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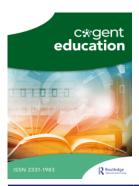
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INTERNATIONAL & COMPARATIVE EDUCATION | RESEARCH ARTICLE

Candidates' modification of global perspectives via international student teaching: A case study

Hsuehi Lo1*

Abstract: I investigated U.S. elementary teacher candidates' global perspectives before and after completing a student teaching experience in the People's Republic of China (PRC). The samples, four elementary teacher candidates (TCs), purposely selected for the present study, completed student teaching in a Primary School in Xian, PRC, because they all come from Midwestern-culture family, complete teacher preparation course work, and are ready to do student teaching. I employed math lessons in this exploration of TCs' global perceptions, looking for modifications; my primary interest was in potential changes from provincial to more refined perspectives. It is worth noting that the questions may have may have communicated expectations that such changes would occur. Interviews and class observations were collected from the four candidates and analyzed by means of an axial coding process across the four candidates. Results demonstrated that pre-service teachers change from what I termed a "local" (or what might be termed "parochial)" perspective to more "global" views of schooling and culture. The four teacher candidates evinced this new sophisticated understanding along three axes, (1) the

Hsuehi Lo

ABOUT THE AUTHOR

I have taught math methods to pre-service teachers in the U.S. for the past two decades. I found that my candidates seemed to lack a certain sophistication in their global and inter-cultural perspectives and thus my interest in international student teaching. My primary research interest is in mathematics pedagogical content knowledge (PCK) for pre-service and in-service teachers. I am currently applying my interest in PCK to gamebased learning as deployed in K-6 math via such methods as iPad-based mathematical games. I am currently involved in a service/research project in a diverse elementary school in my hometown of St. Cloud, Minnesota. I am interested to learn whether, as I suspect, play-based curriculum will enhance acquisition of mathematics knowledge and skills. As I have a particular interest in the assessment of mathematics achievement, I have couched this current project in terms of differentiated approaches, which might well be facilitated by technology.

Photo of the author(s), including details of who is in the photograph:

Four teacher candidates and I took the picture in Xi'an City high speed station.

PUBLIC INTEREST STATEMENT

I investigated the challenges of faced by American elementary teacher candidates as they taught mathematics in the People's Republic of China. I am most interested in how, if it all, American educators come to modify their attitudes and pedagogy—especially how they deconstruct and reconstruct concepts related to culture and globalism. I collected data (interviews, field notes from observations, lesson plans, and journals) to look critically on changes in thinking about how the teacher candidates meet the Chinese 2nd graders' needs. Teacher candidates significantly increased in the sophistication of their global perspectives. I also observed and recorded some fascinating blind spots. As it turns out, not just the culture but also the physical and social environment created challenges that "grew" these teachers as the eight-week experience went by. I also found evidence that the discipline of mathematics itself, with its so-called universals lent itself to the growth of these educators.







global cognitive development, (2) the social strategies change under different physical environments, and (3) noticing and appreciating cultural divergence. An evolving sense of justice appeared to connect the three concepts. A tangentially connected issue that came up, as might be expected, was the vulnerability of candidates' foreign communication skills. TCs' effectively developed their global perspectives in teaching math lessons and suggest that math or STEM may be better for acquiring global perspectives than are either social studies or language arts.

Subjects: Teacher Education & Training; Primary Education - Teacher Education & Training; Development Studies; Culture & Development; International & Comparative Education; Multicultural Education; Primary/Elementary Education; Initial Teacher Training; Action Research & Teacher Research; Teachers & Teacher Education

Keywords: global perspectives; elementary teacher candidates; international teaching in math lessons

Internationally, teacher education programs have increasingly focused on international mobility (Parmigiani et al., 2021). For example, Poole and Russell (2017) have estimated that such programs increased by 65% from 1989 to 2017 in North America. Significantly, developers of programs have increasingly come to design them around such unifying themes as health and global citizenship—especially contemporaneously with the COVID-19 pandemic. Another target for international exchanges, especially between the U.S. and Asian nations, is the development of enhanced mathematics pedagogy, perhaps via adopting Asian methods in the U.S.A (Ma, 2020).

Global engagement by teacher candidates may enhance international perspectives, helping future educators appreciate meanings and practices related to the culture-schooling nexus. Such experience probably lends themselves to better practices related to diversity, equity, and inclusion (Engel, 2019); as a result of these factors, American¹ teacher educators increasingly emphasize global citizenship (Rapoport, 2010).

The principles associated with global perspectives are most commonly instituted via activities at candidates' home institutions—often remaining purely theoretical with little praxis involved (Fitzgerald et al., 2017). No wonder that educators have increasingly called for enhancing these approaches with in vivo global experiences. It is one thing, these educators claim, to discuss the intersection between culture and schooling and quite another to actual experience, for example, Chinese culture and pedagogy (Fitzgerald et al., 2017). Researchers (Steele & Leming, 2002; Parmigiani et al., 2021; Santoro & Major, 2012), for example, demonstrated that TCs develop deeper understandings of the culture-pedagogy intersections via international teaching. Some have even argued that these lessons become more deeply inculcated through experiences with cultures unfamiliar to participants, for example, teaching in China as opposed to, for example, Canada (Chinnappan et al., 2013). In conclusion, accumulating evidence suggests that teacher candidates come to reflect on teaching and globalism more intensely meaningfully by acquiring international experience (Chinnappan et al., 2013). However, few researchers have addressed the processes and mechanisms via which perspectives shift. I designed the current study to explore the process of how CTs shift their global perspectives during international teaching.

1. Theoretical framework

1.1. Global education in teacher preparation programs

After Covid-19 struck, the relationship among countries become tied more closely by global health issues and the negotiation of travel restrictions. The role of higher education may incorporate international perspectives to provide global programs in several majors (Childress, 2009). Teacher



preparation officials have increasingly incorporated global-foci into K-12 training curriculums. Global coursework plays a key role for equipping future educators with the necessary competences for developing their professional knowledge from the local to the global scale (Robbins et al., 2003; Russell, 2018). Even without international practices, teacher candidates may enjoy opportunities to include global perspectives into their pedagogical content knowledge (Shulman, 1987, 2005).

Global education in higher education fields (e.g., on-campus international activities, international instructors, global education courses), while potentially valuable, provide little perspective and even less needed praxis, thus exerting limited impact on candidates internalized cognitive schema related to globalism (Santoro & Major, 2012). Any international activities, holiday events, or even the discussion of global issues are used to embellish mainstream (currently existing) social behavior. Under the cultural charismatic (Smith, 2000) authority, teacher candidates normally build their global perspectives locally from the perspectives offered at their training universities—perhaps serving as a starting point for the growth that might result from international experiences.

Research suggests that undergraduate students are shortage of the ability to discuss globalization (Fox & Hundley, 2011). Especially in the U.S., undergraduate students experience difficulties opening their mind to global viewpoints (Fox & Hundley, 2011). One researcher (Gmelch, 1997) demonstrated that when U.S students travel internationally, their most frequently asked question was "Can you speak English?" (Fox & Hundley, 2011); rather than open their mind to learning and remember how to speak the new, local language they might, for example, learn some useful phrases in the local language to initiate learning. They might learn such useful "foundational" national phases and questions as, "Where is the bathroom". This is the reason that global education in teacher preparation programs plays a key role in encouraging young people's global perspectives and supporting open-mindedness about new approaches.

It is a tendency after the COVID-19 pandemic that teacher candidates need to attain competencies for considering and discussing any international issues with their future students. Educators ought to base these discussions on the interdependence of human societies and any classroom debates should reflect an appreciation of diversity, and the developments of broadmindedness in proctoring such conversations. Researchers (Patrick et al., 2013) argue for the existence of two related, but differing, approaches for embedding global perspectives into the curriculum: First, a skilled-based approach and, secondly, critical-based approaches. In this research, skilled-based approach is implemented.

A skilled-based approach is the most effective way to teach global education in K-12 school (Patrick et al., 2013). By using skilled-based approach, teacher candidates learn how to develop global perspectives when they are teaching in content domains (math, science, social studies, and language arts). In developing global skills, teacher candidates must learn to explore their own negative perspectives, often the result of propaganda was aged by multinational corporations (Myers, 2010). For example, American educators may harbor such perceptions as the intrinsic value of economic competitions, local meanings of human rights and social justice, and democracy. All these conceptions will likely differ across international boundaries—and local biases must be recognized if candidates are to gain from their international experiences.

Teacher candidates may already possess professional training to resolve the complexities of interconnected global perspectives—especially as these interact with subject matter. For example, in math, one inch is greater than one centimeter, but one-hundred meters is longer than one-hundred yards. Teacher candidates, in this study, had received, at their home institution, preparation on categorization of three different perspectives on global issues, which are global perspectives, classroom perspectives, and personal perspectives (Curriculum Corporation, 2008). These will be three themes to explore teacher candidates' global perspectives in this study.



1.2. The process of integrating global education into lessons

The purpose of global education in K-12 curriculum provides the views of the globalizations to our students looking for greater interconnectedness of the worlds in our new social space. The meaning of globalizations can be considered as ethnoscapes, mediascapes, technoscapes, financescapes, and ideoscapes (terms are from Appadurai, 1996). These five globalization concepts are used to develop a global education curriculum in K-12, in which students develop their global perspectives by discussing and understanding a variety of problems among the world, the service of the contradiction, and expression of conflicting value among different countries (Parker, 2008). Via the discussing and understanding process about globalized issues, K-12 students identify their own values from their lived experience and recognized the similarities and differences when comparing with others (Hull & Hellmich, 2018).

Global education curricular, implemented in the K-12 schools, are an imperative process for students to play as one of the global citizens in the world and reflect on their "local" lives (e.g., health issue, technology issues, human right issues, and economic issues, and even human being issues) beyond the gap of nations. Via the discussions and understandings, students play as a global citizen to enlarge their "global" perspectives. K-12 teachers' well preparation in global education will decide students' quality of discussion in global topics and build a positive and constructive critical thinking in global perspectives.

Teacher candidates need to implement their skill-based approach to imbed global concepts in their subject matters teaching. Research (Patrick et al., 2013) have showed teacher candidates may effectively increase their global perceptions by doing their student teaching in other unfamiliar countries. Via the real teaching experience in other countries, TCs are imperative to re-model their professional teaching to be "global responsive" for their international students' learning needs. Studies showed (Parmigiani et al., 2021; Steele & Leming, 2002) TCs effectively increase their global sense when they are teaching international students. However, seldom research showed how teacher candidates transform their essential teaching knowledge (learned from their own "local" teacher preparation program) to "global" perspectives. It may include the sense of cognitive development (e.g., the development of math content knowledge or any other subject matters) and non-cognitive development in the consideration economic, social, political, cultural, religious, and legal dimensions (Aydarova & Marquardt, 2016).

1.3. Teacher candidates' the change from "local" to "global" perspectives in teacher candidates

The primary purpose of global education is to help, especially American teacher candidates evaluate and perhaps reinterpret their personal schemata in pedagogical contexts. Russell (2018) employed the useful term "vernacularization" (p. 567). It means that, when all goes well, students come to apply global norms to pedagogy and in their experiential lives. The "local" education in this study refers to one's personal learning experiences from the teacher education program in their own country (and their experiences as students in that system). Global education means, that students employ extant local norms when they first enter other countries' educational systems, and subsequently integrated local (e.g., existing) and emergent global norms to increase their global consciousness.

I have noticed, in my travels that students in other countries like to attend international schools because of the global perspective that they gain—and their parents approve of these considerations. International schools normally prepare students who are or who will be living internationally. Such individuals typically already possess a willingness to distinguish differing values and associated cultural variations (Santoro & Major, 2012; Smith, 2000; Taylor & Thoth, 2011).

Educators play a key role in growing global education. When the global perspectives develop (Mottola & Russell, 2015), teachers must learn to deliver knowledge in ways that do not conflict with local culture and attitudes. To accomplish this, they must come to apply global perspectives in their workaday lives. People, living in different countries, are brought together in shared spaces.



Teacher candidates in an international teaching situation, must learn to empower their students. Represent a different culture—even affecting learning styles.

1.4. Global education in math

Authors of the Cambridge Global Perspectives 2020 survey (Cambridge Assessment International Education, 2020) reported that 96% of students ages 13–19 representing seven nations believe global learning is crucial, with only 31% indicating that they did not experience global education as part of content classes. Global learning can be offered in all content areas and grade levels (Tichnor-Wagner et al., 2016) via integrating subject matter and global readiness (Pham, 2012). Many studies (Gaudelli & Fernekes, 2010; Russell, 2018; Shulsky & Hendrix, 2016) report such mixing in social studies or language arts; these approaches were designed to help professional educators and teacher candidates explore personal global perspectives. For example, Russell (2018) inserted explorations of international perspectives (and culture) into how to teach human right under social studies topic, curriculum, and methods. I designed to expand experimentation with globalism beyond social studies to the domain of mathematics.

In support of globalism, teacher candidates may choose to adopt skilled-based approaches (Patrick et al., 2013) in structuring math lessons to include global considerations. The National Council of Teachers of Mathematics (NCTM, n.d.) teaching principles (2000) provide a framework supporting TC's employment of add-on approaches (Patrick et al., 2013). Through this process, global content can be inserted into math content and pedagogy. This approach is designed to assure that students improve in international understanding.

In the present investigation, I intended to incorporate designs and processes reflected in candidates' math lessons for Chinese students. An add-on value that I emphasized in teacher candidates' preparation was to West's (2012) approach and view global education not as a means for global competitiveness but rather as a support for global understanding.

2. Method

To explore changes in global and pedagogical orientations, I recruited four elementary TCs from a state university in the North-Central U.S.A. all of whom had received reasonable theoretical preparation at their home university. For the sake of transparency, note that I was the faculty member who introduced participants to (a) mathematics pedagogy and (b) global perspectives. A pre-existing partnership between their home institution and a Chinese university in Xian, China allowed a five-week placement of the American TCs at an international primary school.

2.1. Research questions

I designed the investigation described here around the following primary research question: What are teacher candidates' global perspectives changed from local to global perspectives during international mathematics teaching experience? A secondary question pertained to *how* change occurred.

The first objective of the present study is to explore teacher candidates' changes of their global perspectives during the time when they were doing their student teaching in the non-English country and teaching authentic Chinese elementary students in authentic elementary school in Xian, China. The second objective of the study is to observe in such cultural-signature situation, how teacher candidates change or modify their pedagogical content knowledge (Shulman, 1987, 2005) with global perspectives to develop their student-centered perspective, trained by the U.S., from Chinese teacher-centered curriculum.

I observed candidates utilizing, Hanvey's (2009) five dimensions of global consciousness. Hanvey's organizational arrangement proved valuable for interpreting data. Hanvey (2009) proposed the following cognitive orientations: (1) perspective conscienceless, (2) physical awareness, (3) cross cultural orientation, (4) global dynamics, and (5) human choices awareness. I started with these dimensions to develop my analytic framework (see, Appendix Figure 1 for detail).



The figure shows three connected columns with one entry in column one Labeled "Teacher Candidates' change from local [perspective] to global. This moves (column two) to three levels of open coding (1) global-cognitive development, (2) social strategies change under different physical environments, and (3) noticing cultural divergence. These three codes are connected in column three to five axis codes, (1) perspective consciousness, (2) physical awareness, (3) cultural awareness, (4) global dynamics, and (5) human choice awareness. Further explanation in text.

2.2. Participants

Four teacher candidates had completed their teacher preparation program training courses (in the Midwestern U.S.A). As part of this project, I developed written portraits of the candidates (Lawrence-Lightfoot, 2016). These can be accessed via an email request. The generalizations below were drawn from these portraits. It also justified these four participants.

- (1) All candidates had taken methods courses at the same Midwestern university from the author of this investigation: obviously, a complication worth noting in the interpretation of data.
- (2) All four participants demonstrated a sense of adventure and openness to potentially lifechanging experiences. I base this on two observations: First, they agreed to teach in a setting quite foreign to them. Second, a priori conversations suggested that these candidates started with an openness to global perspectives and advocacy of diversity.
- (3) All candidates came from similar surroundings—specifically from middle class, intact families wherein, despite positive familiar attitude toward diversity (I met all the parents), three of the four represented quite homogeneous backgrounds (from a town that was about 92.04% white (2021 U.S. census estimate). The fourth individual went to school in a nearby urban district.
- (4) Significantly, all four participants largely experienced diversity via interactions with first-and second-generation Asian Americans.
- (5) All candidates were 22–25-year-old females who did not speak Mandarin—though one of them participants made a concerted efforts to learn.

I am a Taiwanese native and an American citizen; I speak English and Mandarin fluently and service as a professor of elementary education. Prior to the China trip, I had taught globalism to all candidates in my class and overall global perspectives used in China with the four candidates.

In line with what Denzin (2017) labeled "the research act" I acted to maintain objectivity, while understanding that this remains impossible in vivo; nonetheless, I worked to avoid making a priori assumptions about whether or not, or to what degree, changes would occur.

2.3. The Chinese school and its students

The primary school was attached to and located on the campus of a regional university in Shanxi Province, People's Republic of China (PRC). PRC officials classified the institution as a public school.

About 55 students or slightly more attended each K-2 classroom (ages similar to the same designations in the U.S.A.). Largely, because of class size in Xi'an and elsewhere, Chinese educators strongly emphasize deportment; this also tends to exist as a function of culture—specifically a deeply seated Confucian ethic.

Four participants taught in English-immersion setting. The Chinese students were second graders. Each candidate taught a large class, by American standards, with at least 55 students per room for 50 minutes per section. Candidates managed instruction, out of necessity, via large group contact and individual practice with few opportunities for breakout groups—quite different from what they had experience at home. They certainly mentioned this as a concern both verbally and



via journaling. The four candidates were required to teach math, science and English. I primarily focus on math activities in the context of the study described here.

2.4. Data collection

I employed the following data points in my case study:

- (1) Lesson plans and approximately four hours of classroom teaching observations with extensive notes. To make sure the observation as authentic as possible, I double checked my observation notes with the participants in our lesson planning meetings at night. All observation notes are confirmed with participants to make my research work as possible as it can be.
- I conducted interviews (after teaching episodes); these were recorded and transcribed verbatim.
- (3) I asked the four TCs to construct journals related to their in- and out-of-class experiences and subsequently analyzed entries. In assigning the journals, I told the candidates that their journals would serve as part of my research data and that they could elect to decline without consequences related to the trip and their relationship to their parent institution in Minnesota.
- (4) All participants were aware and provided informed consent regarding participation in the investigation. Obviously, this methodological aspect may have impacted results, as they knew that I would metaphorically be looking over their shoulders as they wrote. However, triangulation between the methods suggested to me that the journals proved largely authentic as sources of insight.

2.5. Data analysis

I generated results through from row data to open code (Hanvey (2009), to three-axial coding methods (Scott & Medaugh, 2017). It showed in the table one. To manage this procedure, I undertook techniques enumerated below:

- (1) I completed open coding directly from the sources of rough data described above. This was done by color coding journal entries, observation, and conversation notes. I employed Corbin and Strauss's (1998) system by categorizing verbal (and subsequently written) behavior into three axial codes (a) **cognitive** development, (b) **social strategies** under different **physical environment**, and (c) noticing and appreciating cultural divergence. I establish observations into a theoretical framework Via axial coding, judging, and recording in my own research journal "open" codes most central to the study. I did not treat categories as orthogonal. That is, by way of example, a statement could be related to both "relationship" and "divergence." For the sake of the analysis, I defined each dimension (and what would fit into it) as follows:
 - Cognitive. I coded "cognitive" when the entry primarily dealt with internal monologies related to
 planning and thought processes associated with lesson development, execution, and especially
 engaged criticisms—typically noted as self-reflection.
 - **Social strategies**. I codes "social" when the thrust of the datum dealt with relationships. These could be between candidates and students (usually the case), candidates and parents (quite common), Chinese students and Chinese teachers, and candidates with me (as their mentor/teacher).
 - Physical environment. I used this code when statements or my observations dealt with such topics
 as the number of students in a setting. More that "physical" and "social" often occurred together.
 - Noticing and appreciating cultural divergence. I employed this category to reflect content
 specifically dealing with divergence between Chinese and American culture. I included political,
 parenting, language, and other subsets of the category "culture" in this classification. Th to
 included, the verbalization or written response must have included the key terms "diverge" (or
 related) and/or "different" (or related words, e.g., "discrepant"). Occasionally, I included clearly
 implied observations of differences in this category.



- (2) By means of axial coding, I identified which "open" codes proved most important and central to my research questions. After that, I refined open codes to find categories. I derived these from the relationships between open coding data, e.g., categories (Corbin & Strauss, 1998). For example, I combined the open codes like "global awareness", "crosscultural", and "human choice awareness" to make an axial category that I entitled "noticing cultural divergence." I recorded (research journal) concerns verbalized by candidates (most of them turned out to deal with their teaching efforts and the setting). I documented 2nd graders' behaviors and comments via observational notes. I developed and deployed a column-based format, including the categories teacher (candidate) talk, student talk, student behavior, and Chinese co-teacher's behavior).
- (3) Following daily observations, I held 50 minute-conference with candidates to confirm and to further explore my observations' veracity; I occasionally found that I erroneously ascribed a motivation to a student teacher that was not, upon [their] reflection warranted and was thus able to correct my notes. Via the conferences, the four candidates identified possible connections between their choices and thoughts, especially regarding how they could perform better the next day. I challenged them with the latter question after each meeting. Following the 50-minutes conferences participants wrote their daily reflection and designed lesson plans for the next day. Note that I also employed lesson plans in analyses.

3. Findings and discussion

I divided the findings and discussion (which are integrated) into four topics. First, I explored four teacher candidates' (TCs) modification from local to global thinking. This finding can be overarched in this study. Second, I described how four TCs implement their global cognitive development to change their lesson planning and teaching strategies. Third, I described TCs' social strategies change under different physical environment. Fourth, I addressed the noticing of cultural divergent and TCs appreciate the math or STEM lessons to grow their global perspectives.

4. First: from local to global thinking

I interviewed all four TCs while we waited in the twin cities airport for our first flight. In these discussions the TCs' mainly focused on subject disciplines (math, science, English as language art). They stated that they were going to teach lower grades and that all of their students would be native-born Chinese. Each of them expressed high levels of confidence to teach these "foreign students" as Danielle said, perhaps some of their confidence came from the fact that they knew that (a) they would teach in English and (b) that the Chinese students could already speak (English) at a moderately high level. All four candidates expressed excitement about the trip and at least stated that they felt well prepared by their teacher preparation program. Their global perspectives seemed the same as the perspectives they voiced during their undergraduate diversity training, mostly related to racial issues, cultural differences, and equity. I was not certain either about their actual level of confidence.

The first week in the Xian City 2nd grade classrooms, the TCs' observations, and planning lessons, really changed their perspectives from a diversity centered to a more global or cultural perspective. Their curricular and methodological decisions started, as I saw it, to better reflect the needs of the Chinese students. I provide specific examples below.

In the beginning, I think I came to teach math lessons and implement my knowledge of diversity.
 However, now this seems totally wrong. I found I needed a global perspective in my lessons so I can build the relationship with my lovely Chinese kiddos and make my math lessons better (Sally).

I did not ask the candidates (at this point) what they meant by global perspective or global education. This is addressed in more detail below.

• It is not [that] I already have knowledge (of global education). It is something I don't know between us (inference = between the Chinese children and me), and we need to work on that knowledge



together. For example, when I tell them [2nd graders] that I am from the U.S. I ask them "What do you think about U.S.?" many of them said, "All Americans have guns, and it is cool that they can bring guns to the supermarket." I tell them that this perspective is not accurate, but they express confusion because that is what they see on American TV shows" (Kate).

The TCs certainly needed to increase their personal global perspectives by understanding the difference between opinion (I refer in this study as a way of looking at things) and perspectives (I refer in this study as personal thought or point of view), so they could, in turn, offer a more reasonable perspective as an antidote to the Chinese students' prejudgments. Along with that, their lesson plans increasingly included a blend of "straight" math and information about American society. For example, the TCs began to distinguish the difference between opinion and a truly global perspective (during my interviews with them).

- I assume students like to play more math games and have less homework because this is what I assume to [be true of] 2nd graders. It seems [that this] is only my opinion, because in teaching Chinese students here, I find that they expect more homework (and direct instruction) so they can show their parents how hard they are working for academic achievement" (Kate).
- I found my perspectives on education here [China] turns to be only my pre-existing opinion. Education is more rigorous and a bit more rigid than how it seems back home" (Sally).

In a humorous aside, Sally added that " ... no one likes homework in America!"

• One student's parents prepared a luxury gift for me-very surprising. The next day, another student's parents invited me to their house for dinner. Parents in China treat teachers quite differently than is true in the U.S. I need to change my perspectives about teachers' status in Chinese society. They respect teachers and honor teachers' efforts and expect me, as a teacher, to educate their own child more than the others. That is what I feel" [Bessie, note the intersection between the category's "relationships" and "divergence" here].

Via the open coding approach, I noted that their global awareness passed through fascinating changes. At first, TCs appeared confused, and they expressed a bit of frustration, when they applied the project-based model that I had taught them, whereby they had learned that students acquire and apply new knowledge most effectively via hands-on activities. Significantly, all four of these candidates had expressed a degree of positivity about the hands-on methods. However, they found that their Chinese students expressed a different expectation, putatively from their past schooling experiences. The Chinese students preferred to proactive basic skills thus acquiring mastery—they wished to complete many worksheets. So, when the CTs designed project-based, case-based, problem-based, or inquiry-based learning, students could not make sense of why they needed the opening exploratory activities:

- S: Miss P. (Kate), can you tell me what to do in the project?
- Kate: Yes ... you and your group members may write done how much money you will spend. After 15 minutes, each group will take turns to share their project with the rest of the class.
- S: So, Miss P., are we going to the grocery shopping, after we complete the project?
- Kate: I am sorry, Sherri [student's name], we are not. We just work on a project to apply the concept
 of measurement.

I noted privately that the Chinese second graders appeared to conflate simulations with [expectations for] real activities (for example, a community shopping trip). I noticed that students voiced confusion when they spoke to fellow group members. After a while, the same student asked the teacher a question:

- · S: Miss P., if we don't really have real grocery shopping, why [do] I need to do this project?
- (Kate explained to the whole classroom that they pretend to grocery shop and the project is [designed to] help them apply the concept of estimation—the topic of this lesson.)



The Chinese students expected (in the words of their parents) a stack of practice papers. It remains difficult, for me at least, to parse out the degree to which the students *truly* wanted and expected homework-type exercises or whether they had overlearned the Confucian trait of the virtue of pleasing elders. Nonetheless, it seemed to me, that the Chinese students' perspectives on learning math included considerable practice and homework, while simultaneously the four TCs assumed that hands-on activities better engaged youngsters.

The TCs reflected via their journals, that understanding does not necessarily require real-life application for these students (Danielle's journal). Or, at least, the second graders voiced a preference to master the basics by completing seat—and homework. Later in learning sequences, Chinese students come to understand (apply, not just know) skills and concepts. So, TCs concluded that Chinese students like to learn by moving from knowing to understanding. It is different from the U.S. students who, given methods in some parts of the U.S, work for understanding principles before moving on to practice algorithms.

5. Second: how to change planning and teaching strategies

Based on the reflection conclusion, the four TCs begin to change their daily lesson plans design for students to develop their math knowledge. Their lesson one may focus on the procedure correct/fluency or mental math so students can get the correct answer quickly and correctly. It is a U.S. training, called student-centered approach, following students' asset first. They put a lot of worksheets practices as their homework because students expressed pride in completing them. In addition, such procedures allowed students to show their parents that they have completed their expected learning obligation.

Even though the four TCs designed lesson one to facilitate procedural fluency, they also deployed play-based activities. Most of activities proves related to achieving fluency in games rather than pretending to prepare for a shopping trip or to build a house for example, (as was true in the earliest iterations of their practice in Xian City). The math activities can be like roll two dice and see who recites the sum faster. This mental math activity dramatically improved students' learning.

After lesson one, TCs begin to link the "get correct answer faster" to the thinking part as their lesson two. For example, with the stimulus "9 + 9" students rapidly responded "18." TCs subsequently asked their youngsters to employ different dollar bills or coins to make the 18 dollars. Students readily built on their well-developed-mental computation to complete such problems. For lesson three, TCs employed the project-based model to develop students' strong mental math in the scenarios they had created.

6. Third: social strategies change under different physical environments

Data suggest that the physical (or classroom) environment change affected the TC's manner of communicating with students. In Minnesota, one finds an average of 22.4 students per primary classroom (NCES [National Center for Education Statistics], 2018). Also, most students in Minnesota schools are assigned a hallway locker for storage of personal materials. The Chinese classroom and school environment was quite different, and these differences produced changes in their outlook and practice. The average primary classroom population in the Primary School attached SNNU in Xian is approximately 55.

I observed that the American TCs spent considerable time and energy adjusting many activities—but to me most obviously, their manner of communicating with students. They struggled at first for an effective communication method, with significant implications for classroom management and relationship building. At the beginning of the week-one the educators, with the assistance of their co-teacher, improved their ability to manage large classrooms. Several transcript entries reflected TCs sense of adjusting to the Chinese K-2nd grade classrooms.



- Before the class, I cannot even hear what my co-teacher tells me because students' talking is too
 loud. When the class begins (the school bell rings), my co-teacher suddenly announces the beginning of class. Suddenly, all students were back in their seats, sitting still, keeping quiet, and waiting
 for my co-teacher's next direction [Danielle showed an amazed face]. It seems students always keep
 an eye on my co-teacher, listening for her voice and watching for her behavior (Danielle).
- I have to say my Kindergarteners are so nice and always follow the rules. I think this is the reason [that], even though I have 58 students ... in the classroom, it seems as quiet as 10 U.S. students. The room [seemed] so quiet, organized, and cooperatives. I don't know how all 58 students can follow what my co-teacher said all the time [but they did; my inference of her meaning]. It is amazing for me and opened my mind. In the U.S. it seems [that the] teacher sometimes needs to chase students around the room. Here, the students work together, remind each other, and ... maintain a quiet and orderly learning environment (Bessie).
- I like that students always follow the rules but as a teacher in such a huge classroom, I don't think I can make sure each student shows me they have learned what I taught today [Perhaps she meant that she had not contemporaneously thought of how to individually assess so many students—a current priority in American schools] (Kate).

The four TCs came to understand that Chinese students, by this age, have learned that they ought always to keep an eye on teachers, discerning cues as to expected behavior. Dayna's comment supported that notion that Chinese students have a strong sense their behaviors should be tuned to what might be termed an adult-centered standard. In contrast, American students evidence a self- or peer-centered classroom. None of the pupils stood up or wandered around (e.g., sharpen their pencil, throw garbage, etc.).

The four TCs discovered that they needed to remodify their classroom management strategies based on the **adult-social-centered behavioral** strategies adopted by their pupils (perhaps a function of Confucian culture). When a teacher verbalized a command or request, students attempt to behave in line with what they believe is expected. Within 5–10 seconds, all students responded to their teacher's command or request. Another interpretation that my American students verbalized is that Chinese students don't like to be "singled out" from the group—this impulse most likely lent itself to classroom management.

Interestingly, many teachers in Minnesota classrooms use auditory (bell) or visual (flipping the light switch) signs to signal either transitions or the start of instruction. In China, the teacher's voice proved enough to cue expected student behavior. Transitions gather special attention in American behavior management strategies—not so much a need in Xian.

An issue of concern expressed by all four candidates was the role of equity, as learned in Minnesota. In Xian, I observed that teachers do not have time to check individual outcomes—especially during class time. This is quite different in the U.S., where one aspect of equity education is that, within a 50-minutes period, all students experience equal learning opportunities. No (or very little) time was allocated in the Chinese setting for either reteaching or small group instruction.

7. Fourth: noticing and appreciating cultural divergence

Within the eight weeks of student teaching in Xian, the four CTs and their students (k-2nd graders) rapidly navigated what might be termed a cultural understanding; teachers and students worked together and reduced the culture-based attitudinal and expectational differences. Demonstrating real insight, Sally wrote that she believed that teaching math revealed much about culture as the content itself is, by way of contrast, reasonably universal. Kate similarly voiced an appreciation that math teaching allowed her to gain a view of Chinese culture, relatively "clear" of content. She specifically contrasted math [teaching] and language arts in this regard. Math lessons provide an international language of numbers and interpretation of those numbers.



Many global education studies (e.g., Gaudelli & Fernekes, 2010; Russell, 2018; Shulsky & Hendrix, 2016) used language arts or social studies to talk about the global education, human rights, or systemic international educational differences. In summary, perhaps a concentration on mathematics allows for a separation of content and pedagogy, on the one hand, and culture, on the other.

- Two significant techniques exist via which to approach global perspectives. One is a digital (one-on-one) approach and the other one is to arrange on in vivo situations. Eventually, the analog approach is probably best way for candidates to comprehend cultural difference. TCs may not completely understand Chinese culture, I became impressed with how much the candidates did pick up. For example, 尊师重道 (Zun shi Zhong dao by pin-yin system), the word-for-word translation is "respect teachers in order to underline Taoism"). While candidates did not actually appreciate the deeper meaning of the phrase, they did come to comprehend that much of the student-parent-educator triangle differs from [what occurs] in the U.S. The TCs demonstrated some ability to penetrate the local culture. Even though they didn't understand all the richer implications of their experiences but understood Chinese teachers' power. They even came to use that positional power leavened with some of the best practices they had learned at home. If I am going to teach the meaning of human rights, it will turn out [that] I teach them "American-defied" human rights [perspectives] or nothing because they have so many different perspectives in social studies. (Danielle).
- Math is knowledge no matter where you are teaching. I find it easy [probably meant "easier"] to learn cultural difference through the analogy approach. Some terms (e.g., 孝顺, Xiao shun by pin-yin system) used in China cannot find in English. The translation "obey your parents" is totally wrong based on what I see with my 2nd graders (Kate, note that she used the pin-yin pronunciation).
- Some terms, for example, equity, are different from what I learned in the U.S. I am so glad that I increase my global perspectives by preparing and teaching math lessons. (Bessie)

8. Conclusion

Based on the current findings, it appears that global education change TCs' attitude primary via an emphasis on the contrasts between education in the country-of-origin to differences inherent in the international experience. To their credit, the TCs voiced the importance of "keeping an open mind" and observing the people, environment, and culture they encountered as independently of prejudice as possible. After the eight weeks of international teaching, all four opined that all candidates would benefit from such experiences; this way they would come to understand their own culture more clearly, their personal limitations, and their existing social biases. My interpretation is that five conclusions resulted from the Chinese teaching experience here described.

- (1) Candidates moved from essentially local to more global perspective. All TCs acknowledged that they initial ideas became more sophisticated as they experienced Chinese schools first-hand. For example, they initially assumed that Chinese students would not appreciate homework—because Midwestern American students voice this opinion—sometimes quite strongly! After teaching Chinese students, the TCs opined their global experience help them successfully modify teaching strategies in light of the Chinese educational system and the local culture. An initial phase in this transformation was acknowledgement that they could not rely on their U.S. experiences in their designing instruction, nor in deciding how to interact with their Chinese students.
- (2) Given point #1 above, with time and experience, TCs successfully and meaningfully modified teaching approaches to integrate with the Chinese setting. Their personal opinions, based on the facts they faced daily change their views of what methods would prove effective. It could be argued that they increasingly learned to ignore their existing opinions and, by extension, they Midwestern experience.
- (3) The TCs gained a sense of Chinese culture via their novel setting and the experiences it offered. Most especially, they came to understand (and acted upon) the desire of students to experience challenge and engage in demanding levels of practice. The TCs even seemed to understand that this preference probably existed as a function of (students) internally interpreting parents' wishes—a very Chinese (Tao/Confucian) viewpoint.



- (4) TCs found the classroom environment to be quite different from what they experienced in Minnesota. Most especially they voiced a clear understanding of the implications of much larger classroom population. To teach in a large-N classrooms, TCs altered their pre-exiting student-centered model to be more adult-centered model. For example, they emphasized the fact that needed no "gimmicks" to gain students' attention (i.e., flipping the light switch or ringing a bell (all common in the U.S.). While American teachers spend considerable time attempting to equalize the performance of poorly performing students (equity as student-centered), Chinese educators tend to see equity as supporting via access differential time allocation to students desiring enrichment and who perform well; the TCs viewed this as an adult-centered perspective. They came to contrast (accurately, in my opinion) the Chinese view as "opportunity-driven," while the Midwestern perspectives dealt more with outcomes.
- (5) TCs and their students worked together with some success to reduce cultural-based attitudinal difference. The TCs came to believe that mathematics allowed for more direct framing of cultural comparisons—as opposed especially to social studies where content and culture remain inextricably blended. Incidentally, I found this to be a quite sophisticated insight on their part. While it may prove a function of my own biases, I found that I agreed with their understandings in this regard. One TC concluded that "When teaching math to Chinese 2nd graders, it is not about culture, it is about us." She agreed later that by "us," she meant the emergent teacher-student learning partnership. Math appeared to provide a vehicle for cross-cultural understanding, based on its propensity to exist as an international language—as free of cultural as is possible in a school setting.

9. Recommendations

Based in this study, I offer the following four recommendations for practice. I want to emphasize that some of them are impressionistic, not all of them directly based on data.

- (1) Educators and students will likely benefit from international partnerships, especially those that take students out of their comfort zones. While by no means proven beyond the shadow of a doubt, I saw these students as becoming more open minded in their perspectives on culture and better able to manage prejudices.
- (2) International experiences are likely to improve educators' ability to manage diversity when return home.
- (3) The support supplied by an instructor or coordinator with bilingual—bicultural experiences may prove crucial in capitalizing on the growth of teacher candidates resulting from international experiences. This deserves more attention in future research studies.
- (4) Mathematics education may prove particularly used in helping teacher candidates manage international experiences.

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Note

1. I utilize the terms "America" and "American" as a shorthand to indicate the United States and its

citizens. I mean no disrespect to other North and South American nations or their citizens.

References

Appadurai, A. (1996). Modernity at large: Cultural dimensions of globalization. University of Minnesota Press.

Aydarova, E., & Marquardt, S. (2016). The global imperative for teacher education: Opportunities for comparative and international education. Forum of International Research in Education, 3(1), 23–41. https://files.eric.ed.gov/fulltext/EJ1133113. pdf

Cambridge Assessment International Education. (2020) https://www.cambridgeinternational.org/pro grammes-and-qualifications/cambridge-globalperspectives/survey-results/

Childress, L. (2009). Internationalization plans for higher education institutions. Journal of Studies in International Education, 13(3), 289–309. https://doi. org/10.1177/1028315308329804



- Chinnappan, M., McKenzie, B., & Fitzsimmons, P. (2013). Preservice teachers' attitudes towards overseas professional experience: Implications for professional practice. Australian Journal of Teacher Education, 38912, 36–54. https://search.informit.org/doi/10.3316/informit. 680411395070297
- Corbin, J., & Strauss, A. (1998). Basics of qualitative research techniques. Sage Publications, Inc. https://resv.hums.ac. ir/uploads/22_288_57_1qualitative.pdf
- Curriculum Corporation. (2008). Global perspectives:

 A framework for global education in Australian Schools.

 Denzin, N. K. (2017). The research art: A theoretical intro-
- Denzin, N. K. (2017). The research art: A theoretical introduction to sociological methods. Aldine.
- Engel, L. (2019). Pathways of internationalization in US schooling: Local innovations in inclusive global education. *Journal of Policy Futures in Education*, 17(6), 699–714. https://doi.org/10.1177/1478210319833241
- Fitzgerald, A., Parr, G., & Williams, J. (2017). Narratives of learning through international professional experience. Springer Singapore. https://doi.org/10.1007/ 978-981-10-4867-8
- Fox, P., & Hundley, S. (2011). The importance of globalization in higher education. In R. Pachura (Ed.), From New Knowledge in a New Era of Globalization (pp. 3–20). https://doi.org/10.5772/17972.
- Gaudelli, W., & Fernekes, W. (2010). Teacher about global human rights for global citizenship. *The Social Studies*, 95 (1), 16–26. https://doi.org/10.3200/TSSS.95.1.16-26
- Gmelch, G. (1997). Crossing cultures: Student travel and personal development. *International Journal of Intercultural Relationships*, 21(4), 475–490. https://doi.org/10.1016/S0147-1767(97)00021-7
- Hanvey, R. (2009). An attainable global perspective.

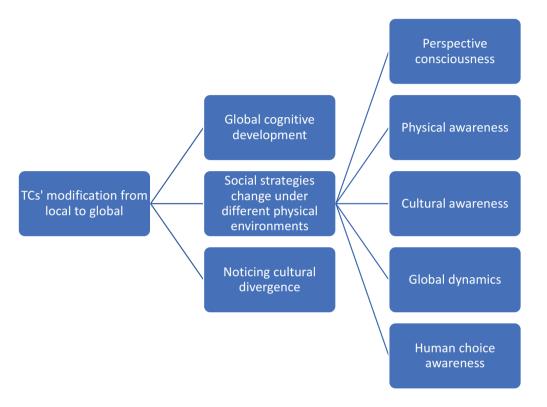
 Theory Into Practice, 21(3), 162–167. https://doi.org/
 10.1080/00405848209543001
- Hull, G. A., & Hellmich, E. A. (2018). Locating the Global: Schooling in an Interconnected World. *Teachers College Record*, 120(3), 1–36. https://doi.org/10.1177/016146811812000303
- Lawrence-Lightfoot, S. (2016). Commentary: Portraiture methodology: Blending art and science. *LEARNing Landscapes*, 9(2), 19–27. https://doi.org/10.36510/learnland.v9i2.760
- Ma, L. (2020). Knowing and teaching elementary mathematics: Teachers' understanding of fundamental mathematics in China and the United States (3rd) ed.). Routledae.
- Mottola, P. C., & Russell, W. B. (2015). Educating for Global Perspectives: A Study of Teacher Preparation Programs. Journal of Education, 195(3), 41–52. https://doi.org/10. 1177/002205741519500305
- Myers, J. (2010). Exploring adolescents' thinking about globalization in an international education program. *Journal of Research in International Education*, 9(2), 153–167. https://doi.org/10.1177/1475240910370824
- NCES [National Center for Education Statistics]. (2018). https://nces.ed.gov/surveys/ntps/tables/ntps1718_fltable06_t1s.asp?msclkid=dbc01c73b6b111ec99f14ecd48182c0d
- Parker, W. (2008). International education: What's in a name? *Phi Delta Kappa*, 90(3), 196–202. https://doi. org/10.1177/003172170809000308
- Parmigiani, D., Maragliano, A., Silvaggio, C., & Molinari, A. (2021). Trainee teachers abroad: Reflections on personal and professional teaching identity during international mobility. *Journal of* https://doi.org/10.1080/02619768.2021.1961737
- Patrick, K. F., Macqueen, S., & Reynolds, R. (2013). Pre-service teacher perspectives on the importance of global education: World and classroom views. *Teacher and*

- Teaching Theory and Practice, 20(4), 470–482. https://doi.org/10.1080/13540602.2014.881639
- Pham, H. (2012). Differentiated instruction and the need to integrate teaching and practice. *Journal of College Teaching and Learning*, 9(1), 13–20. https://doi.org/10.19030/tlc.v9i1.6710
- Poole, C. M., & Russell, W. B. (2017). Educating for global perspectives: A study of teacher preparation programs. *Journal of Education*. https://doi.org/10. 1177/002205741519500305
- Rapoport, A. (2010). We cannot teach what we don't know: Indiana teachers talk about global citizenship education. *Journal of Education, Citizenship and Social Justice*, 5(3), 179–190. https://doi.org/10.1177/1746197910382256
- Robbins, M., Francis, L., & Elliott, E. (2003). Attitudes toward education for global citizenship among trainee teachers. *Research in Education*, *69*, 93–98. https://doi.org/10.7227/RIE.69.8
- Russell, S. G. (2018). Between the global and the local: Human rights discourse and engagement in two New York city high schools. *Harvard Education Review*, 88(4), 565–592. https://doi.org/10.17763/1943-5045-88.4.565
- Santoro, N., & Major, J. (2012). Learning to be a culturally responsive teacher though international study trips: Transformation or tourism? *Teacher Education*, 23(3), 309–322. https://doi.org/10.1080/10476210.2012. 685068
- Scott, C., & Medaugh, M. (2017). In MatthesJ. (Ed.), The International Encyclopedia of Communication Research Methods. John Wiley & Sons, Inc. https://doi.org/10.1002/9781118901731.iecrm0012.
- Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1–23. https://doi.org/10.17763/haer. 57.1.j463w79r56455411
- Shulman, L. (2005). Signature pedagogies in the professions. *Daedalus*, 134(3), 52–59. https://doi.org/10.1162/0011526054622015
- Shulsky, D., & Hendrix, E. Y. (2016). Rooting the literacies of citizenship: Ideas that integrate social studiers and language arts in the cultivation of a new global mindset. In A. Crowe & A. Cuenca Eds., Rethinking Social Studies Teacher Education in the Twenty-First Century (pp. 101-119). Springer. https://doi.org/10.1007/978-3-319-22939-3_6.
- Smith, P. (2000). Culture and charisma: Outline of a theory. Acta Sociologica, 4392, 101–111. https://doi. org/10.1177/000169930004300201
- Steele, A. R., & Leming, T. (2002). Exploring student teachers' development of intercultural understanding in teacher education practices. Journal of Peace Education. https:// doi.org/10.1080/17400201.2022.2030688
- Taylor, M. J., & Thoth, C. A. (2011). Cultural Transmission. In S. Goldstein & J. A. Naglieri. (Eds.), Encyclopedia of Child Behavior and Development (pp. 448-451). Springer. https://doi. org/10.1007/978-0-387-79061-9_755
- Tichnor-Wagner, A., Parkhouse, H. J., Cain, J. M., & Cain, J. M. (2016). Expanding approaches to teaching for diversity and justice in K-12 education: Fostering global citizenship across the content areas. Education Policy Analysis Archives, 24 (59), 1–35. https://doi.org/10.14507/epaa.24.2138
- West, M. R. (2012). Education and Global Competitiveness. In Rethinking Competitiveness. K. Hassett (Ed.) American Enterprise Institute Press. An excerpt of this paper also appears in Martin R. West, "Global Lessons for Improving U.S. Education," Issues in Science & Technology. Vol. 28. 37-44.



Appendix A Figure 1

Figure A1. Captain-A depiction of Hanvey's five-part model.



Appendix B Table 1

Table 1. Row data, open code to axial code		
Participants' row data	Open code based on Hanvey (2009)	Axial code (analyze those open code data based on the three-axial code)
Journal writing Lesson planning During-class observation notes of their teaching After-class interview notes of their teaching	Perspective consciousness Physical awareness Cultural awareness Global dynamic Human choice awareness	Global cognitive development Social strategies change under different physical environments Noticing cultural divergence





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