Global Teaching in Indiana: A Quantitative Case Study of K-12 Public School Teachers

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Abstract

Striving to educate globally competent, multiliterate citizens has been at the forefront of many initiatives in the U.S. In Indiana, the Department of Education and higher education institutions have taken steps to internationalize teacher education. However, previous research in Indiana has shown that even teachers who believe that global education is important may not be teaching it. The purpose of this study was to describe current K-12 Indiana public school teachers' descriptions of their practices that promote students' global readiness using the Teaching for Global Readiness Scale. The conceptual framework, Teaching for Global Readiness, is an empirically validated model of four dimensions: situated practice in the local context, integrated global learning with the standard course of study, instruction from a critical frame, and transactional experiences where students engage in active learning through intercultural collaboration. Overall, teachers scored highest on the subscale of situated practice (e.g., valuing diversity, breaking down stereotypes), and lowest on transactional experiences that involved technology for cross-cultural collaboration. Teaching experience and travel abroad were not found to be a determining factor for being able to teach for global competence.

Keywords: teacher education, global education, international education, global competence, global readiness

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Today's world is ever more economically, politically, environmentally, and technologically interconnected (Merryfield, 2008; Stewart, 2012). For example, multinational corporations increased from 3,000 in 1990 (Gabel & Bruner, 2003) to over 82,000 in 2009 (UNCTAD, 2009), the most recent number calculated (OECD, 2018). However, the majority of students believe that they are not being prepared for global jobs and employers agree (National Association of Colleges and Employers, 2018). Most recently, the value of global learning outcomes among employers increased from 2014 to 2018, with employers identifying proficiency in foreign language and solving problems with people of different backgrounds as some of the areas in which recent graduates were not prepared enough (AAC&U, Report 2018).

In addition to a global workforce, increased migration has led to more diversity in local schools throughout the world (Suarez-Orozco, 2001; Mansilla & Jackson, 2011). For example, the U.S. is now home to a near record 12.9% foreign-born residents (U.S. Census, 2011). In step with our changing society, education leaders have emphasized the importance of global education. Many scholars have suggested that students develop new literacies, new competencies, and new ways of thinking to prepare for college, career, civic, and community life in our global knowledge society and to push back against global capitalization and unjust global power structures when necessary (e.g., Darling-Hammond, 2010; Hansen, 2011; Reimers, 2009; Zhao, 2010). A 2018 Organization for Economic Cooperation and Development (OECD) report reexamined the skills and dispositions our students will need in order to adapt in the 21st century and have added global competence to the Programme for International Student Assessment (PISA; Ramos & Schleicher, 2018). Together, new literacies and new competencies, including global competency, comprise global readiness.

Global readiness is an umbrella term that includes global citizenship and global competence, as well as the multiliteracies needed in the 21st century to participate, communicate, and work in a global society. Global citizenship has been defined as caring about other people, whether those people are local or global in relation (Appiah, 2006; Wahlström, 2014). Asia Society and the OECD define global competence as having the capacity to investigate local, global, and intercultural issues; recognize perspectives of others; engage in conversations with members of different cultures; as well as take actions for the benefit of everyone (Colvin & Edwards, 2018). Multiliteracies means being able to utilize multimodal, multicultural, and multilingual communication methods to read, write, speak, and listen in local, global, private, and public contexts (New London Group, 1996; Kerkhoff, 2017a). The purpose of this study was to describe current K-12 Indiana public school teachers' description of their practices that promote students' global readiness using the Teaching for Global Readiness Scale. Human Subjects approval was granted for the study from the Internal Review Boards of the academic institutions where the authors worked.

Research on Global Teaching

Global education holds the potential to help students become cross-cultural communicators and active global citizens (Banks, 2008; Ladson-Billings, 2005). In order to reach this potential, Andreotti (2006) advocates for critical, not "soft," global citizenship education. By *critical*, she means that teachers be transformative citizens themselves, and teach critical thinking in order to counter hegemony and

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transform the way students think about the world. Feminists and scholars of color have long advocated critical pedagogy that leads to transformation (Banks, 2008). Critical pedagogy goes beyond preparing students for college, career, and civic life, by also preparing them to understand, challenge, and dismantle current hierarchical systems of oppression and create a more socially just world (O'Connor & Zeichner, 2011). Global readiness as a concept that encompasses global citizenship, global competence, and the multiliteracies of the 21st century is a relatively new area. Therefore, the following section contains an overview of the literature on globally competent teaching.

Overall, past research has pointed to a need to improve the global competence of teachers in the U.S. (Longview, 2008). Prior research on globally competent teaching can be classified in three broader categories: internationalizing teacher education programs, examining the teaching practices that promote students' global competence, and continued development of teachers' global competence.

Teacher preparation programs have traditionally relied on study abroad or overseas student teaching programs as the most appropriate ways to develop global competence (Mahon, 2007; McCabe, 2001; Merryfield, 1998). Kinginger (2009) and Quezada (2005) conducted extensive reviews of the research on pre-service teachers' study abroad and found that participants that participated and communicated with community members extensively during the experience were better able to develop intercultural and global competence, as opposed to tourist-type experiences where students rarely leave the *veranda* as Ogden (2008) calls it. When student teaching abroad, pre-service teachers experienced cultural dissonance, which eventually helped them develop personally and professionally (Pence, & Macgillivray, 2011; Quezada & Alfaro, 2007). According to Quezada and Alfaro (2007), "The opportunity to teach in different sociocultural contexts with culturally heterogeneous student populations forces teacher candidates to experience cultural, pedagogical, and ideological dissonance, a situation that appears to lead to increased ideological clarity" (p. 99).

While the research indicates that travel abroad that involves intercultural dialogue and critical reflection is related to building global competence, not all pre-service teachers have the privilege of being able to travel (Parkhouse et al., 2016). An emerging body of literature includes teacher educators' action research on internationalizing their curriculum (Gaudelli, 2010; Reidel & Draper, 2013), including local cross-cultural immersion (Ference & Bell, 2004). More research is needed to see how internationalizing teacher education courses at home impacts practice in K-12 schools.

The second line of research is related to the teaching practices that promote student global competence. In an effort to address the growing concern that students are not prepared for work and life in an interdependent world, Merryfield (1998) interviewed master global educators, practicing teachers in the initial stages of receiving formal instruction on global education, and pre-service teachers in globally oriented social studies certification programs. Merryfield (1998) identified the following commonalities across the three groups: teaching students about their own cultures and diverse cultures through multiple perspectives; connecting students' lives with the larger global issues; and "making connections across historical time periods and world regions" (p. 342). Additionally, the study revealed that, unlike the practicing and pre-service teachers, master global educators incorporated global and local inequalities, interdisciplinary approaches, higher level thinking, and cross-cultural experiential learning (Merryfield, 1998).

Through a critical global education lens, O'Connor and Zeichner (2011) emphasized that globally competent teaching utilizes authentic, student-centered, inquiry-based teaching. Furthermore, cooperative (Banks et al., 2005; Spires, Himes, Paul, & Kerkhoff, 2019) and interdisciplinary (Kerkhoff, Spires, &

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Wright, 2019; O'Connor & Zeichner, 2011) learning have been perceived as conducive to understanding the interconnectedness of global systems and practicing intercultural communication and multiliteracies. A research group from the University of North Carolina-Chapel Hill pinpointed six exemplary pedagogical skills of global educators: using multiple languages; creating a classroom environment that values diversity and global engagement; designing learning experiences that promote content-aligned investigations of the world; developing local, national, or international partnerships in real-world contexts with global learning opportunities; facilitating intercultural and international conversations; and developing and using appropriate global competence assessment tools for students (Parkhouse et al., 2016; Tichnor-Wagner et al., 2016).

The third line of research deals with how to handle the continued professional development training for globally competent teaching. Due to the rate of increase in foreign-born residents and globalization, there have been calls for continued in-service professional development, even for teachers who may have entered the profession as globally competent teachers (Gaudelli, 2003). There is, however, a gap in the research literature that examines the extent to which professional development at the school leads to more globally competent teaching (Parkhouse et al., 2015).

One body of research on teaching abroad, however, shows that, when coupled with critical reflection, it can positively impact globally competent teaching back home. Teachers who spent six weeks in Southeast Asia and Africa reported becoming "more culturally sensitive" after their experience (Biraimah & Jotia, 2012, p. 448). Evans (2004) found that participants' relationships with parents from different cultures improved. Teachers reported moving from seeing themselves as teachers with something to impart to also seeing themselves as learners with something to garner from others (Aglazor, 2012). Teachers began to question their assumptions about what constitutes good teaching and to problematize *othering* in U.S. schools (Escamilla, Aragon & Fránquiz, 2009; Zhao, Meyers, & Meyers, 2009). Unfortunately, as with pre-service teachers, not all teachers are able to travel internationally. Stornaiuolo (2016) and Spires, Kerkhoff, and Fortune (2018) have found that virtual exchanges with teachers, while challenging in their own right, can also provide a place for intercultural understanding to develop.

Although research exists on what expert globally competent teaching looks like and on how teachers can develop global competence, at the time of this study there was no research on what globally competent teaching practices are being taken up systematically in U.S. public schools. This study aimed to fill this gap in the literature.

Global Education Initiatives in the U.S.

Striving to educate globally competent, multiliterate citizens has been at the forefront of many national initiatives in the U.S. The Council of Chief State School Officers' EdSteps Initiative provided tools to promote global competence nationwide (Mansilla & Jackson, 2011). In 2014, the U.S. organization, Partnership for 21st Century Skills, put forth the Global Readiness Indicators for grades K-12. The U.S. Department of Education (DOE, 2018) demonstrated its commitment to promoting global readiness with the creation and recent release of their *Framework for Developing Global and Cultural Competencies to Advance Equity, Excellence, and Economic Competitiveness*. Thus, global readiness is positioned in the U.S. as a vehicle to enhance equity, access, excellence, and economic competitiveness.

In order to have globally competent citizens, teachers should be educating for global readiness by providing "students with the skills, knowledge, and attitudes necessary to understand how the world works and prepares them to participate in an interconnected society" (Moss et al., 2012, p. 2). Asia Society and OECD claim that fostering students' global competence is a goal that all teachers can reach, but "inspiring the creativity and developing the capacity of educators needs to be much more systematic" (Colvin & Edwards, 2018, p. 6). Though global readiness has been taken up as a goal in U.S. education at the national level, systematic integration across instructional practices is scant (Montero & Robertson, 2006; West, 2012).

A few U.S. states have taken the initiative to increase global readiness by creating policies in support of global readiness at the K-12 level. North Carolina's Department of Public Instruction (DPI) created a micro-credential program for teachers, schools, and districts that provide evidence of teaching for global readiness (NC DPI, n.d.). Since 2013, Wisconsin's DPI has held a Global Youth Summit. Although this summit focuses on secondary students who show interest and aptitude toward global issues and endeavors, teachers from each of the participants' schools are asked to attend, and they are provided with their own strand of professional development throughout the summit (P. J. DeFosse, personal communication, April 2, 2018). In addition to the Global Youth Summit, the Wisconsin Global Education Achievement Certificate was created to (a) focus and validate the excellent global learning opportunities already in place in most school districts, (b) encourage students to enroll in classes with global content in the arts, sciences, and humanities, and (c) prepare globally competent students who are career ready in Wisconsin and beyond (Wisconsin DPI, 2014)

States like Pennsylvania and Oklahoma have taken a different approach to promote global thinking and professional development in their K-12 environments. Both states have created "Globe Award" programs to recognize internationalization efforts of schools and districts (Pennsylvania State Modern Language Association, 2017; Oklahoma State DOE, 2018). Much of the recognition in these programs focuses on the offerings within a school or district for learning world languages, but in addition, the Oklahoma program expects a school to engage in interdisciplinary global learning where their world language programs and educators collaborate with those of other disciplines as a means of developing teaching through a global lens (Oklahoma State DOE, 2018).

Ohio and Indiana have developed similar resources to promote global readiness among their K-12 educators. In the Connecting Ohio Classrooms to the World resource, teachers are provided with practical ideas as well as project and lesson ideas to infuse global learning into their classrooms. Similarly, Indiana created the Global Journey resource to provide standards-based examples of global lesson plans for teachers that align with the already-expected state standards for all of the core content areas and numerous elective areas of study such as Family and Consumer Sciences and Agriculture. One of the points of differentiation for Indiana's initiatives is that the global readiness resources encompass both language and global competence.

Additionally, in Indiana, a *Global Learning Advisory Council* was created to cultivate teacher and administrative leaders throughout the state. The council instituted a series of workshops for a variety of audiences ranging from school counselors, administrators and teachers of all content areas. In conjunction with Indiana University, the Indiana DOE is revising the Internationalized Academic Standards, with extensions and adaptations for both high-ability and special education teacher audiences, to ensure that all teachers have access to internationalized material for their K-12courses.

Higher education institutions in Indiana have also taken initiatives to internationalize teacher education. For example, Indiana University (IU)-Bloomington has been carrying out several structured efforts to internationalize campus and curricula. IU's School of Education and Hamilton Lugar School of Global and International Studies have carried out several global initiatives across the state. Most recently, with the support from the Longview Foundation, several projects have taken place. These include a global competence workshop series for IU's School of Education pre-service teachers, curriculum internationalization workshops for the School of Education faculty, and the Principals Academy to internationalize K-12 schools across Indiana. IU also organizes the international Institute for Curriculum and Campus Internationalization every year. To affect change towards more global and international aspects in education, these initiatives have simultaneously targeted participants at multiple levels of education.

Purdue University's College of Education has also taken on several initiatives to better prepare its teacher candidates to be globally aware and competent citizens and teachers. Most noteworthy of these projects is the global studies minor available to all undergraduates in teacher education. This minor can be earned by studying abroad while simultaneously taking courses in multiculturalism and education and teaching through a global perspective. Additionally, Purdue's College of Education sponsors eight distinct study abroad programs over the summer, run by faculty conducting research in teaching and learning in the various international sites. These sites include Honduras, Greece, Germany and Austria, Tanzania, and China. Students can take their required teacher education courses in these programs, in addition to electives. The College is also planning to fully develop its international student teaching program in the next two years, allowing students to earn an Indiana teaching licensing with an international internship. As for larger campus initiatives outside of the College of Education Purdue is dedicated to helping undergraduates afford study abroad experiences, with a series of small scholarships and grants available to those needing financial assistance. While the focus at Purdue is on helping undergraduates in all majors study abroad, there are also various research-based international collaborations, such as those run through the Office of Corporate and Global Partnerships, which focuses on building relationships to advance innovation, research, education and commercialization partnerships between the U.S. and international entities. As evidence of Purdue's commitment to integrating international perspectives into the educational experience of undergraduates, in 2017 Purdue's total international student enrollment ranked third among U.S. public institutions.

Collaborative efforts between institutions of higher education, Indiana DOE, and local advocacy groups demonstrate the momentum in Indiana toward increasing global education. However, in line with research in other contexts, previous research in Indiana has shown that teachers who believe that global education is important may not be teaching global readiness because they perceive that they do not know how (Rapoport, 2010), hence the choice to investigate Indiana as a case study. The purpose of this study was twofold: (a) to collect data on current K-12 Indiana public school teachers' description of their practices that promote students' global readiness and (b) to provide further validation testing on the Teaching for Global Readiness Scale. In light of the recent policy initiatives, the overarching question for this study was: How do teachers describe teaching for global readiness in the state of Indiana? Sub-questions included, does (a) years of teaching experience, (b) number of countries traveled outside of U.S., or (c) global competence predict teaching global readiness?

Teaching for Global Readiness Framework

Global readiness refers to "global citizenship with the multiliteracies necessary in the 21st century to participate, collaborate, and work in a global society" (Kerkhoff, 2017a, p. 92). The multidimensional teaching for global readiness model served as the conceptual framework for the study. The teaching for global readiness model comprises four dimensions: *situated practice*, *integrated global learning*, *critical literacy instruction*, and *transactional experience* (Kerkhoff, 2017b), as seen in Figure 1.

  Situated practice suggests that learning does not occur in a vacuum but in a particular social and cultural context with people who have their own identities. Teaching as a situated practice means that learning is to be relevant to the people, place, and time. Teachers make learning relevant by considering students' cultural, social, academic, transnational, and other identities and also considering the norms, beliefs, and values of the community surrounding the classroom (O'Connor & Zeichner, 2011). Also part of situated practice, teachers' relationships with students cultivate a community of learners by promoting equality and inclusion (Parkhouse et al., 2015). Teachers value students' diverse cultural experiences and work to help students share this value of diversity (Kim & Slapac, 2015; Mills, 2006).

Figure 1. Teaching for Global Readiness is situated, integrated, critical, and transactional. Adapted from Kerkhoff, S. N. (2017b). Teaching for global readiness: A model for locally situated and globally connected literacy instruction. In E. Ortlieb and E. H. Cheek (Eds.), Addressing diversity in literacy instruction (pp. 193-205). Bingley, UK: Emerald.

  Second, *integrated global learning* means that teaching for global readiness is not a replacement for academic content or a one-time-only event. Rather, teachers integrate global learning with the standard course of study and show how the local is already global (NC State Board of Education, 2013). Teachers incorporate global learning resources with existing curricula, such as inquiry-based learning grounded in the disciplines and applied to global challenges, and routinely assess global learning alongside assessments of traditional course objectives (Kerkhoff, 2017b; Spires et al., 2018).

  The next dimension is *critical literacy instruction*. Critical literacy refers to reading and writing the word and the world (Freire & Macedo, 1987). Students learn to inquire, analyze texts, question the status quo, and construct new ideas about the world (Cope & Kalantzis, 2015; Hull et al., 2010). Teachers can promote critical literacy by providing multicultural texts and current events from international

perspectives. Students learn to evaluate credibility of sources, analyze bias in texts, and corroborate across sources. Most importantly, teachers teach critical thinking and reflexivity so that students can inquire, critique, and advocate for justice throughout their lifetimes in solidarity with people around the world (New London Group, 1996; O'Connor & Zeichner, 2011).

The final dimension is *transactional experiences*, or dialogic experiences with different cultures (Wahlström, 2014). Teachers provide face-to-face and virtual opportunities for intercultural dialogue and cross-cultural collaboration (Tolisano, 2014). Students learn by equitably considering multiple perspectives, including marginalized perspectives, and constructing knowledge collaboratively to make the world better (Hull et al., 2010). Teaching global readiness empowers students to act on social justice issues from a place of empathy, not pity, and a place of solidarity, not charity (O'Connor & Zeichner, 2011).

Methods

As the purpose of the study was to assess what teaching for global readiness practices were being taken up in public schools systemically, a quantitative case study was the most suitable design. Case study was appropriate because education policy in the U.S. falls under the jurisdiction of states, so the study was bound to the state of Indiana. We utilized a random cluster sampling procedure by randomly selecting one school district from each of the nine geographic regions designated by the Indiana DOE, as shown in Figure 2. Cluster sampling was utilized to ensure rural, suburban, and urban districts were included in the study and to allow generalizability to the whole state. The districts for each region were listed in an Excel spreadsheet. The random number generator was utilized to select a number, and the district listed on the number that corresponded to that row was chosen. The researchers gathered the email addresses for all K-12 public classroom teachers in the selected nine districts. Recruitment of participants took place in three waves: (a) personalized email announcement, (b) personalized email with unique link on Qualtrics, and (c) personalized follow-up reminder emails (Dillman et al., 2008). The survey remained open for participants for two months, August 30 to October 30, 2017.
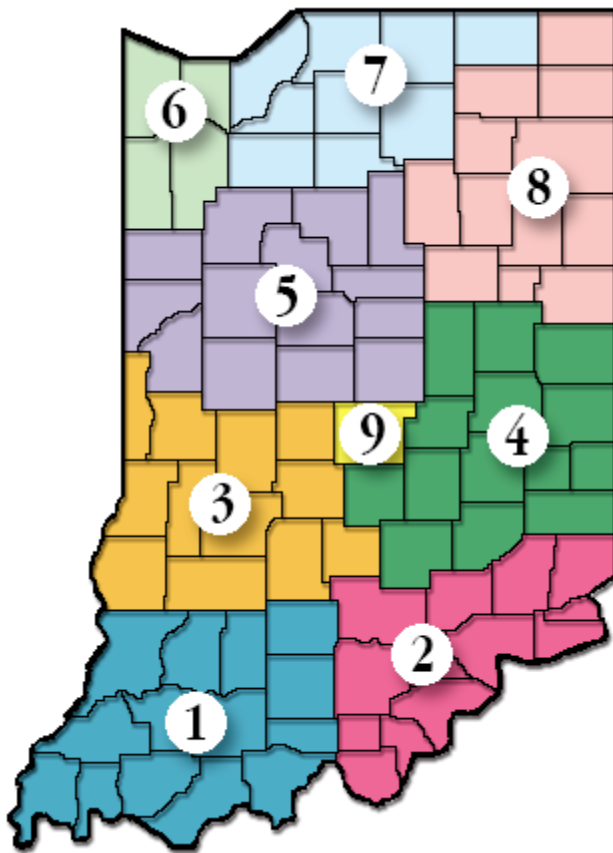
Figure 2. Indiana DOE regions from https://www.doe.in.gov/school-improvement/education-service-centers.

Sample

The survey was administered to 1,226 K-12 classroom teachers with an 11.1% response rate. All data were determined adequate with a total sample of 136. Respondents represented a broad range of experience teaching and subjects taught. Although an 11.1% response rate is low, participant demographics are similar to the demographics of teachers in Indiana generally. Relevant demographics are specified in Table 1.

Table 1. Table of Participants

Professional demographics and experience	Percentage of respondents
Grade level taught	
Primary elementary K-2	22
Intermediate elementary 3-5	13
Middle school/junior high 6-8	24

High school 9-12	41
Subject taught	
All	19
English language arts/literacy	12
English as a second language	5
History/social studies	15
Mathematics	8
Science	14
Physical education/health	1
Arts	3
World languages	8
Career and technical education	5
Other	3
Years of teaching experience	
0-1	0
2-5	23
6-9	18
10-13	14
14-19	22
20 or more	26
Race	
East Asian	1
Hispanic non-white	4
Native American	1
White	86
Other racial identity	7

Instruments

The web survey included the 19-item teaching for global readiness scale (TGRS), nine-item global competency subscale from the global citizenship scale (GCS; Morais & Ogden, 2011), and demographic items. The teaching for global readiness scale (Kerkhoff, 2017a) is a valid and reliable measure of K-12 teaching practices that promote global readiness (χ^2 (143) 246.909, χ^2 to df = 1.73, CFI = 0.960, TLI = 0.953, SRMR = 0.061, RMSEA = 0.051, α =0.88). All items on the TGRS are related to instructional practices in a classroom environment. The global competence subscale measures intercultural communication, global knowledge, and self-awareness as part of being a global citizen (Morais & Ogden, 2011), and was administered in conjunction with the TGRS scale to test the scale for criterion validity (Groves et al., 2009; Hinkin, 1998). Morais and Ogden (2011) reported acceptable Cronbach's alpha for each factor tested by confirmatory factor analysis (ranging from 0.69 - 0.92) and acceptable goodness of fit (χ^2 = 465.64, χ^2 to df = 1.18, CFI = 0.98, NNFI = 0.98, RMSEA = 0.03, SRMR = 0.07).

Data analysis

All analyses and data transformations were performed with Stata IC-13 software. Cronbach's alpha was used to analyze the internal consistency for items within each subscale with Nunnally (1978) criterion of 0.70.

Results

The results of the survey specifically answer the research question: What is the state of teaching for global readiness in Indiana?

Descriptive Statistics

The following responses were measured using either a 1 to 5 Likert scale from strongly disagree to strongly agree, or a 1 to 7 Likert scale of frequency per semester with 1 representing never, 2 less than once a month, 3 once a month, 4 two to three times a month, 5 once a week, 6 two to three times a week, and 7 daily. The mean of the TGRS was 64.03 with a *SD* = 14.56, Range 33-95. The full scale can be found in Appendix A. Table 2 present the descriptive statistics for the subscales administered. For countries visited mean was 4.78 countries, *SD* = 4.31, the range was 0-15+. The following are frequency counts grouped: for zero countries *n* = 6, 1-4 *n* = 62, 5-8 *n* = 19, 9-4 *n* = 10, 15 or more *n* = 6. See Table 3 for full counts.

Table 2. Results on the teaching for global readiness subscales

Subscale	Variable	*M*	*SD*	Likert Scale	Range
Situated Practice		27.32	3.51		17-32
	I cultivate a classroom environment that values diversity.	4.40	0.63	1-5	3-5
	I cultivate a classroom environment that promotes equality.	4.51	0.56	1-5	2-5
	I attempt to break down students' stereotypes.	5.51	1.50	1-7	1-7
	I provide a space that allows students a voice.	4.41	0.58	1-5	3-5

Subscale	Variable	*M*	*SD*	Likert Scale	Range
	I provide a space that allows learners to take risks.	4.39	0.64	1-5	2-5
	I take inventory of the cultures (languages, countries, etc.) represented by my students.	4.09	0.90	1-5	1-5
Integrated Global Learning		12.77	4.94		4-24
	I integrated global learning with the curriculum.	3.70	1.84	1-7	1-7
	I assess students' global learning.	2.53	1.60	1-7	1-7
	I use inquiry-based lessons about the world (e.g., research projects, exploratory learning, discovery learning).	3.40	1.65	1-7	1-7
	I build a repertoire of resources related to global education.	3.10	1.10	1-5	1-5
Critical Literacy Instruction		17.16	7.5		5-34
	I ask students to analyze the reliability of a source.	3.56	1.82	1-7	1-7
	I ask students to analyze content from multiple perspectives.	3.96	1.77	1-7	1-7
	I ask students to engage in discussions about international current events.	3.71	1.78	1-7	1-7
	I ask students to construct claims based on primary sources.	3.12	1.77	1-7	1-7
	I ask students to analyze the agenda behind media messages.	2.81	1.92	1-7	1-7
Transactional Experiences		6.70	3.52		4-18

Subscale	Variable	*M*	*SD*	Likert Scale	Range
	I ask students to utilize synchronous technology (e.g., Skype, Google Hangout) for international collaborations.	1.42	0.10	1-7	1-7
	I ask students to utilize asynchronous technology (e.g., email) for international collaborations.	1.46	1.12	1-7	1-7
	I ask students to utilize technology (e.g., Skype, email) for virtual interviews (with experts, community members, etc.).	2.10	1.92	1-7	1-7
	I bring in speakers from different backgrounds so that students can listen to different perspectives.	1.73	0.99	1-7	1-7
Global Competence		30.45	5.67		16-45
	I often adapt my communication style to other people's cultural background.	3.57	0.77	1-5	1-5
	I unconsciously adapt my behavior and mannerisms when I am interacting with people of other cultures.	3.35	.82	1-5	1-5
	I am able to get other people to care about global problems that concern me.	3.45	0.76	1-5	1-5
	I know how to develop a plan to help mitigate a global environmental or social problem.	2.91	0.97	1-5	1-5
	I know several ways in which I can make a difference on some of this world's most worrisome problems.	3.2	0.94	1-5	1-5
	I am able to communicate in different ways with people from different cultures.	3.65	0.9	1-5	1-5

Subscale	Variable	M	SD	Likert Scale	Range
	I am informed of current issues that impact international relationships.	3.62	0.96	1-5	1-5
	I feel comfortable expressing my views regarding a pressing global problem in front of a group of people.	3.36	1.14	1-5	1-5
	I am able to write an opinion letter to a local media source expressing my concerns over global inequalities and issues.	3.35	1.17	1-5	1-5

Note: *M* = Mean   *SD* = Standard deviation

Table 3. Countries Participants have been to Outside of U.S.

Number of countries visited outside of U.S.	%
0	5.83
1	19.42
2	16.5
3	10.68
4	13.59
5	5.83
6	5.83
7	2.91
8	3.88
9	4.85
10	3.88
11	0

12	0.97
13	0
14	0
15+	5.83

Note: % = Percentage of respondents

Convergent Test of Validity

The TGRS, measuring global readiness teaching practices in a classroom context, and GCS, measuring ability to engage interculturally in a global context, were administered at the same time in order to test convergent validity. Correlation was run for participants' scores on the TGRS overall scale and GCS global competence subscale ($r = 0.59$), indicating a positive relationship. Regressing GCS on TGRS resulted in a positive relationship ($\beta = 1.54$, F (1, 101) = 54.02, $p < .001$, $r^2 = 0.35$). In other words, a point increase in global competency is associated with on average a 1.54 point increase on the teaching for global readiness scale. Or put another way, a one point change in the standard deviation of the global competency scale is associated with on average a 2.03 standard deviation change on the teaching for global readiness scale. The effect sizes for the TGRS and GCS were 0.36 and 0.23, respectively, indicating a medium or acceptable effect size (Swank & Mullen, 2017). Positive correlation indicates convergent validity for the teaching for global readiness scale (Hinkin, 1998). It also indicates that global competence is related to teaching for global readiness, though it is not the same exact thing.

Internal Consistency

Internal consistency and reliability analysis was conducted on the scale for continued reliability testing. Reliability was estimated using Cronbach's α, and the overall reliability of 0.87 is considered an appropriate level (Comrey & Lee, 1992; Nunnally, 1978).

Correlation and T-test Results

The primary interest of this study was to see if either years of teaching or travel correlated with teaching for global readiness. Years of teaching measured by count was not significant ($r = .09$, $p = .35$). A t-test was run with countries traveled outside of the U.S. as a dummy variable with 1 = more than 1 country outside of the U.S. The mean of the group who had traveled to more than one country outside the U.S. was unexpectedly lower ($M = 64.21$, $SD = 16.48$) than the other group ($M = 66.48$, $SD = 13.05$). Count of countries traveled outside of the U.S. was not a significant predictor of teaching for global readiness ($r = -0.11$, $p = .41$).

Discussion

Today's world is increasingly interconnected culturally, economically, politically, environmentally, and technologically (Banks, 2008; Merryfield, 2008; Stewart, 2012). In response, business, policy, and education leaders have called for our students to graduate global-ready. The purpose of the study was to investigate the state of teaching global readiness in Indiana. The aim of this section is: (a) to summarize the results in relation to the extant research and (b) to consider the implications of this study for policy, practice, and future research.

Summary of Results

In general, teachers scored highest ($M = 27.32$) on the subscale of situated practice (i.e., voice, risk, stereotypes), and lowest ($M = 6.7$) on transactional experiences that involved technology for cross-cultural collaboration. More specifically, the *situated practice* subscale asked the teachers to rate what they actually do in their own classrooms. Seeing that teachers are situating their practice is important, as it shows that they are open to nurture and value diversity, promote equality, and address stereotypes, as well as provide space to give students voice and take risks. By engaging in these kinds of instructional practices, teachers show how they situate practice in their respective instructional settings and how they consider students' backgrounds. Teachers' low scores on the subscale of *transactional experiences* may be associated with insufficient knowledge of how to utilize various technologies or how to conduct international collaborations. On the one hand, the teachers may be already using various types of technology for their non-global aspects of instruction. On the other hand, they may not have available resources or partnerships at hand that would allow them to engage in international collaborations.

There was an observed difference in terms of the teachers' scores on the *critical literacy instruction* subscale and the *integrated global learning* subscale. In academic circles, there has been a shift in terms of how literacy is defined, from emphasis on cognitive aspects of literacy to emphasis on literacy as social practice (Gee, 1999; Mills, 2012). The not-so-high score on the critical literacy instruction subscale ($M = 17.16$) may be due to a lack of preparation on how to teach critical literacy (e.g., Caughlan et al., 2017). Additionally, there is a range in terms of how diverse Indiana schools are, with certain parts being more diverse than others. Diversity may, in turn, affect how prepared and willing teachers are to engage in critical literacy instruction (Parkhouse et al., 2016). The lower score ($M = 12.77$) on the *integrated global learning* may be attributed to a lack of access to resources related to global education (Rapoport, 2010). With the pressure that teachers face on standards-based instruction, they may see incorporating global learning as an additional component requiring more instructional time (Emihovich, 2008). An assumption of this kind may result from insufficient experience and pedagogical preparation to internationalize their existing curricula.

The specific differences in subscale scores may be linked to similarities found in other contexts. Unlike many of their non-U.S. colleagues (Rapoport, 2010), Indiana teachers are not integrating global learning consistently in their teaching. The relatively lower scores on the transactional experiences and integrated learning may be linked to preparation of the in-service teachers that is insufficient for them to incorporate those aspects in their pedagogy (Emihovich, 2008; Parkhouse et al., 2016). The subcategories of transactional experiences, critical literacy instruction, and integrating global learning correspond to the 21st century skills that our students need according to the OECD (Ramos & Schleicher, 2018) and

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AAC&U's (2018) report on employers' reported needs. Both pre-service and in-service teachers should be prepared to respond to the changes in demands in terms of student skills and provide opportunities for students to enhance their 21st century skills (Schleicher, 2012; West, 2012). Additionally, the knowledge base of teacher candidates and in-service teachers should be expanded to specifically examine how globally competent teachers are, i.e., what they know, believe, and do in order to modify their curricula, pedagogy, and assessment tools accordingly (Mansilla & Jackson, 2011). More generally, to address the changing nature of today's world and professional contexts, there is a need to redefine the role, nature, and responsibilities of educators' work (Bottery, 2006). The teachers themselves do not need to create global tools and resources as they are already available to them. What they do need to do, however, is access and acquire the skills to be able to use existing resources effectively as a vehicle to enhancing students' 21st-century skills.

Comparing the general results between the TGRS and GSC revealed a positive relationship between the two scales. More specifically, if a person scored high on the global competence scale, their score on the teaching for global readiness scale was higher as well. However, the scores were not identical, meaning that increased teachers' global competence can help advance global readiness, but teachers still need specific professional development on instructional practices that promote students' global readiness. Surprisingly, neither years of teaching nor travel abroad appeared to be related to teaching for global readiness. In other words, both beginning teachers and veteran teachers were incorporating global instruction, and both well-traveled and not well-traveled teachers were also teaching for global readiness. Though surprising, this is encouraging and corroborates the literature that asserts that all teachers can teach global readiness (Colvin & Edwards, 2018; Parkhouse et al., 2016; West, 2012). Additionally, an accumulation of various experiences that may or may not include study abroad, and not one set of prescribed experiences, may lead teachers to become globally competent teachers.

Implications

In this section, we will consider the implications of this study for future research and education policy, as well as teacher education.

Implications for research and policy. A delimitation of the study is the fact that TGRS is self-report. Self-report assumes that participants are willing and able to answer truthfully and accurately (Groves et al., 2009). Truthful responses are more likely if the scale is not being used for evaluation and if responses are anonymous; both were the case in this study. Another delimitation of self-report is that the results are teachers' descriptions of their practice, which may or may not be accurate portrayals of reality. For example, a teacher may intend to "break down students' stereotypes," but in actuality may present fragmentary information that reinforces students' preconceived notions. A limitation of the study is a low response rate. With a low response rate, it is possible that respondents were more interested in global competence than non-respondents were. However, the demographics of the respondents were similar to U.S. teacher averages. For example, 86% our respondents, identified as White compared with the national average of 83%, and 26% of our respondents had 20 or more years of experience compared with the national average of 21% (National Center for Education Statistics, 2014). Further research on Indiana needs to be conducted to confirm our study's results. The study provided further validity and reliability testing of the TGRS, thus adding evidence to support the use of the TGRS in empirical studies. Future

research could be conducted in other states that have initiated policies for global readiness, such as Wisconsin or Oklahoma.

As for policy, the results of this study show that teaching for global readiness is not systematically being implemented in Indiana despite internationalization efforts at the university and state levels, since there was at least one response of "never" or "strongly disagree/disagree/neither agree nor disagree" to all items on the scale. This means that small-scale initiatives may not be enough, and that universities and state departments may need to increase the scale and scope of internationalization in order for teaching global readiness to manifest in the classroom. The good news is that, looking at means, teachers in the study were integrating global readiness about once a month, so while this may not equate to systemic teaching for global readiness, it is a benchmark from which to measure growth or compare practice in other states. In addition, the results of the study indicate that years of teaching does not correlate with TGRS, indicating that teachers of all levels, beginning and veteran, can undertake instructional practices that promote global readiness.

Most importantly, an implication of the study is that challenges to implementing global readiness instruction must be overcome. By its social and cultural nature, global education is subject to different political ideologies (Cross & Molnar, 1994; Lantz & Davies, 2015). Some view global education curricula as neoliberal, controversial, or overly political (Schukar, 1993). Even when teachers have strong beliefs about teaching global education, they still may not practice what they believe. At a policy level, there have been calls for the immediate need to redefine the role of the educational professional in order to address the ongoing globalization-driven changes in the world that do not necessarily fit the policies of nation states (Bottery, 2006). The literature has indicated that the interaction between beliefs and practices is complex (Pajares, 1992). A variety of constraints may result in teachers' inabilities to act on their beliefs about education. Limited time, resources, and budgets are barriers to teachers engaging in meaningful global education in their classroom (Merryfield, 2008; Pike, 2015). If teachers believe in global education, they must learn not only the content but also the processes of global education, such as how to teach controversial topics and conflict resolution (Schukar, 1993). Teachers may downgrade their own beliefs to meet students' needs, real or perceived, or to administrators' agendas. Teachers need to have the interest, the global knowledge, the time in the instructional day, and the pedagogical skills to act on their beliefs. Teachers also need a reason to prioritize professional development in global-readiness and the blessing (or as Desimone et al. [2007] argue, the schoolwide prioritization) from their administrators to engage in globally focused activities, both as an educator and as a learner, especially in times like these where nationalistic rhetoric dominates political discussion (Barrow, 2017; Choo, 2017; Justice & Stanley, 2016). Most importantly, teachers need solidarity with like-minded teachers to help them overcome political barriers.

Implications for Teacher Education. In order for students to become global-ready, teachers must be global-ready (Merrifield, 2008; Zhao, 2010). Global education is not just for language teachers or social studies teachers, it is necessary for all K-12 teachers (Colvin & Edwards, 2018; Durtka et al., 2002; West 2012). Indiana, like other places around the world, is seeing an increase in the number of students for who the language of instruction is not their home language. In Indiana the number of students for whom English is an additional language (EAL) increased from 49,654 in 2010 to 60,793 in 2015 (McInerny, 2016). Because these students are enrolled in every grade and content area, all teachers must be global-ready in order to work with their students who come from all over the world. How do teachers become global-ready? One way for teachers to become global-ready is to incorporate a variety of

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international components into their classrooms. By internationalizing the curricula and utilizing the internationalized Indiana academic standards (Indiana DOE, 2018), teachers may be more prepared to integrate global learning in their everyday teaching practices. Professional development that specifically targets curriculum internationalization may help teachers with this specific aspect of integrating global learning into their instruction without having to find additional time for it (Parkhouse et al., 2016).

With easy access to modern technology, teachers can now use platforms such as Skype, FaceTime, Google Hangouts and more to connect themselves and their classrooms to their counterparts abroad. Seeking out the exchange students or establishing an exchange student presence in the local school or district provides face-to-face access to individuals from a variety of cultures whose purpose is to participate in cultural exchanges. These students can simultaneously share a plethora of cultural elements with teachers and their students to deepen the cultural understanding for all. Teachers can access the websites of the Bureau of Educational and Cultural Affairs, along with those from many different exchange organizations, to have access to culture-specific information and lesson plans to help facilitate discussions and promote deeper thinking around globally focused themes. ePals and iEarnUS are international networks connecting educators through collaborative lesson planning and classroom partnerships. Establishing relationships with internationally tied companies in the area provide another valuable resource to educators working toward global readiness. United Nations' (UN) latest efforts to provide meaningful and transnational experiences for students have led to the design of UN's Sustainable Development Goals and numerous instructional materials and virtual spaces for students and their teachers from all over the world to engage in solving real-life problems.

Another way for teachers to become global-ready is by more intense internationalizing of institutions of teacher education (Cushner, 2012; Jennings, 2006; West, 2012). Teacher education institutions have been criticized as being the most reluctant to engage in internationalization or globalization of their programs (O'Connor & Zeichner, 2011), despite the numerous calls for such efforts by prominent entities such as AACTE (1989) and the Longview Foundation (2008). Part of internationalizing higher education is experiential learning through study abroad (Citron & Kline, 2001; Deardorff, 2006; Knight, 2004). Teachers, whether in a degree program or not, can experience the globe through teaching or professional development abroad. The Wisconsin Task Force on Global Education explained why experiential learning is important: "Scientists teach via experiments; mathematicians teach by probing for solutions; swimming coaches get wet. It is impossible to teach globally and culturally without exploring the globe and investigating cultures oneself" (Durtka et al., 2002, p. 40). Through this experiential learning, teachers can gain the knowledge, skills, and dispositions needed to teach globally and culturally.

Our study shows, however, that travel and teaching global readiness are not correlated. This corroborates past research that teaching abroad may not be enough to change teachers' practices, as well as research that teachers can teach global readiness even if they do not have the opportunity to travel. Merryfield (1993) and Hutchings and Smart (2007) found that once home from international travel, reflection and feedback were needed to impact classroom practice. Extant research strongly suggests that reflection is an integral part of teachers' development (Laughran, 2002). Traveling abroad should be coupled with reflection on one's assumptions and biases, cultural identity, critical consciousness, and how one changes in order to manifest in positive changes at home. Once in the classroom, teachers can continue to learn and reflect on issues related to globalization, technology, and geopolitics as these issues constantly change (Armstrong, 2008). Montrose (2002) found, "It's not the activity of leaving one's

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homeland that creates learning, but the subsequent analysis of that activity where the real learning occurs" (p. 7).

We recognize that not everyone can study abroad, and, ultimately, teaching for global readiness comes down to infusing global perspectives, which our study shows can happen regardless of travel outside of the U.S. Teacher education institutions should strive to infuse global perspectives into their existing programs and have instruments to assess global readiness in those programs. Not only should the teacher educators and teachers be involved in reflective practices and experiential learning, but their students should have an active role in learning, self-assessment and self-reflection (West, 2012). Global-ready and globally competent students should not associate disciplinary knowledge and skill solely with what is learned in school but rather see that knowledge and those skills as "tools for interpreting the world; explaining phenomenon; solving problems; asking informed questions that get at fundamental truths that may not be obvious; and making the world a better, more peaceful, more productive, and more equal place" (Brookings Institution et al., 2017, p. 20). For the teachers and their students who may not be able to experience global learning abroad, teacher education institutions should be able to provide a range of global learning experiences without necessarily having to leave one's city or state.

For example, Purdue University is currently working to build more faculty exchange programs, and also building "dual" degree programs with international universities. In these cases, even though pre-service teachers may not be studying abroad, they could take classes taught by international scholars or be mentored by them. This way, the myth that in order to be globally competent one has to travel abroad will be overcome, and the numerous opportunities to connect with people and cultures from various parts of the world through the use of technology would be utilized. Additionally, both Indiana University and Purdue University are working to create research-practice partnerships with K-12 schools that specifically target the internationalization of curricula across the content areas and grade levels as well as the schools in general.

In some programs, K-12 and/or post-secondary, the intercultural learning and broadening of one's perspective through learning an additional language beyond one's own heritage language is a concrete way to connect to another culture even without the ability to travel abroad. Individuals can learn languages in a classroom setting, via various modes of technology or even through their encounters with speakers of the target language. In teacher education programs and with the help of academic advisors, teacher education programs can assist students in finding ways to couple their content area with that of another language. This dual degree model will help teachers be more global-ready, as they will learn about the target culture and the strong ties between language and culture, and with those elements they will then be able to better relate to students who come to their classes from a culturally- or linguistically-diverse background. Additionally, students who are encouraged to become proficient in a foreign language will be more ready to meet the needs that employers have reported as necessary and lacking in 21st century employees (AAC&U, 2018). Thus, the language learning process is one additional means of moving toward becoming a more global-ready educator. Indiana's world language standards for K-12, published in 2014, support the acquisition of cultural knowledge spread throughout the language learning process by studying the products, practices, and perspectives of the target culture. (Indiana Department of Education, 2014). Once having learned these elements, regardless of when the language instruction takes place, it is reasonable to expect that the teacher can utilize them to infuse cultural information into his/her daily lesson objectives and long-term unit plans.

In summary, the results of our study have implications for a variety of global experiences within a teacher education, such as:

- Provide pre-service teachers with exposure to educational technologies that can promote global interactions (e.g., ePals, Twitter, FlipGrid);
- Encourage pre-service teachers to read and have discussions about critical literacy and how it connects to global awareness and citizenship;
- Provide pre-service teachers with the tools to understand their K-12 students as culturally connected and rapidly changing as the world becomes more connected through electronic and interactive media; and
- Provide pre-service teachers with opportunities that are feasible for study abroad, learning languages other than their own, and self-reflection relating to global awareness (e.g., the Global Citizenship Scale and the Cultural Awareness Profile).

Conclusion

This study is significant, as global readiness is an increasing concern, not only in Indiana, but across the globe. The study confirmed that, in order to be able to teach for global readiness, the teachers themselves need to be globally competent. However, being globally competent is not the same thing as being able to teach for global readiness. Contrary to what some might expect, length of teaching experience and travel abroad were not found to be determining factors for being able to teach for global readiness. *Situated practice* appeared to be the most developed aspect of teaching for global readiness among Indiana teachers, whereas *transactional experiences* appeared to be the least developed aspect. Both *critical literacy instruction* and *integrated global learning* appeared to be somewhat developed aspects in teachers' ability to teach for global readiness. Professional development for in-service teachers, as well as teacher preparation programs, should be tailored in a way to provide opportunities for teachers to enhance their knowledge and application of transactional experiences in their classrooms and provide an array of resources that would help practicing and future teachers to integrate global learning into their daily instructional practices. More research is necessary to examine the effects of global-readiness-focused professional development as well as to investigate other pathways (e.g., teacher education instructional practices, virtual exchanges, and out-of-classroom experiences) that may potentially lead to having teachers who are ready to teach globally.

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