? The long term? Think ahead and show participants how to anticipate the worst case scenario in order to make wise and thoughtful decisions.

**Flexibility in reconsideration—**As additional evidence and information are gathered, critical thinkers need to be willing to reconsider and re-evaluate previous decisions when it is clear that the initial decision was not optimal, or

showed undesirable results. Participants can practice activities where they need to consider an issue, make an educated choice, and then have to deal with the negative consequences or results of that decision. Then they can correct their decisions by reconsidering new information and see how being open and responsive to new facts can result in a positive response.

**Issue clarity—**Too much information can create confusion when it obfuscates clarity. Participants might not know where to begin when there is excessive data. Show them, by excluding extemporaneous information, how they can be clear about the fundamental issues they need to work through. Model questions for participants to ask themselves so they can learn to identify the real issues. Having them describe the basic issues aloud will let the educator know that the problems are identified correctly, and then processing and resolution can proceed.

**Orderliness when matters are complex—**Again, model how to identify the principal issue, determine and weigh pros and cons that need consideration, and then after sorting through all this information, select the best solution. Review choices after new information is learned. Does this new information cause re-determination? Was the process done in the best way? Use checklists to ensure the process determination was orderly and organized.

**Diligence in pursuing all relevant information—**Include and weigh all relevant ideas. Show participants how to seek all pertinent resources for information searches before, during, and after decision making.

**Reasonable criteria—**Discuss the selection criteria that needs attention. Show participants how to ignore inconsequential information. Teach how to determine what valuable resources and materials are.

**Focus—**Show participants how to ignore irrelevant distractions. Create a problematic case study and include extemporaneous information. Then show them how to determine what is irrelevant so they can focus on the important factors.

**Stay persistent in seeking precise results—**Keep refocusing on the issues to maintain precision and effectiveness in determining implementable solutions. Notice how the participants will appear to prefer one particular method over another when asked to process information about a particular topic (Gorham, Lamm, & Rumble, 2014). Refocus the individuals when you see them going off track. While the critical thinking skills someone employs may lead them to different conclusions or solutions to a problem, different viewpoints while solving a problem will be exhibited by differences in critical thinking styles.

## A Pedagogy of Connection: Educating Preservice Immigrant Teachers to Think Critically

The underlying foundation of this section is situated within the works of Freire (1970), Gay (2000, 2003), Mezirow (1991) and Cranton (1994). From the authors' observations, it can be argued that it is not until educators meet and interact with their preservice teachers do they become aware of their immigrant status. In addition to native-born students, other preservice teachers are first- and second-generation immigrants. This creates a global mixture of students in the classroom. A challenge arises when trying to create a learning community through critical thinking while addressing race, class, gender, and other issues of importance in educating preservice teachers. According to Ochoa (2007), 40% of students in public school are children of colour, while 90% of the teaching force is White. It is often assumed that only immigrant students are unable to make a historical connection to the US within their learning. Most students born within the United States do not make the connection between historical information and their learning either. It begs the question, "Is it possible to teach all preservice teachers and understand their level of critical thinking in the same way?" A concerted effort is required by instructors to look at how diverse groups of students may be addressed in a teacher education classroom.

Culturally relevant pedagogy that accommodates critical thinking allows learners to evaluate their cultural knowledge and ways of knowing, and by developing the ability to engage in reflective scepticism, they are able to understand and justify epistemic beliefs, and to distinguish between the strength of those beliefs. Additionally, different viewpoints may lead to different conclusions as a result of variances in critical thinking styles. Critical thinkers (1) raise clear questions while processing new information, (2) gather and analyse all information relevant to the situation, (3) come to conclusions through rigorous reasoning and testing, (4) recognize and consider different opinions, and (5) communicate effectively about the solutions they found (Paul & Elder, 2007).

### Preservice Teacher Educators

- Educators can proactively create experiences that reflect whatever style they are trying to reach (Gorham et al., 2014) and they must accommodate cultural sensitivity, while facilitating the cultivation of alternate critical thinking abilities in their immigrant preservice teachers. Those who are educated in the skills of critical thinking and are informed by appropriate cross cultural knowledge will be more capable of engaging in reasoned and reflective thinking on the knowledge component of their discipline.

- Interventions in the classroom can include proper modeling, support, and instruction for all types of students, all can analyze, evaluate, and interpret so they acquire effective epistemic cognition and critical thinking skills to use within and beyond the classroom environment. (Murphy & Alexander, 2016).
- Constructivist classrooms (as opposed to teacher focused, lecture-based, and rote memorization learning styles) allow students to practice and receive feedback and thought and problem solving, guidance, and discussion during class time.
- Supportive environments include small student-peer groups that actively construct and critique arguments and debates about specific problems in each content area (Muis, Trevors, & Chevrier, 2016) can directly instruct students about how to learn by creating effective criteria for evaluating different models and choosing the best out of all options. (Pluta, Chinn, & Duncan, 2011)
- Offer preservice teachers opportunities to reflect upon the connection between the dominant culture and other cultures represented in the classroom. For pedagogical planning, consider knowledge construction and ways of knowing information in multiple cultures. Discuss the role of culture and cultural assumptions about teaching and learning within their native country to compare the differences they can expect, and will encounter in the mainstream teaching environment
- Discuss issues of race, class, gender identity, poverty, and immigration in the classroom, and determine how these factors are perceived through the epistemic beliefs of the broader society.
- Open dialogue that is characterized by critical thinking about sociocultural issues allows native preservice teachers to *listen* to the immigrant students' perspectives. It also allows native and immigrant preservice teachers to analyze and reflect upon their participation in the American culture. The goal of the strategy of connecting cultures is for all preservice teachers in the classroom to examine, clarify, and transform any uninformed perspectives about issues that are part of the connection between cultures.
- Connect issues to the content they are learning. Instruction must educate about ways in which immigrant preservice teachers understand their own culture, the host country's culture, and the ramifications of these differing perspectives.
- Teach in a multicultural context. Personal experience is an important source of knowledge, and psychology is both open-ended and creative. (Green & Hood, 2013).
- Include the requirement of reading and discussing publications that provide new information on different ethnic groups. How do participants negotiate the cultural divide between Western epistemic beliefs and the epistemic beliefs of their immigrant community?

- Align texts and case studies with issues of deep cultural beliefs and practices to enable and encourage preservice teachers to develop and lead classroom presentations that expound and critically reflect upon the contents of the course, using a multicultural point of view. Analyze the multicultural contexts.
- Explore issues of school-parental involvement, cultural clashes between home and school, the effect of low parental education, limited English proficiency, limited or interrupted formal education in the home language (SLIFE), poverty, single parenting, and the impact that these and other issues have on academic achievement
- Recognize that everyone's own cultural lenses are not neutral. Mediating this dilemma requires pedagogical changes that are appropriate for the cultivation of culturally responsive critical thinking abilities in immigrant preservice teachers.
- Remediation includes dismantling the assumptions of pedagogical training that fail to consider the cultural assumptions that affect ways of thinking in immigrant populations.
  Instruction introduces the interrelationship between human development, cognitive development, learning, race, class, culture, and power. Beliefs about the nature of this interrelationship must be subjected to a more sophisticated way of knowing.
  Therefore, these beliefs must undergo a process of justification that assesses veracity and internal validity, and judgment regarding whether the belief and its supporting evidence, is congruent with the existing belief system (McPeck, 2017b).
- Educators need to engage in practices that might be out of their comfort zones, for example, allowing students in the classroom to take the lead in exploring and solving problems and allowing students to help guide their peers. Educators don't need to relinquish total authority in the classroom, but guidelines can be established for steering students to evaluate, construct, and conclude, based on their, and others' knowledge, within a supportive classroom community environment.
- Encourage students to perceive and understand the importance of the contributions made to the development of the American society by racial-ethnic and other minority groups, including women. More importantly, the immigrant preservice teacher must develop an awareness through praxis – action and reflection on an issue under consideration (Freire, 1970).
- Facilitate critical thinking for immigrant and native preservice teachers to make a connection between the dominant culture and other cultures represented in the classroom.
  In designing pedagogy, consideration must be given to knowledge construction and ways of knowing information in multiple cultures.
- Aligning texts and case studies with issues of deep cultural beliefs and practices could enable and encourage preservice teachers to develop

and lead classroom presentations that expound and critically reflect upon the contents of the course using a multicultural lens.

- "Provide teachers the core ideas and broad understanding of teaching and learning that give them traction on their later development" (Darling-Hammond & Bransford, 2005
- Using short, powerful reading assignments, show students how to analyze and synthesize the content. With guidance, students can engage in critical thinking using "reflective skepticism." Incorporate reflective questions, such as: Why do you believe some educational issues, such as multicultural education, were not supported by certain segments of society? Reflect upon and discuss the impact that multiculturalism has had on American society. Debate the reasons.
- The preservice teacher that is leading the peer to peer instruction should form questions that require critical thinking that challenge epistemic beliefs but are specific to the discipline
- Following Freire's praxis (1970), assume the role of *co-learner* who seeks to understand the lives and experiences of their students, when encouraged to share their beliefs and assumptions for critical examination. In this role, the instructor is an equal participant in the learning process and subjects her or his own epistemic beliefs to discussion as well. The effective co-learner builds an atmosphere of mutual trust and respect, sincerely engages in learning, stimulates enthusiasm and interest in others, and challenges others' values

As a result of implementing these ideas and practices, new skills can be transferred to the outside world, to the job force, and the future classroom to which future teachers will be assigned, as a result of using their epistemic cognition within their own critical thinking.

**Conclusion**

This paper discussed the conception of critical thinking within the discipline of educational psychology and proposes a pedagogy consisting of strategies to develop the quality of critical thinking in immigrant preservice teachers. The ability to think critically draws upon one's knowledge and beliefs, and it subjects new information and systems of belief to critical evaluation. To reiterate, critical thinking can be taught, and with appropriate instruction, it can be improved regardless of cultural upbringing (Halpern, 2007; Nickerson, Perkins, & Smith, 1985). Through the writing and analysis of how the authors teach, it can be argued that by using these strategies to develop critical thinking skills, there is uniformity in teaching both native and immigrant preservice teachers. For example, the authors argue that when teaching through a socio-political historical lens, both native and immigrant preservice teachers benefit. We highlight the importance of engaging immigrant preservice teachers in critical thinking with due consideration given to cultural influences. The

implementation of the strategies included in this paper should enhance and activate participation by immigrant preservice teachers through the use of critical thinking exercises, as they become cognizant of how their cultural beliefs drive their behaviour.

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## KEY TERMS AND DEFINITIONS

**Coherentist Epistemology:** A philosophical position that truth fits coherently into an existing body of knowledge. Truth is not absolute and may change with time and the emergence of new knowledge.

**Critical Thinking:** An ability and skill to engage in reflective thinking about particular subject matter.

**Cultural Knowledge:** An understanding of a culture including its values and assumptions; language; and how knowledge is created. This knowledge allows an individual to make informed choices about who to believe and what to believe.

**Educational Psychology:** A branch of psychology that specializes in the study of teaching and learning in educational settings.

**Epistemic Cognition:** Ideas about knowing and the ways in which knowing is part of the cognitive process that involves thinking and reasoning.

**Immigrant Communities:** Populations of foreign-born people who are domiciled in another country.

**Immigrant Preservice Teacher:** A foreign born person domiciled in a new country or a first-generation person born in a country but lives in an immigrant community. Such a person is enrolled in a teacher education program to be trained for the teaching profession.

**Multicultural Education:** Study and teaching from a content perspective that relates to ethnicity, race, class, gender, socioeconomic status, and disability. Teaching is set within a socio-political and historical context.

**Pedagogy of Connection:** Teaching that is characterized by reflection and praxis.

**Teacher Education:** A discipline of study for the preparation of preservice teachers.