Using poststructuralism and postcolonialism in education praxis: an exploration of teaching about the 'developing Other' in an Australian high school

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This paper analyses my journey as an early career postcolonial and poststructural theorist and teacher. I ask how different ways of knowing and engaging with the "developing Other" can be incorporated into teaching praxis and curriculum planning? The "developing Other" refers to those and that which is othered in the binary oppositions of developed/developing. The paper calls for a better understanding and incorporation of poststructuralism within the classroom by highlighting the uses of poststructural concepts, including discourse, subjectivity, and reflexivity in praxis. The paper begins by introducing my rationale, providing a discussion of the key theoretical concepts I use, and finishes by demonstrating these concepts in action. This is done by analysing a unit of work and my pedagogy created and delivered to an International Studies class during my final undergraduate internship. The unit explored Timor-Leste's road to independence and focused on interrogating our relationship to the construction of peoples in Timor-Leste as the developing Other. This discussion aims to contribute the literature that supports poststructural and postcolonial classroom praxis by highlighting, critiquing, and deconstructing students' perceptions of Otherness through the lens of one classroom. I hope to offer this experience as an instance for questioning and to provide an outline of how these concepts can establish small sites of resistance in education to the destructive forces of neoliberalism and neo-colonialism, especially in education.

Keywords: poststructuralism; postcolonialism; praxis, education

INTRODUCTION: ESTABLISHING A RATIONALE

Poststructuralism and postcolonialism offer classroom teachers a set of theoretical and practical concepts that can transform how we teach. In this paper, I explore how different ways of knowing and engaging with the developing Other can be incorporated into teaching praxis and curriculum planning. I aim to provide a theoretical dialogue through a unit of work on Timor-Leste's road to "independence"[1] that I developed in 2014 for an international studies class of a predominantly white and female group of 14-

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[1] Timor-Leste was under Portuguese rule for over 400 years until 1974. In 1975 Indonesia invaded Timor-Leste and occupied the country until 1999 when a referendum was held and independence was achieved. In 2002 Timor-Leste became an independent nation.

15-year-old students studying at a selective performing arts public school. The school is in a metropolitan, broadly middle class community; I found the students to be active in issues of social justice.

Interrogating the main question of this paper occurred at the planning and implementation stages of the unit and directly after presenting a version of this paper at the 2014 Australia New Zealand Comparative and International Education Society (ANZCIES) conference. In preparing to deliver the unit I identified three pedagogical features that attempted to create a learning sequence and space that engaged with the "Other" in a tangled and disruptive way: identifying ethical spaces with students; the use of story sharing (through Aboriginal yarning circles); and deconstructing the language *we* use when talking about *them,* who are the subject of our inquiry. A recent trip to Timor-Leste stimulated a desire to further engage with these ideas and the original conference paper. I soon realised there was a lot of development as a teacher and academic in this time.

This example of praxis is offered at a time when alternatives and possibilities from a postcolonial lens are emerging in resistance to the dominance of neoliberalism in education and educational research globally (Goedl, 2016). My overarching recommendations as a result of my reflexive analysis lie in the need for a greater sense of praxis amongst teachers and the benefits of critique and deconstruction in classrooms with a focus on the production of ethical spaces of inquiry.

In addressing the belief in an opposition between theory and practice, Spivak (1988) argues: "the production of theory is also a practice; the opposition between abstract 'pure' theory and concrete 'applied' practice is too quick and easy" (p. 70). I looked to the concept of praxis to work against the opposition Spivak describes. Guattari (2000) illustrates praxis as actions and practices of experimentation rather than philosophical speculation. Kemmis (2012) provides an extensive definition of praxis from which I take the following key points: history-making action, in the beneficial interest of those involved and of human kind, which is morally committed and tradition informed, with a long-term perspective on the work we educators do. Achieving this definition of praxis requires an engagement in reflexive and (de)constructive dialogue.

In being reflexive to our practice as teachers, we engage in praxis and maintain commitment to the beneficial interest of education, a powerful rebuttal of neoliberal education policy.[2] The question of what is in the "beneficial" interest of those involved and human kind is problematic and contestable. In navigating my own understanding of this issue, I draw on Kemmis's (2012) belief that educational praxis is to achieve "Living well . . . in a world worth living in" (p. 895).

I chose to use Timor-Leste's story as my unit of work for an International Studies class because of my personal connection with a school in Timor-Leste. I visited the school multiple times in the past for short teaching trips and finally accepted a permanent teaching position in 2018. I hold strong convictions that there are stories that need to be explored by Australian school students about the history between the two countries: Timor-Leste and Australia. Despite their extremely connected history, their stories and

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[2] I come from the position that neoliberal policy which includes the commercialization and commodification of education is not the way forward for equitable access to education. Neoliberalism seeks to apply free market principals to social goods such as education which reduces the ability for education to work for social justice and societal equality.

histories are mute in the Australian curriculum. [3] Teaching International Studies presented me with an opportunity to write and deliver a program that aimed to align generic outcomes around cultural understanding. It was a rare opportunity of content freedom that also allowed me to work with the theoretical toolbox I had been interacting with in the academic space.

A THEORETICAL BASIS: EXPLORING POSTSTRUCTURALISM AND POSTCOLONIALISM

In this section, I aim to illustrate and highlight the key theoretical concepts, or toolkit, that I tried to put to work in my classroom. This section is structured as separate from the "at work" section below to show the process of an early career teacher who goes from the university space—often theoretical in its course nature—into one of my first classrooms. A divide between theory and practice occurs all to often when teachers and university students come to believe that the theory and knowledge taught at university cannot be applied in; such a belief results from technical training and "learning in the real world" discourses that plague the profession in Australia that are part of the neoliberal agenda in Education. Neoliberalism aims to quantify academic and teacher work against economic descriptors and output, undermining the theoretical nature of the teaching profession.

Poststructuralist theorists cite that a criticism of poststructuralism is the creation of inaction and a "theory" which renders relativists "immoral because they are incapable of action or commitment" (Laws & Davies, 2000, p. 205). However, an extensive body of literature supports the incorporation of poststructuralism into not only comparative education research but also teaching praxis (see Ninnes & Burnett, 2003). I found that, as an early career teacher, the concept of poststructuralism offers both the ability to critique current teaching practices or systems, and the opportunity to create new spaces of entanglement within the bodies, practices, materials, and discourses that construct my pedagogy; new in the sense of spaces that have been closed off, hidden, or othered and not newly created. With a postcolonial optic, an aim of my praxis is to expose, trouble, and call into question the cultural inequalities and the cruelties that create the worlds of my students and the worlds that exist in the content of our studies. To achieve such exposition, researchers generally apply theoretical concepts, such as Foucauldian discourse, subjectivity, binary opposites, cultural hybridity, and monolithic representation. Each of these theoretical concepts have an important role to play in the classroom in seeking out the discourses and binary opposites that are historically conditioned to construct the other as inferior.

Before detailing classroom discussions from my unit, I will briefly discuss the concept of discourse, which is a explored in both the poststructuralism and postcolonialism

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[3] The relationship dates back to WWII with Australian troops being deployed in Timor-Leste. During the Indonesian occupation (1975-99), consecutive Australian governments did not oppose the invasion and occupation (Hogg, 2000). In 1999 Australia lead a military taskforce (INTERFET) to restore peace after a Timor-Leste referendum for independence. Australia has been involved in subsequent UN peacekeeping operations and remains a strong aid supporter of Timor-Leste. At the same time, Australia and Timor-Leste are in negotiations over ownership of oil in the Timor Sea, a dispute which is still in negotiations in the International Court of Justice (Clarke, 2014)

theoretical frameworks and is key in the construction of my pedagogy. Discourse is understood as practices that systematically constitute the object of which they speak and therefore positions language as not only describing "worlds" but also creating and discursively constituting social realities (Foucault, 1972). This understanding allows us to view the present and the "way things are" as not inevitable or natural, but rather as historically conditioned phenomenon (Parkes, Gore, & Elsworth, 2010). With a Foucauldian optic, "we are looking for discursive operations, with 'a discourse' being a distinct way of making sense (and sense can be made through speaking, thinking, doing, feeling, enacting, etc.)" (Petersen, 2015, p. 64). The implication of understanding Foucauldian discourse is to focus on subjectivities which recognizes the role discourse plays in the formation and desires of bodies as subjects. Subjectivity is an ever-changing process by which we are discursively constituted by that which is around us . We begin to embody particular subjectivities in response to those discourses. By making visible the constitutive power of discourse and subjectivities, it is possible to create conditions that allow student agency in education. That is, rather than teachers creating social change and the possibilities of escape, they guide students towards "the capacity to recognize that constitution and to resist, subvert and change the discourses themselves through which one is being constituted" (Davies, 2004. p. 4). Through an ideas of the creation of a new space, the discourses are made visible and negotiated rather than taken for granted or hidden. If truth and reality are questioned—in this example by analysing colonialism—then we are led to the "problems *about knowledge itself,* for these analyses do not generally arise, and are not comfortably contained, within the knowledge structures in the global metropole" (Connell, 2014. p. 215).

The practice of reflexivity is an option available to educators to encourage discourse, subjects, and the construction of knowledge. It plays an important role in my praxis and in complicating realities and binary oppositions; it broadly forms the methodological approach to my discussion in this paper. Vrasti (2013) calls for "a level of theoretical literacy that will allow us to practice a rigorous (self-)examination of our deepest emotional and political investments" (p. 264). Reflexivity is a process of critique, awareness, and action that involves our understanding of ourselves and the other that constructs us.

There is an important distinction between reflecting on our praxis or being reflexive within it. Pillow (2003) references Elizabeth Chiseri-Strater's distinction between reflexivity and reflection stating: "to be reflective does not demand an 'other', while to be reflexive demands both an other and some self-conscious awareness of the process of self-scrutiny" (p. 177). Reflexivity is never simply an act of looking at the self of yesterday. The self of yesterday does not exist without the Other so can not be an act of sole reflection. Therefore, to be reflexive or the practice of reflexivity includes our engagement with the Other, be it our students or the subjects of our teaching content.

Situating reflexivity within poststructuralism causes the subject to becomes unknowable and multiple and, thus, caught up in a continuously shifting process (Pillow, 2003). Reflexivity is also a postcolonial process whereby one is looking for what is hidden or Othered through critique and the questioning of the process of knowledge production itself (Goedl, 2016). However, when reflexivity is constantly employed to demonstrate ones' self-awareness to provide a "cure for the problem of doing representation" (Pillow, 2003, p. 181) the broader purpose of reflexivity and ethical praxis is lost. To simply make our position or subjectivity transparent does not render that position unproblematic (Spivak, 1988). If our subjectivities are in a state of change through the

actions of reflexivity, then so too is our praxis. Pillow (2003) suggests an uncomfortable reflexivity which does not seek an end point of knowing self and other: "reflexivity that seeks to know while at the same time situates this knowing as tenuous" (p. 188). For teachers tangled in the accountability requirements of professional standards and the grids of what marks quality, this theoretical understanding of reflexivity is a powerful way to work within yet against accountability requirements.

IN ACTION: CURRICULUM PLANNING

International Studies is an elective course offered to expand students' understanding of the complexity of culture and diversity, and Australia's growing relationships with Asian cultures. Schools can teach the topics provided by the curriculum, such as culture and beliefs, culture and travel, culture and gender, or schools can develop their own unit of work in line with the syllabus outcomes. The story of Timor-Leste is lacking in most of the Australian curriculum and is only available as a school-based option across Geography, Society and Culture, and International Studies.[4]

My unit of work focused on Timor Leste's road to "independence" and was designed to be a historical investigation of the Timorese peoples' *struggle* to gain "independence." I placed quote marks around the word independence to signal that the unit would critique the independent status of Timor-Leste[5] and examine the role of neo-colonialism or, as described by Spivak (cited in Childs & Williams, 1997) "post-colonial neo-colonised world" (p. 7). The unit was structured around the linear historical timeframes of Portuguese Timor-Leste, Indonesian Timor-Leste, and "Independent" Timor-Leste. I left out the time before Portuguese colonization but hoped to weave throughout the unit the presence of a long-thriving Indigenous culture which has transformed, been maintained, and is heterogeneous despite the brutal periods of colonialism and neo-colonialism. The postcolonial framing of my teaching asked students to explore these timeframes with an understanding of the physical and ideological forces of colonialism in its various manifestations. Primarily, we looked at the time of Indonesian occupation and the concurrent global silence; itself an act of global colonialism.[6] The unit spent time focusing on the responses of women, children, guerrilla fighters, Timorese people in exile, and the Catholic Church from both within and outside Timor-Leste. A break down of experiences meant that we would not be looking at the peoples of Timor-Leste as a monolithic group who experienced colonialism; rather we acknowledged cultural hybridity and differences in lived experiences, perspectives, and narratives including

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[4] A 2000 Federal Government Senate report found that Australian governments between 1975 and 1999 hushed reports of human rights abuses in Timor-Leste in order to maintain strong economic ties to Indonesia (Hogg, 2000). The current complex and political nature of the relationship with regard to oil in the Timor Sea makes the history and relationship, perhaps, too political and shameful to enable meaningful ways for inclusion in the Australian curriculum.

[5] Australia played a central role in the rebuilding Timor-Leste after 1999, providing over one billion dollars (AUD) from 1999-2014 (DFAT, 2014).

[6] The occupation's human rights abuses involved the forced displacement of peoples, violations of the *Geneva Convention*, torture and illegal detention of political prisoners, widespread sexual violence, and the deaths of an estimated 250,000 Timorese peoples as a result of conflict and hunger (CAVR, 2005)

that of the elite creole established by Portuguese colonialism.[7] How these individual or collective stories formed a historical understanding and a collective memory for society became a site of reflection and critical interrogation explored by the students. Thus, in this unit, students came to understand that "history" is fragile and not necessarily based in a fixed reality of truths. It becomes narratives of difference and similarities beholden to the fluid subjectivities of narrative form.

Further to breaking down monolithic representations, we explored the hybrid nature of lived experiences and the "heterogeneity of cultural identities" (Subedi & Daza, 2008, p. 5). I believed it was important to focus on the survival of Timor-Leste's culture in the face of colonisation, to ensure the achievements of Indigenous cultures are no longer hidden from Eurocentric curricula (Hickling-Hudson, 2011). We focussed on lessons about Tetum, the language of Timor-Leste; spirituality; different lifestyles based on geography; and the various achievements of the guerrilla fighters during the Indonesian occupation rather than on the Other as being a helpless victim to colonial oppression. We acknowledged that there was survival and resistance. This presents its own ethical challenge of how teachers manage the risk of romantic representations of the Other, especially a romantic representation of poverty.

A principal concept we interrogated at the start of this unit on Timor-Leste was poverty. Poverty is often positioned as a fixed and truth phenomenon. Rather than accepting this position, we asked, together, how poverty is constructed. How have poverty and the object of the poor and marginalized people been shaped as a reality? We explored the belief that a person in poverty or a community in poverty is more complex and nuanced than the economic indicators used to define poverty. On reflection, however, I regret not identifying the growing middle class in Timor-Leste, nor spending much time questioning which groups of people within Timor-Leste would describe themselves as "poor". Nevertheless, I hope that having raised questions about issues concerning the concept of poverty, other teachers and classes will explore the issues further. Questions, such as how have the poor come to be poor, should stimulate a greater awareness of the exploitation created by imperialism and maintained by capitalism and neo-colonialism. As stressed by Said (1993), we must recognize that the past, seemingly distant by time, cannot be separated from today.

It is too easy to teach about poverty with amnesia as to how poverty was created in the first place, and inquire as to how does poverty still exist? We must emphasise the developed world's link to the creation of poor subjectivities and exposes the binary opposites which are created and maintained. Binary opposites form power relationships that privilege one term or concept over another and continue domination over what is the inferior Other, such as developed/developing, poor/rich, north/south and so on. Burman and Maclure (2011) suggest we "look for the binary opposites in texts and worry away with them" (p. 288). Stronach and Maclure (1997) argue the task is not to choose between the binary opposites one engages with, "but to complicate the relations between them. To open up the complications that have been smothered" (p. 5).

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[7] De Almeida (2001) argues that Portuguese remains one official language of Timor-Leste to ensure that those who speak Portuguese, historically the Timorese elite Creole, remain in power and continue to control the majority who speak Tetum.

IN ACTION: PEDAGOGICAL ENCOUNTERS

I introduced a deconstruction of the ethics around doing historical inquiry about *them* by *us,* so that the questions *we* ask might change. The praxis of the intellectual teacher should be attempting to know how the other is constructed within our current worlds and unravel the processes and structures of othering with our students. Spivak calls on intellectuals to, "attempt to disclose and know the discourse of society's Other" (1988, p. 66). In order to do this, I structured three questioning frameworks:

- Consider how ethical is it to study the other without examining *our* interconnectedness to the other in the past, present, and future. For my unit of work, the Other was formed by the binary opposites available of rich/poor, developed/developing, colonizer/colonized, Western/Indigenous, white/black, and so on.
- Highlight the conditions that allow for our engagement with the other via school studies, including the historical conditions, the regimes of truth and our connection to the binary opposites investigated.
- Deconstruct the implication of our study. Who does it benefit? How may it continue monolithic representations of the Other which are oppressive or could our study be transformative? And for whom?

These are difficult questions to navigate with students but need to be embedded and discussed along the entirety of the unit of work. The idea of opening up an ethical space allows for conceptualizing and engaging with a space of "difference and diversity between human communities" (Ermine, 2007, p. 194). While it doesn't negate the ethical risks, it does allow for a dialogue around them and the opportunity to create grids of ethical conduct with our students.

Focusing on the types of questions we should ask when studying the Other helped frame our deconstruction of monolithic representations, and the processes involved in othering, Deconstruction is a way of affirming what has been Othered or forgotten in discourse, and to do this we must first not assume that what is "conditioned by history, institutions or society is natural" (Derrida in Kofman, 2002). For example, asking "how" the people of Timor-Leste have been constructed as the developing Other rather than taking it for granted that Timor-Leste is naturally poor. "How" questions enable us to explore the discourses at play in whatever context we are interested in (Petersen, 2015). Rather than looking for "why," which seeks a more constructed set of answers, "how" allows a messier exploration of discourse and phenomenon. For example: How does Australia maintain poverty in Timor-Leste or help alleviate it? How did the Indigenous traditions of Timor-Leste survive colonization and neo-colonisation?

Questions that trouble the binaries between Australia and Timor-Leste allowed students to comprehend poverty as not existing in a far off distant land. Rather, it is connected to their ability to sit in this developed world classroom and study poverty. This was challenging for many students: to have the historical inquiry of poverty end up as an inquiry of themselves and the action of doing historical inquiry. By spending time investigating with a focus on *us* rather than *them*, we were able to trouble and expose the dominance of Western narratives through binary opposition. This allows for the postcolonial aspiration of beginning to affirm what has been othered or forgotten in discourse.

In thinking of the types of questions to investigate and the ethics of doing so, the subjectivity of those who construct knowledge is key within a poststructural and

postcolonial praxis. Subjectivity was introduced into the classroom by challenging the traditional classroom understandings of bias, which has a negative association and students have often been taught to avoid their own and to look for bias in texts. We questioned how knowledge has been constructed, and the way truths are created as discourse is circulated and widely shared, creating social realities. This tied in with our understanding of narratives forming metanarratives. By considering our subjectivities in studying the Other, I endeavoured to open a space where students understood that this entire course was created and presented through the subjectivity of an individual: myself. They were learning about the culture and experience of others predominantly through one person's representation. Students were engaging in discussion that highlighted the unspoken discourses of the student teacher relationship, and the way they are positioned daily at school. We also began to highlight the power teachers can have in presenting knowledge as objective fact and truth and, at times, the students' lack of power to question this without being labelled reprimanded.

To talk through my subjectivity as teacher and to explore the ethics around that, I showed my students a picture of me with "my Timorese family." There are around 20 people in the photo, all of them Timorese except me and the people I was travelling with. We posed in front of the family's house and have done so now each time I have visited them. In the version of the photo I showed my class, I blurred out all the faces except my own. I asked in our learning space who has the voice? Who does not? Whose life am I talking about? Is it a problem that I talk about other peoples' history but they *cannot*? How can we reposition this? This wasn't a case of throw your hands in the air and walk away from the unit or walk away from discussing the life of the Other, but rather this visual aid positioned our learning experience in a way that acknowledged silencing is taking place as we construct our knowledge and understanding of the subject of our inquiry. As such, the Other has not been engaged in dialogue or agreement as Ermine (2007) suggests is needed when creating ethical engagement between Western and Indigenous communities. I have acknowledged the lack of agreement and dialogue and tried to both incorporate and challenge my own subjective implicatedness in the learning process.

Poststructuralism provides a space to incorporate the personal into research to ensure the subjectivity of the researcher is represented so that they are no longer granted the, "absolute authority for representing 'the other' of the research" (Gannon, 2006, p. 475). This same space can be incorporated into teaching praxis. It becomes a task of performing the position of "teacher" who is providing students with an education, while also calling this performative subjectivity into question. It can become a process of making these subjectivities both visible and strange so that teachers are not granted authority to speak for those who have for so long been, and continue to be, silenced. The availability of technology and the increased availability of direct testimonies and so forth does enable other voices to enter into the classroom.

My voice and other voices were constructed as narratives. Rather than using the word narrative with students, I spoke of stories and story sharing. As an Aboriginal man, story sharing is a central focus of my culture and pedagogy. My postcolonial praxis often "is simply the defence and preservation of Indigenous knowledge and practices, in the chaos and violence of conquest" (Connell, 2014, p. 214). In researching Aboriginal Australian knowledge and pedagogies, Yunkaporta and McGinty (2009) found story sharing as central to successful lessons. Thus, I tried to create a space whereby stories form the central focus of pedagogy, rather than as a segue from facts or the "real

discussion" at hand. Often, this was done in the form of a yarning circle. It was important that, as a class, we selected an area outside that became our space for yarning circles, and that we understood the spiritual significance of the land as the source of energy and life for Aboriginal peoples. In the yarning circle, the students could share their own stories and the discussion would weave in any direction the students wanted. Not only was the subject of our learning about the Other, but the pedagogical approach was other. It was an experience the students responded to positively. Through my story telling and our yarning circles, it was readily acknowledged that the stories were inherently subjective. This meant all the history I presented through story telling and the sharing of stories, experiences and knowledge in the yarning circle was understood to be subjective. The subjective nature of knowledge, stories, and our understanding of ethics of representation lead us to ask how are some stories more "right" than others and accepted as truth? Or why some stories are not circulated and silenced in discourse or school curriculum.

The social sciences should not avoid talking "about the destruction of social relations, about discontinuity and dispossession, about the bloodshed and suffering involved in creating the world in which we currently live" (Connell, 2007, p. 215). These elements of human history and existence should be discussed in the classroom but not in a way that aims to shock or overwhelm students. Embedding them is one way to continue the discussion around the silencing process in school curriculum and social discourse. Rather than giving facts or numerical statistics about those living in poverty or suffering, we discussed the bloodshed and suffering as an experienced story of one individual with one family, one community and so on. From here we built that up. When I said to students there were over 1,000 recorded cases of sexual violence as a weapon of war in Timor-Leste, students could immediately think of the individual testimonies we had read first. Stories before statistics is a vital shift in historical pedagogy. It was one way available to me in a classroom to make history individual. However, we were not looking to make our lessons filled with sympathy. We made our lessons a space filled with people. Filled with the understanding that history is the lives of people. That these individual stories may resonate with the experience of other peoples, which then creates a historical metanarrative. In this action, I hope the students started to view difference among peoples without a deficit gaze, as well as break down the exotic representations of the global poor or global suffering.

By this stage, we come to one of the biggest hurdles for teachers interested in social change and deconstructive praxis: the requirement to conduct an assessment which seeks to find truth, construct the right answer, and provide a quantified rank of student achievement. It is a struggle global academics are fighting against, as neoliberalism seeks to "assume that there is a homogenous domain of knowledge on which measuring operations may be performed" (Connell, 2014, p. 211). In schools, an assessment task will generally establish a homogenous truth, measured against outcomes or generalized descriptors. How do we ensure oppressive truths don't continue to be replicated through assessments that decide what is truth or not? We asked how ethical it is it to reduce the history of peoples of human beings to a series of comprehension examination questions or a task that shows *our* knowledge of *their* history. I decided to focus on Timor Leste's involvement in WWII, where, in groups, the students created an awareness campaign, highlighting this moment in Timor-Leste and Australia's history. We hadn't learnt the story in class, so it was an opportunity for the students to apply their knowledge of the types of questions we should ask and the ethics of historical inquiry.

Their assignment was to ask questions and make judgements as to how history has been constructed and circulated, and to then try and tell the story to their peers. Some students made presentations, picture books, and some wrote a verbatim play. This form of assessment task was praised by my peers in the staffroom for engaging students in a creative form of higher order assessment. It aligned to the syllabus outcomes as well as other measurements of quality teaching, such as high expectations. Students made a judgement about why the story is either important or not, and why they believed it wasn't taught in schools. Why is the story of the loss of 40,000–60,000 Timorese lives during WWII not widely circulated in Australian classrooms? How has *this* story become one that is less mobile, less circulated, less known, in comparison to other war stories and narratives, such as Gallipoli or the "Fuzzy Wuzzy Angels" of Papua New Guinea. Even now, as a full time history teacher, this exact set of questions has re-emerged as written into the history program as the Kokoda story and not that of Timor-Leste. This example in the history or international studies classroom is a way students can see clearly how history is subjectively constructed.

CONCLUSION

In aiming to achieve a poststructural and postcolonial praxis I have discussed how different ways of knowing and engaging with the "Other" might/can be incorporated into teaching praxis and curriculum planning. This discussion contributes to the alternatives in education from a postcolonial optic which resist neoliberalism in all domains of education, from classroom pedagogy to academic work and knowledge production. I hope to have highlighted what "different ways of knowing" may mean and how this can be interrogated collaboratively with students by exploring a variety of theoretical concepts and tools. This included identifying ethical spaces with students so that they may be reflexive to the conditions that allow for their inquiry of the Other and the implications of studying the lives of Othered communities. Through incorporating story sharing and deconstructing language, my unit of work resisted Western ways of knowing by placing significant value on Indigenous ways of knowing and practice. Students also identified the inherent subjective nature of knowledge, history, and the teachers who guide them. I was fortunate to engage a class and group of peers who were supportive of my praxis and the unit of work. It was seen as creative and engaging rather than an overt challenge to the norms. Working within the prevailing structures to resist, subvert, and expose them seems a tangible way forward for the poststructural and/or postcolonial educator. Exploring seemingly small sites of resistance has guided my praxis since, in the hope that each class I teach is exposed in some small or major way to the postcolonial and poststructural project of a decolonised more peaceful world.

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Understanding the other through international professional teaching experiences

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Universities encourage students to undertake international professional experiences so they can add international and intercultural dimensions to their development. This paper adopts a theoretical backdrop of neo-colonialism to investigate the experiences of four Australian pre-service teachers who jointly undertook an IPE in Bandung, Indonesia. Analysis of their journal entries illustrates how they struggled to make sense of their new cultural and organizational surroundings, and the new insights they gleaned. They were unprepared or under-prepared for the complexities of culture that they encountered. The paper also discusses the potential for IPE delegates to normalize typically "Western/Northern" ways of learning and teaching, and puts forth some recommendations for future IPEs. It aims to prompt discussion on the current and potential value, and possible pitfalls, of such programs.

Keywords: international education and mobility, intercultural competence, Southern theory, pre-service teaching, professional experience

INTRODUCTION

International mobility experiences offer vast potential to inform pre-service teachers and equip them with intercultural sensitivities and perspectives. However, they also embody normative, neo-colonial capacities for showcasing supposedly correct ways to conduct the business of teaching and learning (Buchanan & Widodo, 2016). This paper reports on the experiences of four Australian pre-service teachers undertaking a 10-day international professional experience (IPE) in Bandung, Indonesia, during which they taught English to Indonesian students. It investigates how the participants interpreted their surroundings and related to their hosts, and the resulting implications for their identities, their ongoing teaching skills and their capacities to challenge assumed global, cultural and pedagogical norms.

LITERATURE REVIEW

The prospects and problems associated with globalization have precipitated responses and strategies that optimize opportunities for international and intercultural interfaces. Various definitions exist for globalization and related terms such as internationalization and intercultural competence. Knight (2003, p. 2) defines international education as "the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education". Globalization is "a process of interaction and integration among the people, companies and governments of different countries and regions (Codina, López, & Palé, 2014, p. 186); they contend that

universities have enthusiastically embraced international mobility programs in response to these global realities and to enhance student opportunities. Such uptake is, however, not universal (Yemini & Giladi, 2015).

The necessity and opportunity for teachers and other professionals to attain international and intercultural capital and sensitivities, and the capacity to respond appropriately to diversity, has emerged globally from the increased mobility of people and ideologies, and, specifically in Australia, through increasingly diverse communities and social divisions. International experiences confront the sojourner with rich and occasionally confounding multidimensionality and complexity (Bodycott, Mak, & Ramburuth, 2013). Reflecting on this complexity, Rizvi (2015) observes:

> In the era of globalisation, the production and circulation of cultural practices is now to be found in a huge variety of spaces, both within and across national borders. Our cultural condition is increasingly a complex and 'hybrid' one, and cannot be packaged into a neat collection of ethnicities. (p. 67)

While this might obviate the need for international experiences, given ubiquitous, borderless intercultural and cross-cultural melanges, international experiences can throw into stark contrast one's own and one's hosts' cultures.

One aim of international (professional) experiences is the synthesis of intercultural competence, the "effective and appropriate behaviour and communication in intercultural situations" (Deardorff, 2011, p. 66), requiring development of "specific attitudes, knowledge and skills." Spitzberg and Changnon (2009, p. 9) define intercultural competence as "the appropriate and effective management of interaction between people who, to some degree or another, represent different or divergent affective, cognitive and behavioural orientations to the world". Drawing on this, Holmes and O'Neill (2012, p. 716) assert that intercultural competence "involves critical cultural awareness of Self and Other in an intercultural encounter, with appropriate attention to relationship building, monitoring and managing emotions, empathy, and facework". Teachers must "deal with regional, national and global problems, among other practices" (Morresi, Elías, & Marcos, 2014, p. 304). In the context of increasing intercultural and inter-ethnic tensions, both global and local, teachers are called upon to deal sensitively, equitably and knowledgeably with students from various linguistic, cultural, religious and ethnic backgrounds, through a "culturally responsive pedagogy" (Gunn, Bennett, Evans, Petersen, & Welsh, 2013, p. 1). IPEs can effect such outcomes.

Many benefits accruing to participants from international and intercultural experiences are prized by universities and employers (Knight, 2006). International mobility programs offer "integrated approach of contents, contexts and activities for critical engagement in global dialogue . . . new perspectives . . . global connectedness" (Lehtomäki, Moate, & Posti-Ahokas, 2015, p. 1). They also benefit "students who cross national borders for the purpose or in the context of their studies" (Kelo, Teichler, & Wätcher, 2006, p. 5), enhance employment prospects (Potts, 2015) and inform teacher attributes (Schwartzer & Bridglall, 2015) by broadening horizons (Lingard, Hardy, & Heimans, 2012).

Intercultural encounters enable conversations between the new and the known (Lundegård & Wickman, 2011). As Edgerton (1996, p. 166) contends, "one cannot 'see' or hear the familiar until it is made strange." During intercultural experiences, the ordinary is disrupted (Dantas, 2007) "by someone else's ordinary" (Buchanan, Major,

Harbon, & Kearney, 2017), thereby prompting dialogue between the familiar and the unfamiliar in the sojourner's heart and mind.

Kuh (2008) commends high-impact encounters, such as service learning, and diversity learning, which explores "'difficult differences, such as racial, ethnic, and gender inequality" (p. 1). IPEs, as examples of such programs, should be transformational for participants (Deardorff, 2006), encompassing personal changes that are cognitive and technical (Gorski, 2008), affective (Perry & Southwell, 2011) and conative (Lemmer & Wagner, 2015). Numerous frameworks have been designed to measure and enhance effectiveness of intercultural programs (Buchanan et al., 2017). One such framework, the PEER (prepare, engage, evaluate, reflect) model was developed by Holmes and O'Neill (2012) to assist in designing and evaluating intercultural experiences. As their student informants engaged with Others, Holmes and O'Neill noticed their "acknowledging reluctance and fear, foregrounding stereotypes, moving beyond stereotyping, monitoring feelings, working through confusion, moving from complacency to complexity, and acknowledging boundaries around competence" (p. 711). These capacities illustrate the iterative, complex nature of such encounters and responses.

Australia increasingly focuses on Asia at the expense, arguably, of attention to our Pacific Island neighbours. Toe (2015) contends that evaluating Australian teachers' Asia literacy is complex. Despite political and bureaucratic attempts to improve this situation, cross-curricular studies of Asia in Australia enjoy but a "patchy presence" (Halse, 2015, p. 13).

Australian teacher education providers have established IPEs in response to global, regional and local realities (Knight, 2012). The Australian Curriculum includes Intercultural Understanding as one of seven General Capabilities (ACARA, 2013a), and Asia and Australia's engagement with Asia as a Cross-curriculum Priority (ACARA, 2013b). According to The Australian Curriculum, Reporting and Assessment Authority (ACARA, n.d.), intercultural understanding "assists young people to become responsible local and global citizens, equipped through their education for living and working together in an interconnected world." Kostogriz (2015, p. 103) sees Asia literacy as a "double imperative" for Australian schoolteachers, for economic and socially just reasons. Dyer (2015) commends in-country experiences for enhancing teachers' international literacy. Nevertheless, IPE evaluation remains under-researched and under-interrogated (Arkoulis, Baik, Marginson, & Cassidy, 2012; Buchanan et al., 2017), as part of a "false halo of internationalisation" (Lee, 2013, p. 5). Petrón and Ates (2015) conclude that international programs operate without theory, evaluation and research, and are "evaluated" primarily by participant numbers. Knight (2013) observes a displacement over time of earlier philanthropic motives behind international exchange by more venal ones on the part of wealthy nation universities, and calls for ethical, values-based dimensions to international programs.

While Australian IPE sojourners will inevitably learn something of new destinations, the encounters may not be universally positive, and could reinforce, rather than overcome, essentialist or stereotypical forethoughts related to hosts' ethnicity, race or religion (Forsey, Broomhall, & Davis, 2012; Palacios, 2010). Similarly, Holmes and O'Neill (2012) have explored the complexity and contestation of intercultural competence and warn of reinforcing cultural stereotypes through intercultural encounters.

The theoretical backdrop for these investigations includes neo-colonial theory, post-colonial theory (Crossley & Tikly, 2004; Hickling-Hudson, 2007; McLeod, 2000) and Southern theory (Connell, 2007, 2014). Neo-colonialism was defined in 1961 by the All-African People's Congress as

> [T]he survival of the colonial system in spite of the formal recognition of political independence in emerging countries which become the victims of an indirect and subtle form of domination by political, economic, social, military or technical means (Falola, 2001, p. 111).

Postcolonial theory seeks to make "theoretical sense out of [a colonial] past" (Gandhi, 1998, p. 4).

Southern theory draws on the metonymous developing Global South and the developed North, which mostly refer to degrees of economic development. In neo-colonial theory, these terms are also associated with the impact made on the indigenous populations in colonised Southern countries by the colonising Northern ones. The "West" is another expression of the Global North. Australia is regarded as part of the Global North and Indonesia the Global South (Shekar, 2015).

Southern theory resists definition (Connell, 2014, p. 210); it is "not a fixed set of propositions but a challenge to develop new knowledge projects and new ways of learning with globally expanded resources". From an educational perspective, Connell (2015) argues:

> If indigenous knowledge is to function in a world dominated by the knowledge systems of the colonising society, if it is to be validated and made effective, it must be capable of development and growth . . . be open to critique and evaluation . . . there has to be a mutual learning process. (p. 38)

This paper sets out to understand and explain the extent and nature of this mutuality of learning in our participants' experiences.

THE IPE AND PARTICIPANTS

This 10-day IPE, in September 2015, required our participants to teach with one or two teaching partners for two hours per day at a local primary and/or secondary school. It was brokered between the visiting university and the Universitas Pendidikan Indonesia, Bandung. Students submit written applications to undertake an IPE, and must pass a preparatory, accredited subject. The subject addresses methodologies in teaching English to international students and issues of culture and acculturation. Not all students in this subject subsequently undertake the IPE, however, so the subject is, of necessity, broader in scope than the Indonesian context. Accompanying academics for the program respond to calls for expressions of interest for the role. The accompanying academic on this occasion had not visited the host city previously, but has travelled widely, including to Muslim-majority countries: Afghanistan, Algeria, and Iran. The author visited Bandung beforehand, and prepared briefing notes for the students and the accompanying academic. Some institutional funding is available to offset students' travel costs.

Five Australian female pre-service teachers undertook the IPE, of whom four furnished final responses permitting their anonymous use in publications. Here they are named Alice, Maria, Patricia and Tina. While reference is routinely made to Indonesian culture

as though it were monolithic, the local language and culture are Sundanese, one of Indonesia's many language/cultural groups.

All four respondents were of Asian, Middle Eastern or European backgrounds and in their third year of a four-year teacher education course in Australia. An academic accompanied them to observe lessons, provide feedback and moral support, and to write their reports.

METHODOLOGY AND LIMITATIONS

This is essentially a case study, a well-established method in investigations of IPEs (Anderson, Young, Blanch, & Smith, 2015; Buchanan, 2004; Buchanan,` et al., 2017). The project set out to investigate the effects of the IPE via participants' reported critical incidents, as "we, the researchers, try to make sense of the student researchers' sense-making" (Holmes & O'Neill, 2012, p. 711).

Data collection instruments comprised journals that the students were asked to maintain during the IPE, in modes of the students' choosing, such as pen and paper, or digitally. The participants were asked to record critical incidents immediately, or as soon as practicable, afterwards, for the purposes of accuracy and immediacy. Given the IPE's demands, however, the participants mostly furnished information after completing the IPE. Nonetheless, some of their accounts retain a vivid immediacy. Informed participant consent was obtained as part of the University's ethics approval procedures.

Directions and instructions for reporting critical incidents were minimal. Participants were asked to describe the event or incident and their thoughts, feelings and responses. Prompts included: "I wish I'd known . . .', and "I'm glad I knew . . ." Participants were advised that "critical" indicated "significant" rather than negative or unpleasant. While the reporting of these incidents typically encompassed school-related or other communication breakthroughs and frustrations, they also included new learnings, challenges or confirmations concerning presumed truths and hypotheses.

The study also explored participants' assumptions about their hosts, asking them to reflect on the following questions: To what extent and how do IPEs challenge your assumptions and worldviews? How do you respond to these challenges? In particular, I sought mis/matches between our participants' and the local teachers' assumed ways of "doing school". Sund and Lysgaard (2013) assert that all education is normative, noting a "lure of normativity" (p. 1606). While such reflections may contribute to increased participant self-awareness, they may also be normative if the intent of encountering others is "to prove them wrong" (Hayhurst, Giles, Radforth, & the Vancouver Aboriginal Friendship Centre Society, 2015, p. 952), or if they lead to neo-colonial appraisals of the IPE host institutions.

Consistent with a qualitative paradigm (Auerbach & Silverstein, 2003), the study adopted a grounded theory approach (Glaser & Strauss, 1967), the research questions driving the project, and the data fuelling it. Data were analysed in open then axial mode (Strauss & Corbin, 1990), to distil themes and interconnections.

The study is small in scale, which limits generalisation. Host perceptions were not investigated here, but have been reported on elsewhere by the researcher and the contact at the host university (Buchanan & Widodo, 2016). Follow-up interviews would be useful in confirming and expanding on the information generated for this study, and

could be incorporated into similar future studies. The longer-term impacts of an IPE also warrant further study.

FINDINGS AND DISCUSSION

Six major themes were discerned from the four participants' responses. They highlight the lessons learned during this IPE.

First impressions

Of day one, Maria recollected: "I was very surprised because of how different it was from Australia. Bandung was very, very busy and overcrowded; it was also dusty, underdeveloped and polluted". Alice observed there were, "no pedestrian crossings or traffic lights to cross. Therefore getting to school and walking around was a bit stressful. The crazy amount of cars and motorbikes did not help." She illustrated this with an anecdote:

> A friend and I went to walk around yesterday to look for places to eat, however after 10 minutes of walking we decided to go back, as we felt extremely lost and it was too hectic for us to get around. There were a large amount of motorbikes and cars around. It was really hard to cross the road.

Two respondents also expressed surprise and some apparent indignation at not being advised beforehand that they would be teaching in a "Muslim school". Both host schools are comprehensive. Nevertheless, most of the schools' staff and students are practising Muslims, and Islam pervades Indonesian society much more extensively than does any faith in Australia, where government schools are, in theory, secular and, mostly, in practice, non-sectarian. These participants' astonishment took me by surprise in return. The briefing notes provided prior to departure only referred to Islam in passing. Knowledge on the part of our participants of Indonesia's faith-demographic was an ill-founded presumption on my part.

The local dress code arose as problematic for participants who had assumed short-sleeved t-shirts acceptable for teaching. For Tina, this transcended school; she described it as part of her culture shock: "Most of the people who lived there were mostly covered up because of the culture". Adapting to local food was another challenge, Tina recalling: "The traditional food was mostly spicy . . . they definitely do not have much of a variety of different cultural food like Sydney."

Maria reacted dramatically to these cultural differences, suffering

> [A] really bad panic attack, which resulted in a nosebleed. I thought I couldn't get through it, but with the help of my friends and [accompanying academic supervisor] I responded to it in a positive way and fought through it. I was scared, stressed out and homesick.

These differences were not problematic for all participants, however. Alice described the culture and traditions as "extremely different to Australia", but saw this as a "high point" of her IPE. One of her first impressions also concerned approaches to teaching, which she accepted as positively challenging, reporting, "It will be interesting to create lessons that do not involve technology."

Student-teacher interactions

The language barrier, cultural norms and ways of dealing with awkwardness and saving face created some confusion and frustration for our participants. Maria recounted:

> Another incident is when I was teaching/giving instructions, and some students had no idea what I am trying to say. They just stared blankly at me and I think that's when I realised that communicating would be challenging . . . A frustrating incident was when the students spoke in Indonesian and sometimes they laughed while I was just standing there and I obviously had no idea what they were saying or what they were laughing about. This actually happened more than once (maybe five times over the two-week period).

Similarly, Alice recalled: "When I walked around and asked the students questions they would usually turn to their friends and talk and laugh in Indonesian. I'm not sure if they were talking about me, or laughing because they didn't understand." Maria and Alice appear to have interpreted this as possible mockery, as might be the case in an Australian classroom. And yet, this observation contradicts another of Maria's comments about the children and their respectful attitude – at least outwardly – to teachers:

> I loved how the students showed so much respect towards their teachers . . . they would come to me at the end of class and they would shake my hand and place it on their heads as a sign of respect in their culture.

Our participants inevitably made comparisons with classrooms they had experienced in Australia. Tina observed: "[Indonesian] students are often very polite and respectful to their teachers. It was eye-opening for me in terms of the comparison between schools in Sydney and the school that I taught at in Bandung". Alice recounted: "In Australia, I feel as though the students aren't as respectful," whereas the local students "would actively listen, and not call back or talk back". Maria found this respect:

> [R]eally heart-warming since the students in Australia would usually bolt out of the classroom at the end of the class/day . . . Another thing I loved was that they refer to their teachers by their first name but add the word "ibu", meaning mother/teacher, at the end as a sign of respect. I think it was great being called by my first name because it made me feel more connected to the students as opposed to being called by my surname and feeling as if I had to hide my identity.

These boundaries of respect don't necessarily align with typical Australian interactions; a student initiating a handshake with a teacher, while part of a respectful gesture in Indonesia, might be seen as somewhat forward in an Australian context. Alice learnt from her experience "how a student from another country coming to Australia feels". She noticed,

> No real boundaries when asking questions. Many of the students would ask me for my Instagram or FB [Facebook] and would ask if I had a boyfriend. In Australia the students would not ask these questions, as they are deemed inappropriate. However the students in Indonesia are not aware of these boundaries that Australia has.

Our respondents were surprised that no reward system operated in their host classes. As Patricia observed, however, "after I gave a class rewards, the next class, I had their attention from the start. It was like I was in a different class."

Teaching resources

Paucity of teaching resources appears to have unearthed a normative streak in our respondents, even those who saw resource paucity positively. They ascribed inferiority to a resource-scarce approach to teaching and learning. Alice reported that her students "only worked from workbooks", considering this limiting to their progress in learning English. Tina agreed, saying: "I am very lucky to live in Australia where lots of resources are provided for me, whereas the school I taught at the students did not have any . . . resources like books, computers or printers. I was unable to print any worksheets for students".

Alice wrote at the mid-point of the IPE, "Teaching in Indonesia is difficult for me", describing constant class changes as "a bit overwhelming" and referring to her difficulty in explaining instructions to her students and the gulf between the primary and secondary students' English abilities. Adding to the unpredictability of lessons was an ability-streaming of classes; ascertaining the abilities of one class did not afford prediction of a "parallel" class's abilities. This resulted in lessons pitched either beyond or below the capabilities of several students. It appears to have been difficult for the participants to apprise themselves beforehand of the ability levels of their students.

Relationships with supervising teachers

The participants found that aspects of previous relationships with cooperating classroom teachers were somewhat upended. More than in typical Australian schools, the local teachers solicited our participants' ideas on teaching and learning. Patricia indicated that although her supervising teacher had been teaching for 12 years,

> He really liked the new ideas we have, and the new ways we approached teaching and topics . . . He also found it rather interesting that we use a stimulus at the start of the lesson (e.g. a role play with my teaching partner) . . . He liked that we were so flexible and that he will think about this more when he plans his lessons . . . He was very impressed with our course . . . He said he had many visiting teachers, but he was very impressed with us.

Such compliments possibly constitute guest/host niceties. Nevertheless, local teachers who are unimpressed with the pre-service teachers' performances, might reasonably remain silent rather than accord praise. Patricia noted, however, a bilateral "expertise ecology", whereby the teacher, who also disliked the local students' dependence on textbooks or worksheets, offered suggestions for lesson refinement.

While some Indonesian traditional approaches appeared unfavourable to our respondents, Patricia recognised the contribution of direct instruction in language classes. In Western/Northern contexts, direct instruction is at times viewed as inferior to inductive or inquiry learning (Alfieri, Brooks, Aldrich, & Tenenbaum, 2011; Lazonder, 2013). To their frustration, our participants found that their students appeared unfamiliar with techniques such as group work and brainstorming. While the language barrier may have exacerbated their concerns, our participants' reactions point to the pedagogical assumptions they carried into these situations.

Adapting

Despite superimposing some of their cultural assumptions on their new circumstances, our participants recognised their dependence on their hosts for all-important local knowledge. All four IPE respondents grew into their new environment during their stay. Maria, who had earlier suffered a panic attack, "enjoyed every minute in Bandung. YES, it was challenging but it was awesome!" And Alice, who had found her 10-minute foray into the traffic hectic, was able to say by the IPE midpoint:

> I am becoming more independent when going around to go to the shops. I am familiar with catching an angkot [*angkutan kota*, a local mini van public transport shuttle service] and how to get off. However, crossing the road still seems to be an issue . . . [The IPE] was a great experience that will develop your cultural understanding of the world . . . Be open to new things and immersing [yourself] in the culture . . . You really need to explore and go out to experience and appreciate the culture.

On the final teaching day, Alice listed benefits including gaining confidence and independence, working without technology, determining students' levels of English and adapting lessons accordingly, making friends and appreciating "the similarities and differences of the Indonesian and Australian culture"; "overall it was a great experience that I will always appreciate".

As with the local teacher who complimented our participants, it may be that student politesse is in part driving some of these responses. Patricia summarised a host of positive challenges by advising, "prepare to be unprepared". These responses, while heart-warming, nevertheless appear somewhat naïve and romantic, as discussed later.

Sources of help and support

The process of adaptation was considerably helped by support from locals and the accompanying academic. Clearly, the involvement of an understanding, empathic, and supportive academic supervisor is essential for a successful IPE, particularly if participants encounter difficulties or emergencies. Maria, who reported the panic attack, recorded: "I think having [accompanying academic] there made it a lot easier since she was very supportive and was basically our mother there, so I am glad she took part because it would have been very different without her."

Local university students also greatly assisted our participants in adjusting and adapting. Patricia reported that the locals hosted visits to an angklung musical performance and to "craters [Tangkuban Perahu, a nearby volcano], museums, the mosque, shopping and going to try food . . . we gained a better understanding of Indonesian and Sundanese culture." Tina described the local people as "very nice and helpful", and Alice recalled that the Bandung tertiary students "were able to tell us stories from their own culture and how it is to live in Indonesia . . . very helpful when taking us around and showing us Bandung". Maria explained: "we were very lost and confused . . . They helped us with basically everything – things like, looking for SIM cards and exchanging money. So I am also glad that we befriended them!"

Some contacts made during the IPE appear to be ongoing. For Alice, connecting with locals "was a highlight because [we] have now become lifelong friends". Patricia

swapped contact details with her Indonesian friends, hoping in future "to exchange ideas and learn from each other's cultures", possibly through Skype-connected classrooms.

At times, the IPE participants appeared aware of possible colonial attitudes on the part of Westerners in Indonesia. Patricia, who described herself as a seasoned traveller but unused to four-star hotels (such as the Bandung Mercure), explained:

> A low point for me, was seeing how wasteful some of the hotel guests were when it came to food, or saying please and thank you; taking lots of food because it is a buffet, and not finishing it, and taking another plate of more food. Not acknowledging the staff who clear your table because you pay to be there. I felt rather sad and embarrassed at times to see this, and to know that outside our hotel, there is such a big gap between the haves and have nots.

It is inferred here that Patricia was referring to "Western" hotel guests, and is bringing "Australian norms" of culture to bear on their behaviour. Some of these behaviours might be interpreted differently if attributed to "Asians", and might not attract attention or opprobrium in a less international context.

Recognising the applicability of her IPE to teaching, Patricia wrote: "I don't feel like I could make a difference with the guests at this hotel, but I do hope to take this lesson back to my classroom."

Three overarching themes emerge from these data: superiority/inferiority; strange ways – theirs and ours, and; processing new information. Our respondents typically imputed inferior or deficit values to local ways – the traffic, "inappropriate" student familiarity, and limited technology. They did, however, report some local positives, or at least their own concessions thereto – student respect, and creativity borne of technology-limited teaching. Patricia, perhaps a group outlier, discerned questionable Western traits, such as arrogance and food wastage. This gives rise to a three-stage or -tier yardstick or continuum, against which status, progress or regression might be described or measured: unquestioning repudiation of local customs; a concessional accommodation thereof; ascription of worth to local ways. Optimally, this third level might critique and valorise local and "home" customs equitably. Our participants, through the filter of their written responses, appear to have attained at least the middle stratum on most occasions, although their reactions, such as a panic attack, might suggest repudiation. Further research might put the proposed continuum to the test.

Progress-wise, all the participants appeared to reconcile somewhat the us/them differences. This is encouraging, given the IPE's brevity and multifarious demands. It vindicates, and perhaps invites additional, institutional support before, during and after the IPE, as participating students process their experiences as part of their formation.

CONCLUSIONS

This IPE experience elicited positive, insightful and memorable journal entries. It allowed the participants to discover, as much as an outsider can, "how it is to live in Indonesia" (Patricia, journal entry). But when an international visitor attempts to build a cultural bridge between home and host countries (Gordon & Liu, 2015), the latter's cultural grammar (Holliday, 2013) can appear arbitrary, inconsistent, and anarchic. The mixed messages of respect from the Indonesian children left our participants scrabbling for meaning.

More broadly, the IPE offers insights into cultural inequalities and hegemonies of dominant Western/Northern ways of doing and being. Just as English has become a global lingua franca, such Western ways can become a "cultura franca" – a set of globally normed ways of operating (Buchanan & Widodo, 2016). In Bandung, the cultural dissonances between the pre-service teachers and their hosts emerged starkly in the operation and delivery of pedagogy. Our participants arrived armed with procedural assumptions, and subsequently explored and confronted multiple and hybrid responses and identities (see Marginson, 2014). While it is valuable for our respondents to acquire an appreciation of the opportunities and affordances (both subjective terms) they enjoy in Australia, it would be unfortunate if their IPEs were to become opportunities to "prove their host institutions wrong" (Hayhurst et al., 2015). And while there is little evidence from this study to suggest that the local teachers were eager to embrace Western methods, it would be similarly unfortunate if they were to do so at the expense of their own contextually effective pedagogies.

Returning to the PEER framework (Holmes & O'Neill, 2012), our participants appear to have been ill-prepared for the experience. The briefing notes overestimated their prior knowledge, and the accompanying subject focused more specifically on matters of English teaching. Moreover, the participants typically do not appear to have transcended naïve or romantic notions of the host culture, as illustrated by some of the end-of-IPE journal entries. This may also have implications for the "engage" component of the PEER cycle; the participants' comments foreground their teaching experiences over their intercultural ones. Their romantic notions extended to school operations, regarding less technology as a challenge, with associated implications of inferiority. With time, the pre-service teachers may reflect on their experiences more deeply, and in more sophisticated ways. Upon return, however, it is difficult to discern evidence of this. Future research might inquire about the longer-term professional and personal effects on IPE returnees. For reasons of cost to students, and equivalence with the corresponding onshore professional experience, the duration is deliberately short. The two-week time period may be limited in its capacity for transformation (Deardorff, 2006), providing insufficient time for the pre-service teachers to transcend responses of shock, confusion or romance, and to embrace complexity (Holmes & O'Neill, 2012; Rizvi, 2015) in order to engage more deeply with the culture, and their own responses to it. Participants' post-IPE reflections may offer opportunities for this, however.

Intercultural exchanges by university students are routinely touted for their vast potential for learning, exchanging of ideas, and developing leadership in disrupting racism (Boske, 2015). There is a risk, though, that an IPE may fall short of challenging visitors' assumptions, and may, thereby, become globally normative for all concerned. Compounding this, some participant observations are disarmingly naïve. Some appear unready to critically examine their own cultural positionings. The potential for such experiences to reinforce hegemonic ways of operating begs further interrogation. A valuable component of IPE preparation, engagement and reflection would be to consider such issues, rendering them more visible, as part of the "(in)congruities, complementarities and dissonances" (Holmes and O'Neill, 2012, p. 715) on the road to increasingly complex intercultural understandings.

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What contributes more to the ranking of higher education institutions? A comparison of three world university rankings

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Recently, many universities have drawn attention to world university rankings, which reflect the international competition of universities and represent their relative statuses. This study does not radically contradict types of global university rankings but calls for an examination of the effects of their indicators on the final ranking of universities. By using regression analysis, this study investigates the indicator contribution to the ranking of universities in world university ranking systems, including the Academic Ranking of World Universities (ARWU), Times Higher Education (THE), and QS World University Rankings. Results show that in the ARWU system, three indicators regarding faculty members who won Nobel Prizes and Fields Medals and papers published in Nature and Science and in the Science Citation Index and Social Science Citation Index journals predicted the ranking of universities. For the QS and THE systems, the more powerful contributors to the ranking of universities were expert-based reputation indicators.

Keywords: world university rankings; ranking indicators; indicator contribution; ranking of universities; university position

INTRODUCTION

Driven by globalization and massification in higher education (Altbach, 2012), university rankings and league tables are having an ever greater impact on higher education institutions (HEIs). Similar to the pursuit of accountability and objective evaluation, university rankings exist ubiquitously (Wildavsky, 2010). Both national and international university rankings are growing explosively and becoming more specialized by, for example, focusing on research performance or institutional reputation (see Rauhvargers, 2011; Shin & Toutkoushian, 2011). In particular, world university rankings, which are our concern in this paper, are considered by many to be a means of representing academic excellence and increasing prominence of HEIs in both local and global contexts.

Improving global rankings [1] in league tables is often a priority goal for many universities. World university rankings serve as a reference point for student choices for universities and scholar mobility across the globe, provide a guide to public policies, help in decision-making by funding agencies and university leaders, and even play a role in positioning and measuring the performance of higher education institutions in the domestic and global contexts (Altbach, 2006, 2012; Bastedo & Bowman, 2011; Hazelkorn, 2009, 2014; Huisman & Currie, 2004; Marginson & van der Wende, 2007; Salmi & Saroyan, 2007; Williams, 2008). In light of the positive relationship between Web links and ranking orders found by Lee and Park (2012), universities themselves endeavour to participate in global ranking activities and pursue higher ranks to obtain greater visibility and resources from multiple stakeholders (Hazelkorn, 2014). Thus, global rankings are often regarded as "a mechanism of agenda setting" with soft power (Lo, 2011, p. 216) and "an integral part of [the] status culture" of higher education competition (Marginson, 2014, p. 45). The higher the ranking, the more visibility and opportunities HEIs generally gain within their respective countries and across the globe.

World university rankings are an attractive and often competitive measurement of institutional performance by bibliometric methods (van Raan, 2005). To some extent, global rankings value stakeholder choices and investments, set institutional benchmarks, reorganize higher education institutions that work ineffectively, determine institutional priorities, and boost faculty academic professional reputation (Hazelkorn, 2009; Shin & Toutkoushian, 2011). An empirical study conducted by Bastedo and Bowman (2011) links college rankings with an institutional ability to gain greater financial resources. In terms of student recruitment, global rankings play an important role in student preferences and choice. A report initiated by the QS Intelligence Unit (2015) notes that over 70% of surveyed students consider global rankings more important in their university selection process than national or regional rankings, making them a crucial factor in the institutional selection for many students (Roberts & Thomson, 2007) because students tend to relate higher ranked institutions with better reputation and academic excellence.

World university rankings also influence strategic direction and decisions made by senior higher education administrators, including in how they react among and between leaders of other HEIs (Hazelkorn, 2009). Higher ranked universities are like institutional sponges that generally have greater opportunities to gain sustained public funding and private investments. Institutional reputation linked to global rankings also makes it easier for the top-ranked HEIs to attract scholars and students from domestic and international locations. World university rankings serve as an important underpinning of institutional reputation (Bowman & Bastedo, 2011) and in providing greater perceived "credibility" (Vieira & Lima, 2015, p.63). Rankings are also influential in producing a non-negligible effect on graduates' wages (Carroll, 2014). Many HEIs strive to align strategic plans and institutional performance to the criteria of world university rankings to solidify and boost their ranking position among the top institutions.

However, world university rankings have raised controversy, including their neglect of audiences' needs, the preference for English-language publications as a key indicator, an overemphasis on the fields of science and medicine, subjectivity of survey indicators, arbitrary weighting, the variability of ranking results, and the bias between

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[1] In this article, the term *global rankings* refers to world university rankings produced on an annual basis by several leading ranking systems.

ordinal/numeric representation and the actual quality of university education (Bastedo & Bowman, 2011; Dill & Soo, 2005; Fidler & Parsons, 2008; Frey & Rost, 2010; Marginson, 2014; Proulx, 2007; Saisana, d'Hombres, & Saltelli, 2011; Taylor & Braddock, 2007; Tofallis, 2012; van Vught & Westerheijden, 2010; Williams, 2008). Furthermore, an overemphasis on world university rankings is like jumping into a risky venture; for instance, rather than focusing their decision on which institution to attend based on outstanding academic performance, students often make their choice on institutional reputation (Taylor & Braddock, 2007).

Another common indicator critique of world university rankings is the preference for research publications from the Science Citation Index (SCI) and the Social Science Citation Index (SSCI). SCI and SSCI are widely recognized in academic circles for defining success, boosting institutional reputation, and justifying university rankings. But overvaluing the SCI and SSCI indicator may give rise to what Su (2014, p. 51) calls an "I-idolization" or an overemphasis on the leading publication indices. Other scholars list several shortcomings that relate to academic recognition, the marginalization of the humanities and social sciences, and institutional image (Deem, Mok, & Lucas, 2008; Delgado & Weidman, 2012).

There is also an invisible pressure in the pursuit of increasing institutional reputation that often intensifies the competition between HEIs and between countries. Moreover, Proulx (2007) argued that ranking results based primarily on SCI and SSCI research outputs are likely to persuade many leaders of ranked universities to over-emphasize the need for greater research publication outputs rather than focusing on developing relevant strategies to become world-class universities. Thus, world university rankings often lead to in an inherent risk of competition that ultimately excludes many of flagship universities (Amsler & Bolsmann, 2012; Douglas, 2016); HEIs compete internationally for human and financial resources, and their competitive institutional behaviours are simultaneously reinforced by the global ranking results (van Vught & Westerheijden, 2010).

Although many studies have documented various issues surrounding global university rankings, few studies have demonstrated the relationship between the indicators used and the ranking of universities in a particular ranking system; that is, which indicators have a greater impact on determining the ranking of universities. Understanding the contribution of indicators of global rankings is fundamental to understanding the role of global rankings and their methodologies as well as HEIs' strategies for pursuing global rankings.

This paper reports on a study investigating indicator contributions to the ranking of institutions of three of the most prominent world university ranking systems: the Academic Ranking of World Universities (hereafter referred to as ARWU) developed by Shanghai Jiao Tong University in China; the *Times Higher Education* World University Rankings (hereafter referred to as *THE*) created by Thomson Reuters; and Quacquarelli Symonds' World University Ranking (hereafter referred to as QS). In other words, our study sought to explore whether the weights of the indicators in these three global ranking systems are different to the assigned weights shown in their methodologies, and whether some indicators matter more than others. In this study, we first describe the characteristics and methodologies of the three ranking systems and common criticisms regarding their indicators. We then analyse the indicators' contribution to the ranking of HEIs to better understand the implications global university rankings have in practice.

THREE WORLD UNIVERSITY RANKING SYSTEMS:
FEATURES AND CRITICISM

The ARWU, *THE*, and QS rankings are the "big three," according to Hazelkorn (2014, p. 17), being among the most frequently used by scholars, administrators, policy makers, and students. The first global ranking system developed was the ARWU in 2003. The next year, *Times Higher Education* and the Quacquarelli Symonds Company co-published their own ranking systems, which is usually referred to as *THE*-QS (Liu & Cheng, 2011). However, in 2010, *THE,* and QS ended their collaboration and separated into two separate ranking systems.

Features of the selected ranking systems

Table 1 shows the background of these three systems.

Table 1: Main characteristics of the three university ranking systems

	Academic Ranking of World Universities (ARWU)	QS World University Ranking	*Times Higher Education* World University Ranking (*THE*)
Background			
Issued by	Academic institution (Shanghai Jiao Tong University)	Media (Quacquarelli Symonds)	Media (Thomson Reuters)
Years	11 (since 2003)	Since 2004, *THE* cooperated with QS. However, *THE* decided to change the partner and developed its own methodology in 2010	
Target audience	No	No	No
Methodology			
Criteria/Dimensions	4	0	5
Number of indicators	6	6	13
Conducting reputation survey	No	Yes	Yes
Data sources	Thomson Reuters' Web of Science Database, Resources of National agencies	Scopus Database, University portfolio, Survey	Thomson Reuters' Web of Science Database, University portfolio, Survey
Results published on the web	Yes	Yes	Yes
Ordinal Results	Top 500 (Single ranks to 100 and then groups)	Top 700 (Single ranks to 400 and then groups as 401–410, 411–420, 421–430, 431–440, 441–450, 451–460, 461–470, 471–480, 481–490, 491–500, 501–550, 551–600, 601–650, 651–700)	Top 400 (Single ranks to 200 and then groups as 201–225, 226–250, 251–275, 276–300, 301–350, 351–400)

Source: Authors.

ARWU is created by an academic institution (Shanghai Jiao Tong University), while the other two are developed by the mass media. All the selected ranking systems focus on the evaluation of research-led universities worldwide, even though their methodologies are not similar.

Rather than the specific target groups, all individuals and stakeholders engaged in higher education are the intended audience. These global rankings are likely to influence and drive the perceptions and behaviours of individuals and organizations, such as students, parents, faculty, and staff members, public authorities, and employers and community members (Thakur, 2007; van Vught & Westerheijden, 2010).

Except for surveys and resources from national agencies and university profiles, all the selected ranking systems use databases to analyse research publications and citations through a bibliometric method. QS uses the Scopus database, and the other two collect information from Thomson Reuters' Web of Science database. The ARWU system also collects data from select websites (e.g., SCI, SSCI, Nobel laureates, and Fields Medals), and *THE* and QS also conduct reputation surveys.

The three ranking systems commonly publish their results online using ordinal rankings in lists. ARWU publishes a list with the top ranked 500 institutions in which universities are ranked from one to 100 and then grouped as 101–150, 151–200, 201–300, 301–400, and 401–500. The QS system uses the methodological framework that served as the original version of the *THE*-QS rankings (Quacquarelli Symonds, 2014) and publishes a list of the top 700 universities online, of which the top 400 institutions are singly ranked and the latter 300 are grouped. *THE* releases an online league table of the top 400 universities, which are singly ranked up to 200 and then grouped as 201–225, 226–250, 251–275, 276–300, 301–350, and 351–400. The ARWU system has better ordinal proportionality than the QS and *THE* systems (Marginson, 2014) because of its fixed proportion of ordinal results.

Evaluative standards of the selected ranking systems

Each system uses its own standards for evaluation and weighting. In 2011, *THE* ended its collaboration with QS and developed a new methodology with a different partner—Thomson Reuters. Instead of the old six indicators that QS still uses, the new *THE* methodology consists of 13 indicators ranging from teaching and research to knowledge transfer (Thomson Reuters, 2010). Table 2 illustrates the indicators and their assigned weights in these ranking systems.

The ARWU ranking system includes six indicators among four dimensions (Shanghai Jiao Tong University, 2014). First, the dimension of education quality is determined by one indicator—the number of alumni who have won Nobel Prizes and Fields Medals (coded as Alumni), and this indicator contributes 10% to the overall score. Second, the dimension of faculty quality is evaluated by two indicators; one is related to Nobel Prizes and Fields Medals granted to faculty members (coded as Award), and the other is HiCi, a parameter related to highly cited researchers in 21 subject categories. These two indicators account for 20% each. Third, the research output dimension is also determined through two indicators: papers published in *Nature* and *Science* (coded as NS) and those indexed in SCI and SSCI (coded as PUB). These two indicators account for 20% each. Finally, the per capita performance of an institution (abbreviated to PCP) contributes 10% to the overall score.

Table 2: Indicators and assigned weights of selected university ranking systems

Title	ARWU	QS	THE
Dimension/ Indicator	◆Quality of Education - Alumni (10%) ◆Quality of Faculty - Award (20%) - HiCi (20%) ◆Research Output - *Nature* and *Science* (20%) - PUB: SCI & SSCI (20%) ◆Per Capita Performance (10%)	◆Academic reputation (40%) ◆Employer survey (10%) ◆Citation per faculty (20%) ◆Faculty-student ratio (20%) ◆International students (5%) ◆International faculty (5%)	◆Teaching (30%) - Reputation survey for teaching (15%) - Staff-student ratio (4.5%) - Doctoral-bachelor's ratio (2.25%) - PhDs awarded (6%) - Institutional income per faculty member (2.25%) ◆Research (30%) - Reputation survey for research (18%) - Research grants (6%) - Papers in peer-reviewed journals (6%) ◆Citation impact (30%) ◆Industry income (2.5%) ◆International outlook (7.5%) - Ratio of international-domestic students (2.5%) - Ratio of international-domestic staff (2.5%) - Publication with international co-authors (2.5%)

Source: Created by the authors with criteria from Quacquarelli Symonds (2014), Shanghai Jiao Tong University (2014), and Thomson Reuters (2014).

The *THE* system uses 13 indicators for five dimensions (Thomson Reuters, 2014). First, the teaching dimension is assigned a weight of 30% and is determined through five indicators, teaching reputation survey, staff-to-student ratio, doctorate-to-bachelor ratio, doctorate awards by an institution, and institutional income scaled against academic staff numbers. Second, the research dimension has a 30% share and is established through research reputation survey, research grants, and the number of papers published in academic journals. The third dimension is citation impact, given a weight of 30%. The fourth dimension is research funding from industry, contributing 2.5% to the overall score. Finally, the international outlook dimension of an institution is assigned a weight of 7.5% and is determined through the international-to-domestic student ratio, international-to-domestic staff ratio, and number of internationally co-authored research papers.

The QS ranking system still uses the original methodological framework (Quacquarelli Symonds, 2014). Among the six indicators included in the QS system, the most important is the academic peer reputation survey, with a weight of 40%. Another reputation survey addresses employers and contributes 10% to the ranking. Then, the two indicators of citations per faculty and faculty-student ratio contribute 20% each to

the overall score. Finally, the numbers of international students and faculty indicators have a weight of 5% each.

It is important to note the similarities in these ranking systems; the differences lie in the weights of the indicators used. University rankings, according to Proulx (2007), should represent the characteristics of the ranked universities and "avoid a one-size-fits-all typology" (p. 76). All the indicators of these ranking systems are grouped into five categories, including teaching, research, service mission, reputation management, and internationalization of higher education institutions (Table 3). These five categories result from several multifaceted and interactive factors. In particular, the last two categories seem to be relevant in the context of knowledge-based economic societies. However, the weights assigned to the indicators seem to reflect the emphasis of each global ranking system and have some biases. For instance, the ARWU system focuses on research and eliminates teaching, service mission, and internationalization; and the indicators of the QS and *THE* systems are incomplete in assessing the effectiveness of teaching and learning and research funding (Marginson, 2014), though both have some measures for these five categories.

As shown in Table 3, the ARWU system emphasizes research excellence, while the QS system focuses more on universities' reputation (Aguillo, Bar-Ilan, Levene, & Ortega, 2010; Huang, 2011). For instance, the ARWU system assigns a weighting of approximately 90% to impressive research performance, such as Nobel Prizes and Fields Medals granted to alumni and faculty members and publication in famous English-language journals. By contrast, the QS system depends greatly on university reputation, representing nearly 50% of the total score.

Table 3: Priorities of selected university ranking systems

Category \ Title	ARWU	QS	*THE*
Teaching		✓	✓
Research	✓(*)	✓	✓(*)
Service		✓	✓
Reputation	✓	✓(*)	✓
Internalization		✓	✓

Note: * refers to the category given the most assigned weights in the system.
Source: Authors.

In addition, the dimensions evaluated by the QS and *THE* ranking systems are similar, but the indicators of the *THE* system are more detailed and complex (Marginson, 2014). In the *THE* system, more than one-third of the overall score is associated with research outcomes such as research grants, publications, and citations. However, in the QS system, less than one-fourth of the total weight is allocated to research outcomes. Even though both of these two ranking systems measure university reputation, the *THE* system assigns approximately 33% to reputation surveys, while, in the QS system, it accounts for 50% of the overall score. Both ranking systems give approximately 10% to the internationalization of higher education institutions and have some indicators to assess the teaching mission, but the QS system employs only one indicator of it, the faculty/student ratio.

Criteria debate of the selected ranking systems

As already noted, the three ranking systems have been extensively criticized (see Marginson, 2014; Taylor & Braddock, 2007). The incomplete databases used by the three ranking systems tend to have biases against the non-English-language publications and the fields of social science and humanities (Amsler & Bolsmann, 2012; van Raan, 2005). The biases in favour of hard-science and English-language publications also result from the different publication cultures and citation habits in diverse fields (Frey & Rost, 2010; Saisana et al., 2011; van Vught & Westerheijden, 2010).

Another similar criticism of the three ranking systems is the challenge concerning their selections of indicators and arbitrary weighting. The numeric, comparable, and standardized league tables produced by global university rankings often lead the uninformed public to believe the truth of the information. Through league tables, everyone can easily interpret and compare the quality of certain universities. Those who publish rankings also believe that the ranking results reflect the position and quality of a university through a rigorous and objective process of evaluation (Rauhvargers, 2011). However, as argued by Williams and Van Dyke (2008), "the objectivity does not ensure that the measures actually chosen are always appropriate" (p. 2). Taylor and Braddock (2007) argued that the weights of indicators depend on the significance of the set of indicators suggested by higher education consultants, and most ranking systems have chosen the "suitable" indicators instead of the negative ones, jeopardizing institutional or national interest (Marginson, 2014, p. 46). For instance, because of the initial purpose of understanding the global standing of top Chinese universities (Liu & Cheng, 2011), the ARWU system relies heavily on research performance without consideration for the teaching, social service, internationalization, and employability of university graduates (Marginson, 2014; Saisana et al., 2011).

In the ARWU ranking system, focusing on research-oriented indicators is frequently criticized. Aside from the biases in favour of hard-science and English-language journals, the Nobel indicator affects the lower-ranked universities located in countries with few Nobel Prize and Fields Medal winners, and underrepresents the diversity of academic fields and other scholars' achievements (Huang, 2011; Marginson, 2014).

For the QS and *THE* systems, the major criticism involves the subjectivity of reputation surveys, the teaching indicators, and the instability of the rankings. Employing expert-based reputation surveys as a ranking indicator is subjective to the bias caused by human opinions and judgments on a university (Salmi & Saroyan, 2007; Williams & Van Dyke, 2008). In other words, the subjectivity of survey indicators is inevitable in relatively objective ranking indicators (Dill & Soo, 2005; Taylor & Braddock, 2007). In terms of teaching criteria, Trigwell (2011) stated that, in the QS system, using a single indicator—staff-to-student ratio—to assess the teaching performance of a university is questionable; this indicator depends on class size but also cannot accurately reflect teaching quality and the diversity of teaching and learning activities. As with the QS system, it is difficult to evaluate actual teaching effectiveness even though the *THE* system adds other indicators to assess teaching performance, such as PhDs, the doctoral-bachelor's ratio, and the facilities and income of an institution. Then, the variability and fluctuation of the rankings result from the frequency of changes in methodology and the use of surveys in the QS and *THE* systems (Marginson, 2014; Saisana et al., 2011). The empirical study conducted by Aguillo et al. (2010) indicated that the dissimilarities between the *THE*-QS rankings for different years are high. In other words, the *THE* and QS systems are more unstable than the ARWU system.

What contributes more to the ranking of higher education institutions?

Intuitively, all ranking systems have different impacts on ranking results, including the overall score and the ordinal ranking of universities because of their different frameworks of indicators. Investigating which indicators of the three world university rankings best predicts the ranking of universities would be interesting.

RESEARCH METHOD

Data sources

All data were obtained from the ARWU, *THE*, and QS world university rankings. As the source of data, we chose the top 100 universities from each selected ranking system in accordance with their 2013-14 world university rankings released on their websites. For each ranking system, the data we collected included the scores for every criterion and the overall scores, as well as the ranking of the 100 institutions. However, because Harvard University is the benchmark in the ARWU system, it was excluded from our data from the ARWU rankings.

Data analysis

We used secondary data and regression analysis in the study. We used regression analysis to explore the effects of independent variables on an outcome variable (Treiman, 2009). For each ranking system, we used bivariate regression to examine the effect of a single indicator on the ranking separately, and we employed multiple regression to investigate the impact resulting from the whole set of the indicators.

Limitations and contributions

The major limitation of this study is the change of ranked universities that are shown on the lists of the three world university rankings. In this study, we chose world university rankings in 2013-14 as our data set. We chose to study only the top 100 ranked institutions but those in the top 100 changed depending on the year, thus leading to a bias. However, the variation of ranked universities on the top 100 lists of these three global rankings is smaller than those on other ordinal categories. In order to eliminate biases resulted from the uncertainty and variation, we focused on the top 100 in the selected world university rankings.

However, two features of our study should be emphasized. First, although every ranked university *receives* an overall score and a respective ranking, this ordinal ranking is likely to represent the position of a university. Thus, in our study, we paid more attention to the ranking of universities than to the final scores these HEIs received. Second, we only selected the top 100 universities instead of all ranked schools shown in the rankings (e.g., the top 500 in the ARWU rankings) because these top 100 universities are given unique rankings. Moreover, receiving the first-tier rankings implies that these universities have more opportunities and better competitiveness than others in terms of marketing.

RESULTS AND COMPARISON

Overall, all Pearson correlation coefficients between the single indicator and the ranking of a university in each system were negative. The reason is that the increase of the numerical value refers to more attention on indicators but not on the higher ranking of

institutions. The smaller the value (such as Top1means) relates to institutions with the best performance. Rather than indicating the relative significance between positive and negative correlations, this shows that the indicators and the ranking of a university in each system move in the opposite way (Treiman, 2009). According to the results of our study, all correlation coefficients were statistically significant with respect to ranking of universities in the ARWU and QS ranking systems, while some were nil in the *THE* system. The following section describes the regression analysis of each selected ranking system in detail.

ARWU system

Table 4 shows the regression summary of the ARWU rankings. The final model (model 7) that includes the six indicators explained 83% of the variance in the ranking of universities ($F_{(6, 92)} = 73.403$, $p < .001$). Even the adjusted R^2 also provided an explanation of 82%. As shown in Table 4, three indicators were significantly and inversely related to the ranking of universities, including Award (b = -.542, $p < .001$), NS (b = -.770, $p < .001$), and PUB (b = -.728, $p < .001$). By comparing their standardized weights (βeta-weights), we found that the Award indicator had the most substantial impact on the ranking of universities (β = -.405), more than the NS (β = -.362) and PUB (β = -.294) indicators.

Table 4: Regression analysis for the ARWU system

Model (with indicators)	R	R^2	Adjusted R^2
1 Alumni	.615	.378	.372
2 Award	.697	.486	.481
3 HiCi	.766	.587	.583
4 NS	.838	.702	.699
5 PUB	.590	.348	.341
6 PCP	.453	.205	.197
7 Alumni, Award, HiCi, NS, PUB, PCP	.910	.827	.816

	b-weight (βeta-weight)					
Indicator	Between each indicator and the rank					Final model
Alumni	-1.066*** (-.615)					-.066 (-.038)
Award		-.932*** (-.697)				-.542 (-.405)***
HiCi			-1.646*** (-.766)			-.200 (-.093)
NS				-1.783*** (-.838)		-.770 (-.362)***
PUB					-1.462*** (-.590)	-.728 (-.294)***
PCP					-1.091*** (-.453)	.141 (.058)

Notes: (a) ***$p \leq .001$, **$p \leq .01$, *$p \leq .05$. (b) Alumni = Alumni winning Nobel Prizes and Fields Medals; Award = Staff winning Nobel Prizes and Fields Medals; HiCi = Highly cited researchers; NS =Articles published in Nature and Science; PUB = Science Citation Index and Social Science Citation Index; PCP = Per capita academic performance.

Using bivariate regression, each indicator had statistical significance in explaining its effect on the ranking of universities. The top two contributors to institutional ranking were the NS and HiCi indicators (models 4 and 3), which could individually explain more than 50% of the variance in the ranking of universities, but unfortunately, the HiCi indicator was not statistically significant in the final model (model 7). The third most influential contributor to institutional ranking was the Award indicator, with an adjusted R^2 of 48%. In other words, 48% of the variation in the ranking of universities could be explained with Award. Then, the Alumni and PUB indicators separately explained approximately 35% of the variance in the ranking system, but the PUB indicator had statistical significance in the final model. Finally, the PCP indicator received an adjusted R^2 value lower than 20%; relatively, the PCP indicator contributed less to the ranking of universities.

THE ranking system

The overall model (model 6) that includes the five criteria explained 90% of the variance in the ranking of universities ($F_{(5, 85)}$ = 164.782, p < .001). As the results in Table 5 illustrate, three indicators—teaching (b = -.697, p < .001), research (b = -.775, p < .001), and citation (b = -.490, p < .001)—were significantly and inversely related to the ranking of universities and international outlook (b = -.124, p < .05), while the industry income criteria had no significance. In comparing their standardized weights (βeta-weights), we found that the research indicator had the most powerfully substantial impact on the ranking of universities (β = -.506), and the second one was teaching (β = -.400). Both of them were more than twice that of the citation indicator (β = -.206) and more than four times that of the international outlook indicator (β = -.084).

Table 5: Regression analysis for the *THE* system

Model (with indicators)	R	R^2	Adjusted R^2
1 Teaching	.904	.817	.815
2 Research	.902	.813	.811
3 Citation	.410	.168	.160
4 Int'l Outlook	.127	.016	.006
5 Industry	.113	.013	.002
6 Teaching, Research, Citation, Int'l Outlook, Industry	.952	.906	.901

	b-weight (βeta-weight)			
Indicator	Between each indicator and the rank			Final model
Teaching	-1.586*** (-.904)			-.697 (-.400)***
Research		-1.398*** (-.902)		-.775 (-.506)***
Citation			-.991*** (-.410)	-.490 (-.206)***
Int'l Outlook			-.193 (-.127)	-.124 (-.084)*
Industry			-.142 (-.113)	.014 (.011)

Notes: (a) ***p ≤ .001, **p ≤ .01, *p ≤ .05. (b) Int'l Outlook = International outlook; Industry = Industry income.
Source: Authors.

When analysing the relationship between single indicator and the ranking of universities, we found that three of five criteria had statistical significance in explaining their effect on the ranking except the international outlook and industry income criteria. The top two contributors to the ranking were teaching and research (models 1 and 2), which could individually explain approximately 80% of the variance in the ranking of universities. The third contributor to the ranking was the citation indicator, with an adjusted R^2 of 16%. The other two indicators had adjusted R^2 values lower than 1%. Interestingly, the international outlook indicator was statistically significant in the final model but not important when we assessed its single effect on the ranking.

QS Ranking System

The regression results for the QS ranking system are illustrated in Table 6.

Table 6: Regression analysis for the QS system

Model (with indicators)	R	R^2	Adjusted R^2
1 Peer	.746	.556	.552
2 Employer	.535	.286	.279
3 F/S ratio	.630	.396	.390
4 Int'l faculty	.205	.042	.032
5 Int'l student	.327	.107	.098
6 Citation	.336	.113	.104
7 Peer, Employer, F/S ratio, Int'l faculty, Int'l student, Citation	.985	.970	.968

Indicator	b-weight (βeta-weight) Between each indicator and the rank					Final model
Peer	-2.035*** (-.746)					-1.456 (-.533)***
Employer		-.974*** (-.535)				-.255 (-.140)***
F/S ratio			-.751*** (-.630)			-.596 (-.500)***
Int'l faculty				-.192* (-.205)		-.101 (-.108)***
Int'l student					-.355*** (-.327)	-.161 (-.148)***
Citation						-.506*** (-.336) -.499 (-.332)***

Notes: (a) ***$p \le .001$, **$p \le .01$, *$p \le .05$. (b) Peer = Academic reputation by peer review; Employer = Employer survey; F/S ratio = Faculty/Student ratio; Int'l faculty = Proportion of international faculty; Int'l student = Proportion of international student.
Source: Authors.

The final model (model 7) that includes the six indicators provided a very strong explanation of 97% for determining the ranking of universities ($F_{(6, 93)} = 497.673$, $p < .001$). As shown in Table 6, all indicators were significantly and inversely related to the ranking of universities. By comparing their standardized weights (βeta-weights), we found that the top two indicators with the most substantial impact on the ranking of

universities were peer review (β = -.533) and faculty-student ratio (β = -.500). The third most influential contributor was the citation indicator (β = -.332). The influence of these three indicators was more than twice that of the other three indicators, including employer survey and the number of international students and faculty members.

According to the bivariate regression, each indicator had statistical significance in explaining its effect on the ranking. The most influential contributor to the ranking was peer review (model 1), which could explain 55% of the variance in the ranking of universities. The next most influential contributor to the ranking was the faculty-to-student ratio, which could explain 39% of the variation in the ranking of universities. The third one was the employer survey indicator, with an adjusted R^2 of 28%. In other words, 28% of the variation in the ranking of universities could be explained by the employer survey. The other three indicators had adjusted R^2 values equal to or less than 10%.

Most indicators of these three ranking systems made substantial contributions to the ranking of the top universities except two indicators of the *THE* system: international outlook and industry income. In the ARWU system, three indicators: Award, NS, and PUB, had statistical significance in predicting the ranking of universities. Even though the variance in the ranking of universities could be explained with HiCi (adjusted R^2 of 58%), it was not statistically significant. That is to say, the ARWU ordinal ranking could be determined by Award, NS, and PUB. In terms of the QS and *THE* systems, the more powerful contributors to the ranking of universities were expert-based reputation indicators, including the peer review of the QS system and the teaching and research criteria of the *THE* system. These findings were consistent with the results of several previous studies (e.g., Huang, 2011; Marginson, 2014; Saisana et al., 2011). This seemed to imply that universities have opportunities to receive higher rankings if they have *tangible, popular,* and *customer-appreciated* research products and an *excellent* reputation.

The regression analysis of these three ranking systems suggest that not all indicators in each ranking system contribute equally to the prediction of their final ranking of universities. In other words, several indicators could explain their respective rankings, while some indicators might not make an authentic contribution of the ranking prediction. Moreover, the importance of the most influential indicators to the final ranking of universities could be dissimilar to their assigned weights in the methodologies. For instance, according to the ARWU methodology, the NS indicator is assigned a weight of 20%, but this single indicator can explain approximately 70% of the variance in the ARWU ranking of universities. Although the final ranking of universities results from multiple factors and are influenced by them, the effect of a single indicator on the final ranking results cannot be neglected.

CONCLUSION

Facing increasing competition between HEIs in domestic and global contexts, the number of ranking systems at the national and international levels is increasing. University rankings are seen as a meaningful representation of bettering academic excellence and institutional reputation. In order to achieve these goals, most HEIs make a concerted effort to participate in institutional ranking activities rather than escape from them. In particular, world university rankings have gradually drawn greater attention in international and comparative higher education. The basic goal of global university

rankings is to provide information to inform student choices of universities, but the impact and use of global rankings have changed. Global university rankings serve as tools for evaluating universities' outstanding performance as well as marketing and positioning within countries and around the world. They become politically exclusionary instruments (Amsler & Bolsmann, 2012) and a tool of status control (Marginson, 2014). In other words, the ordinal numbers shown in the global rankings implies the position and competitiveness of a university. Thus, in the current study, our intention is not to deny global university rankings but to argue that international ranking systems should be carefully examined and that their results should be deliberately interpreted.

The selected global ranking systems are not perfect in measuring higher education institutional performance and in awarding their ordinal statuses across the globe. After analysing the contributions of the indicators to the final ranking of universities in the three ranking systems, we obtained several findings. First, most indicators of the three ranking systems were positively correlated with their overall ranking except the international outlook and industry income indicators of the *THE* ranking system. The reason that these indicators were not statistically significant might involve their lower assigned weights and whether universities were willing to provide accurate information on financing and internationalization. Thus, we highlight the need for HEIs and those who publish the rankings to be aware of and sensitive to the methodological issues and the transparency of institutional financial and internationalization data.

We also note that, in the three ranking systems, not all indicators contribute to the ranking of universities. This seems to imply that the ranking of HEIs might be determined by a few indicators. The various methodologies of different ranking systems may cause vulnerabilities in the seemingly objective evaluations and redundant evaluative criteria. However, as stated by Rauhvargers (2011), readers seldom receive and understand the actual information regarding the calculation to obtain the final ranking. Unfortunately, too often readers might be misinformed. The audience might also overestimate or underestimate the contributions of some indicators to the final ranking. Hence, we caution higher education stakeholders at all levels against using and interpreting the surface ordinal numbers and about making public decisions based solely on global ranking systems. We also suggest that the indicators chosen for each ranking system should be regularly examined to avoid redundant biases.

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Developments in education legislation of post-Soviet countries: Republic of Moldova's Education Code and other CIS experiences

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Continued changed to legislation in countries that were previously parts of the Soviet Union cause them to become increasingly differentiated. Many of the changes are to social and economic processes. In the field of education, various parameters have changed and are continuing to change, from details concerning the way to conduct assessments to the broader issues affecting the whole architecture of the educational system. The most recent legislative act in the CIS – the Education Code of Moldova *– illustrates the nature of changes taking place.*

This article discusses the most important trends in the legal regulation of the educational system in the post-Soviet area, including: how perceptions of education as a subject of legal regulation is changing; the impact of international cooperation in the field of education; the changing system of higher education and the introduction of a two-tiered system; and the increased attention to the quality of education.

Keywords: legal regulation of education in CIS, Education Code of Moldova, *international cooperation in education*

INTRODUCTION

Since the collapse of the Soviet Union, territories that were previously part of the Union have enacted reforms aimed at adopting approaches established in developed democratic countries of the European region. Reforms in the delivery of education have followed suit, as reflected in changes in education regulation.

This process of updating the educational system is not unique to post-Soviet Union territories but has been a significant endeavour in many regions of the world over the last two to three decades, triggered by transformations in social, economic and political relationships (for example, see article 7 of the *Higher Education Law of the People's Republic of China*). Non-European countries of the former Soviet region, known as the

Commonwealth of Independent States (CIS),[1] follow approaches adopted in developed Western countries but adapt their educational legislation to suit the specifics of their own countries, making repeated changes to their educations system as they do so.

This article begins with an overview of the legislation on education in the CIS[2] before discussing a few of the issues that the education laws deal with. The issues of interest are those most representative of the new trends in the regulation of education in CIS countries:

- International trends which call for international cooperation on a range of issues, including educational norms.
- State interests in international cooperation, which encourages the state to adopt norms of compulsory education for all and a restructuring of higher education.
- Changes in concepts of education in society, both globally and domestically, that are concerned with the quality of education and the need to provide education for all individuals.

The *Code of Moldova,* being the most progressive and recent legal education act of the CIS, will be used as the main case study to show the influence of the above trends on CIS education law.

The article concludes with observations concerning the impact and future of education laws in the CIS.

LEGISLATIVE SYSTEM

Current legislation in CIS can be divided into two groups:

1) Laws enacted before 2000, which are those of Uzbekistan (*Law of the Republic of Uzbekistan on Education #464-I, 1997*) and Armenia (*Law of the Republic of Armenia on Education #ZR-297, 1999*);

2) Laws enacted after 2000. New laws were passed in Azerbaijan (*Law of the Republic of Azerbaijan on Education #833-IIIQ, 2009*); Belarus (*Code of the Republic of Belarus on Education #243-Z, 2011*); Kazakhstan (*Law of the Republic of Kazakhstan on Education #319-III, 2007*); Kyrgyzstan (*Law of the Kyrgyz Republic on Education #92, 2003*); Russia (*Federal Law of the Russian Federation on Education, #273-FZ, 2012*); Tajikistan (*Law of the Republic of Tajikistan on Education, 2013*); Turkmenistan (*Law of the Republic of Turkmenistan on Education, 2013*).

The *Law of Ukraine #1060-XII on Education (1991)* (*Law of Ukraine*) is the only rule which has not been re-enacted since dissolution of the Soviet Union, though it has undergone numerous amendments and additions.

An interesting feature of legal regulation of the education system in the CIS is the adoption of codes (codified laws), which provide a systematic and comprehensive written

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[1] The CIS was created by a majority of the republics of the former Soviet Union, and includes: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan (associate state), Ukraine (associate state), Uzbekistan
[2] CIS laws as based in a Civil Law system.

statement of laws on education. Such codes have special (higher) legal force. At the time of writing, only Belarus and Moldova have adopted such codes. Moldova's *Educational Code of the Republic of Moldova* (hereinafter – the *Code*) came into force on 23 November 2014.

The structure of CIS non-codified laws on education are similar in many ways: the first part contains "General Provisions", which are the basic terms used in the law, and provisions about the structure and system of education, education subjects, etc.; and the second part deals with descriptions of the education system, levels of education, and general and professional education. The exception to this structure is the *Law of the Republic of Kazakhstan on Education #319-III, 2007* (*Law of Kazakhstan*), which describes the education system in the third chapter and dedicates the second chapter to issues concerning the management of the education system.

In addition to having a similar structure, all the education laws of the CIS contain the following parts:

- Subjects of the law (that is, educational relations, such as pupils, their parents, students, teachers, educators, and educational institutions, including schools, gymnasiums, universities, and state bodies which manage the education system), and processes (that is, educational procedures, attestation, certification, exams, transition to the next educational level, etc.);

- Regulations concerning funding of the education system and regulations concerning international cooperation (the exception being the *Law of the Republic of Uzbekistan on Education #464-I, 1997* (*Law of Uzbekistan*)).

These parts make up the content of the laws of Azerbaijan (47 articles), Armenia (55 articles), Kyrgyzstan (54 articles), and Uzbekistan (34 articles – though not including regulations concerning international cooperation). The laws of the other CIS countries contain additional provisions on: liability for violations of the law on education (Kazakhstan and Ukraine); state regulation in the sphere of education (Kazakhstan and Tajikistan); and subjects to be included in education (Kazakhstan, Russia, Turkmenistan). The law of Kazakhstan contains 68 articles; Russia, 111 articles; Tajikistan, 69 articles; Turkmenistan, 50 articles; and Ukraine, 66 articles.

Education Codes have a more sophisticated structure and more articles than do the laws. The *Code of the Republic of Belarus on Education #243-Z, 2011* (*Code of Belarus*) has both general and specific parts: 17 parts, 63 chapters, and 295 articles. The *Code* has 157 articles grouped into 12 parts, some of which are divided into chapters – from two to 12 chapters. Nevertheless the general part of the *Code* is relatively small for such a fundamental law; it only makes up about 14 percent of the general volume of the *Code*. By comparison, similar chapters in the *Federal Law of the Russian Federation on Education, #273-FZ, 2012* (*Russian Law*) and the general part of the *Code of Belarus* account for about half of the general volume.

All education laws have been subjected to the general trend of legislation in CIS countries of frequent amendments. For example, in November 2016: the education laws of Russia, Ukraine, and Kazakhstan introduced around 40 amendments each; Armenia introduced 34 amendments; Azerbaijan, more than 10 changes; Tajikistan, four changes; Turkmenistan and Uzbekistan, one change each; *Code of Belarus* was amended by three laws; and the *Code* by just one (in June 2016). The two codes appear to be more resistant

to change, probably because of the higher quality of their wording and because they have received more attention from lawmakers.

INTERNATIONAL COOPERATION IN EDUCATION

As noted in the introduction, the CIS has been amending its laws to modernize and bring them more in line with the approaches taken in more developed democratic countries. Article 149 of the *Code*, directs the Ministry of Education to prioritize cooperation in the field of education with the European Union (EU) within the framework of partnership in projects and programs. Overall, the basis for determining the structure and system of education in the *Code* (articles 12, 59, 61, 63, 76, 121, 132) is UNESCO's *International Standard Classification of Education* (*ISCED-2011*).

Moldovan lawmakers provided for the specific forms of international cooperation in Chapter XII of the *Code*. Article 148 states that such cooperation is based upon international agreements entered into by the Republic of Moldova, contracts agreed to by the Ministry of Education, and direct agreements with educational institutions supported by the Ministry of Education. Further, article 136 of the *Code*, concerned with the rights of students, specifies the right of students to participate in national and/or international projects and/or programs of academic mobility.

Of interest is the *Code's* provision for the establishment of a framework of national qualifications (article 97), which ensures the transparency of higher education, academic mobility and recognition of diplomas at the international level. The content of the framework of qualifications is: the description of areas of professional training; description of qualifications and of training courses; educational goals and competencies; labour costs for every cycle expressed in transferable units (credits); methods of education, teaching and assessment; and procedures ensuring the quality of higher education. The national qualifications framework of higher education is developed for each cycle of training and direction of education in accordance with the *European Qualifications Framework* and the requirements of the national and European labour markets.

Under articles 150 and 151 of the *Code*, foreigners can obtain an education in Moldova on equal terms to citizens of the Republic of Moldova. Citizens of Moldova are entitled, under the framework of academic mobility, to study abroad on the basis of international agreements as well as by individual agreements with foreign educational institutions.

Article 150 specifies that education for foreigners is to be provided in Romanian, which is the official language of Moldovia, or – at the request of the candidates – in a different language of international communication in accordance with the capabilities of the educational institution and within the budget allocated to the institution for such purposes. This provision is also covered by other norms of the *Code*. Article 9 of the *Code* requires that the state provides for the development of effective communication skills in Romanian or, when circumstances demand, in the languages of national minorities, and in at least two languages of international communication. Thus, the state provides conditions for the formation and development of communication skills in English, French and Russian in all public educational institutions (effective from the academic year of 2018-2019).

Article 10 of the *Code* also specifies that the language of instruction in the national education system be in Romanian and, within the capacity of the education system, in one of the languages of international communication. The goal of encouraging the provision

of education in a language of international communication is to increase the attractiveness of Moldovan education to foreign students. However, to do so is quite challenging, as, indeed, it is for many Western European nations. Van der Wende (2000) notes that to meet the requirements of internationalizing education in their institutions, a number of European countries have adopted French as a base language in certain courses offered to foreign students.

In contrast to the provisions of the *Code*, article 105 of the *Russian Law* sets forth the following areas of international cooperation in the field of education:

1) Development and implementation of educational and research programs in the field of education together with international or foreign organizations;

2) Dispatching of students, teachers and researchers of Russian educational institutions to foreign educational institutions with provision of special scholarships to study abroad, as well as receiving similar categories of persons at Russian educational institutions for training, professional development and improvement of scientific and educational activities, including international academic exchange;

3) Conduct of joint scientific studies, implementation of fundamental and applied research in the field of education, exercise of joint innovative activities;

4) Participation in the network-based provisioning of educational programs;

5) Participation in the work of international organizations, in international educational, research, scientific and technical projects, congresses, symposia, conferences, seminars or independent conduct of these activities, as well as the exchange of educational and scientific literature on bilateral and multilateral bases.

The *Code of Belarus* specifies the following directions for international cooperation:

• Foreign trade in the sphere of education on the basis of agreements between educational institutions of Belarus and foreign entities (article 119);

• Academic mobility – the exchange of students, pedagogical staff of Belarus and a foreign state for the purposes of training, professional development, improvement of pedagogical activities under international agreements or agreements between the educational institutions of Belarus and foreign entities (article 121);

• Recognition and establishment of a concordance in the periods of training, courses of higher education in organizations of foreign states (article 122).

The only special article (65) of the *Law of Kazakhstan* to refer to international cooperation directs:

• Establishment of direct communications of educational organizations with foreign organizations, participation in international non-governmental organizations;

• Training of foreign citizens in Kazakhstan;

• Foreign economic activities of educational organizations;

• Establishment of international and foreign educational institutions and their branches in Kazakhstan.

In line with the *Law of Kazakhstan*, article 64 of the *Law of Ukraine* stipulates the obligation of the Ministry of Education to establish the equivalence of certificates and diplomas, qualifications, academic degrees and ranks. Similar provisions are included in articles 43 and 44 of the *Law of the Republic of Azerbaijan on Education #833-IIIQ, 2009* (*Law of Azerbaijan*).

An innovation in the *Law of the Kyrgyz Republic on Education #92, 2003* (*Law of Kyrgyzstan*) is the provision of educational services to ethnic Kyrgyz residing abroad, which cover educational expenses from the state budget within the limits of quotas (article 51). The *Law of the Republic of Turkmenistan on Education, 2013* (*Law of Turkmenistan*), at articles 47 and 48, enable similar provisions. The laws of Uzbekistan (article 33) and Armenia (article 51), provide a more laconic wording on international cooperation, foreseeing the implementation of international cooperation in the field of education through the cooperation of educational institutions with foreign educational, scientific and other organizations.

The legislation of a number of the CIS countries in the Asian region are at odds with the *Code* concerning the provision of language of tuition. Particularly, the *Law of Kazakhstan*, at article 9, stipulates that all institutions of education should provide all students with learning of the Kazakh language as the official language, and the Russian language and a foreign language in accordance with the state educational standard of the corresponding educational level. The *Law of Kyrgyzstan*, at article 6, establishes that the state will create the conditions for training of the official (i.e. Russian) language and of one international language for every citizen of the state, starting from pre-school education up to basic general education. According to article 7 of the *Law of Tajikistan*, the official language is the main language of instruction in the educational institutions of the Republic of Tajikistan and all educational institutions must provide for the study of foreign languages, including of Russian and English.

Thus, while all the education laws of CIS countries place special emphasis on participating in the international educational processes, national legislators have followed different approaches. The Moldovan variant is believed to be the most concretized, but it is aimed at cooperation with the EU rather than with other CIS countries.

COMPULSORY EDUCATION

Education legislation of the CIS have, as their basis, the need to increase the level of compulsory education, because scientific and technological progress requires the development of more sophisticated and diverse skills for even low-skilled labour.

Pursuant to article 13 of the *Code*, compulsory education begins with the preparatory group of pre-school education and concludes with a lyceum or secondary and post-secondary non-tertiary vocational training. Under article 152, the obligation to attend institutions of compulsory education ceases at age 18. However article 152 only comes into force in 2018 and, before then, compulsory school attendance ceases at the age of 16 – at the level of high school education.

Articles 12 and 13 of the *Law of Uzbekistan* also establishes compulsory general secondary education (9 grades) and 3-year secondary specialized vocational education. The *Russian Law* makes a similar provision in article 6: "the federal governmental authorities are entitled to organise the provision of publicly accessible and free general and secondary professional education at the federal state educational institutions".

However, the *Russian Constitution of 1993*, at article 43, specifies that only basic general education is mandatory (that is, nine years of general secondary school). A similar stipulation of nine years of compulsory education is contained in article 5 of the *Law of Azerbaijan*; in article 18 of the *Law of Armenia*; article 155 of the *Code of Belarus*; article 16 of the *Law of Kyrgyzstan*; and in article 16 of the *Law of Tajikistan*.

The duration of compulsory general secondary education in Turkmenistan (at article 22) is 10 years, but in Kazakhstan (article 16) and Ukraine (article 35), it is 11 years.

Clearly, the increasing demand for improving educational levels as a condition for national economic growth is generating a tendency to raise the compulsory education minimum, but such a minimum is still limited to general secondary education in the majority of the CIS. The legislations of Moldova and Uzbekistan require compulsory secondary vocational education, while the *Russian Law* considers it only as a potential possibility and at the discretion of the state bodies.

TRANSFORMATION OF CONCEPTS ON EDUCATION AS REFLECTED IN LEGAL REGULATION

In constitutional and legal doctrine, the right to education and corresponding freedom of education are related to social and economic rights. The right to education, affirmed by constitutions, is usually supplemented by an indication of the need of the state to provide, to a certain extent, compulsory and free education, which is guaranteed by the establishment of state and municipal schools. Freedom of education implies the possibility of obtaining education in free public schools and universities (as, e.g., occurs in France) or in expensive private schools and universities. Freedom of education also implies the existence of the principle of academic freedom in higher education (freedom of training in accordance with the views of a teacher but within the approved curriculum) (Chirkin, 2013, p. 87).

Kozlova and Kutafin (2004, p. 279) believe that an important attribute of the right to education is the formation of educational standards by the state. That is, to be educated means that an individual has attended an educational institution and fulfilled educational standards as confirmed by relevant documents on education (Baglay, 2007, pp. 289, 290). However, the educational laws of the CIS adopt a broader understanding of education than provided for in legal science. For example, in article 3 of the *Code* ("Basic Concepts") the following types of education are defined:

- Formal education – a set of didactic and pedagogical actions, institutionally performed through systematic structures organized by level and cycles of training within the educational process strictly structured in time and space;
- Non-formal education – a set of learning activities planned and carried out in the framework of extra-curricular institutions representing a "bridge" between the knowledge learned in the classroom and knowledge acquired informally;
- Informal education – a set of teaching-pedagogical influences, spontaneously and continually perceived by a person in the family, settlement, block, outdoors, in social (micro) groups, in social environments (cultural, professional, economic, religious, etc.), in the community (national, regional, territorial, local), as well as in media (print, radio, television, etc.).

There are corresponding provisions in other articles of the *Code*. For example, part VII is made up of five articles devoted to lifelong learning. Article 123 of the *Code* specifies that lifelong training is carried out in the context of formal, non-formal and informal education. Non-formal education is comprehensive training within the framework of planned activities with educational goals. Informal education results from daily activities related to work, family environment and free time, and are not organized or structured in terms of objectives, duration, or training support.

The same article of the *Code* further provides for a link between formal and informal learning, and formal education. That is, non-formal education (which can vary in duration) and training in the context of informal education depends on the intentions of a learner and does not automatically lead to certification of the acquired knowledge and skills, which can be provided by authorized structures on the basis of regulations approved by the Ministry of Education.

Article 124 of the *Code* specifies that learning over a lifetime in non-formal educational contexts may be carried out at non-school institutions, in centres of care and child protection, enterprises and cultural institutions, professional, cultural and trade unions, and non-government organizations; and informal education may occur in the contexts of family, workplace, community, social networks, volunteering, and engagement in sports, cultural and other activities, which all may lead to the formation of competencies and qualifications.

The *Law of Azerbaijan* (at article 1) also defines formal, informal and non-formal education. The *Law of Armenia* (in the process of specifying different levels of educational programs) notes that non-school education (article 20) is aimed at creating conditions for the development of interests of students by organizing their leisure activities, their spiritual, aesthetic and physical development, military-patriotic education as well as the acquisition of ecological and applied knowledge. Non-formal education is carried out through children and youth creativity and aesthetic centres, music and arts schools, clubs, centres for young patriots, technicians, naturalists and tourists, sports schools, health camps, and other organizations engaged in non-formal education. The *Law of Ukraine* and the *Law of Uzbekistan* make similar provisions at article 39 and article 17 respectively.

The question is: if such "education" has not been certified, can it be regarded as education in the proper sense? How does it correlate with the concept of education? And if there is to be certification, who should determine the corresponding level of education and based on what criteria? For example, should the knowledge and skills obtained in life become the basis for issuance of diploma of higher education? Article 17 of the *Code* specifies that certificates of educational qualification provide their owners with the right to continue education at the next level or be employed in accordance with the qualification. But what documents would confirm formal and informal "education"?

In other CIS countries, concepts of what comprises education and, correspondingly, what should be contained in education legislation have also changed to become more aligned with an understanding of education in EU countries. For example, chapter 18 of the *Code of Belarus* deals with the "System of pre-school education", and contains a definition of "early age", the initial stage of physical, mental and social development of a child from two months to three years (article 141).

Provisions reflecting the social value of education would require changes in doctrinal concepts before being adopted into national legislation; that is, some CIS countries are more conservative in their approach to education as a subject of legal regulation, recognizing only 'formal education'. For example, in Kazakhstan (at article 39 of the *Law of Kazakhstan*) and Tajikistan (at article 23 of the *Law of Tajikistan*), educational qualifications must be confirmed by official documents in line with standard established by the state. In Kyrgyzstan (at article 1 of the *Law of Kirgizstan*) and Turkmenistan (at article 6 of the *Law of Turkmenistan*), educational programs are compulsory elements of the education system. In the *Russian Law*, even though the law contains the terms "inclusive education", "individual educational program", "lifelong learning" (article 1), article 10 refers to the documentary confirmation of education and the requirement to adhere to training programs.

Though the expansion of the concept of education is not supported by all legislators of the CIS, new approaches are gradually paving the way.

ORGANIZATION OF HIGHER EDUCATION SYSTEM

A problem for the CIS countries is the challenge posed by the introduction of a dual-level education system, which requires an initial, generalised qualification at the bachelor level followed by a post-graduate (specialist) qualification at a master's level. This dual-system results from the participation of a majority of the CIS countries in the *Joint Declaration of the European Ministers of Education* (Bologna, 19.VI.1999), the so-called *Bologna Declaration*.

The implementation of this system, which is not yet well-established, is currently defective but employers are increasingly demanding that professionals be educated to the master's level. In effect, employers believe that the dual-level of education means that those with a master's degree are "completely educated" and those with only a bachelor degree are "under-educated". In Russia, for example, legally educated specialists who hold only a bachelor's degree cannot expect to obtain the position of judge, prosecutor or notary. Such a conception of the need for a master's differs from the traditional understanding of the function of the two education levels: the master's program was originally intended to prepare a person for research work, whereas the bachelor degree course had an applied focus. More fundamentally, the extra demand for master's courses, cannot, in reality, be met because of a lack of capacity within educational institutions. Nevertheless, universities are opening up programs for graduate students by the hundreds, but they are delivering material in master's courses that have already been provided in bachelor courses.

Some CIS countries, along with the transition to a dual-level system of higher education, have retained a "specialist" qualification in higher education. One could say that, as an exception to the general rule, this approach is enshrined in the *Code* under the pretence of an integrated higher education system that combines licentiates and master's programs. According to article 91, admission to the integrated higher education system is exercised simultaneously and under conditions similar to enrolment to the licentiate's program; that is, the cumulative duration of training should correspond to at least 300 transferable units (credits); integrated higher education is completed by exams and/or defence of the graduate project and issuance of a diploma equivalent to a master's degree.

Another problem with the current dual-level higher education system is there is no need to have a "profession-oriented" bachelorship to gain admission to training in the corresponding master's program (although in Russia many law schools informally accept only bachelors trained in jurisprudence for master's courses). The question arises: Is it possible to consider a person who received a two-year master's degree in law after completing a bachelor's degree in, say pedagogics or economics, as more qualified for judicial work compared to a person with a four-year bachelor's degree in law?

Article 78 of the *Code* states that licentiates and master's courses (stages of higher education equivalent to the system "bachelor – master") may be provided by full-time, part-time and distance forms of education. However, the use of distance education in the master's training courses is not possible; to my mind, profound scientific education cannot be delivered without the direct participation of academic supervisors and the institution in the research projects (even if there is close "contact" between supervisor and student over the Internet, etc.). In Russia, distance training is unreservedly criticized as pseudo-education (Domnina, 2011, p. 9; Grishin & Zinchenko, 2012, p. 11). Nevertheless, in spite of criticisms, distance education is being increasingly used in master's training courses. In Moldova, courses aimed at enhancing academic studies with elements of research may be performed remotely in accordance with article 90 of the *Code*.

The relaxation of official requirements for the level of competence of university graduates, widely discussed in former Soviet republics, is reflected in the *Code*, particularly in article 89. In accordance with part 6 of the *Code*, the conclusion of licentiate training is by examinations and defence of the thesis and/or defence of the graduate diploma/project for the licentiate degree, as determined by the educational institution. In Russia, a similar approach is stipulated, not in the *Russian Law* itself but in the normative Acts of the Federal Ministry on standards for bachelorship education programs; for example, on jurisprudence it is found in the *Order of Ministry of Education and Science of the Russian Federation # 464 (2010)*.

An important positive development, which is reflected in the *Code* is article 90, states that, in the case of admission to the second stage of higher education and into a program that is different from the one completed during the first stage of higher education, a candidate must accumulate 30 transferable credit units that are relevant to the basic and special training courses in the selected field. Despite this being a roundabout way of ensuring competency to progress from the first to the second stage, the Moldovan legislature makes it clear that priority for obtaining education at the master's level is to be provided to those who have received bachelor's training in the relevant field.

Nevertheless, the *Code* leaves a loophole that can be used by those wishing to continue their education at the master's level but in a different specialty to that obtained at the bachelor level. The *Code* allows the accumulation of 30 transferable credit units on basic and special subjects in a corresponding field to be a consideration for admittance. Article 90 allows that the minimum transferable credits can also be obtained while studying licentiate courses; this is the usual path and assumes accumulation of not exactly 30 credit units but of such credits that are possible in licentiate courses (according to article 89 of the Code, it is 180-240 transferable credit units – 30 credits per semester). The *Code* does not define other ways of obtaining the required credit minimum. Legitimate and unanswered questions are: Would it be possible to attend only a few academic disciplines in high school to get the required number of credit units without having to take courses

under the licentiate's program? Is it necessary to enrol in an educational institution for the licentiate's program and attend only some disciplines? What if the subjects belong to different years of study and corresponding semesters – can a student then be expelled for poor academic performance since she or he has missed some of the academic disciplines?

In effect, CIS countries can be divided into two groups according to the character of their regulation of their system of higher education. The first group recognizes two levels of higher education: bachelor's program and master's program (*Azerbaijan, Kazakhstan, Belarus* and *Uzbekistan*). Article 14 of the *Law of Uzbekistan* states that higher education comprises two levels: the bachelors and the master's programs. A bachelor degree (undergraduate) – means basic higher education providing fundamental knowledge in one of the areas of higher education over a period of study of at least four years. The master's program provides higher education in a particular specialty with duration of training not less than two years on the basis of the completion of a bachelor degree.

Article 20 of the *Law of Azerbaijan* specifies that specialists with higher education in specific professional areas or specific specialties may be awarded the academic qualification of a bachelor degree at the discretion of the branch (faculty) academic council. The most gifted and promising specialists who have received the degree of bachelor may be enrolled in the master's program on a competitive basis. In the master's course, the specialization deepens, with particular emphasis on developing research skills and competency in foreign languages. Those who complete a master's course and, after defending a scientific work, are awarded the qualification and academic degree "master", by a specialized academic board.

Although the legislators of Kazakhstan also recognise the stages in higher education – the bachelors and master's programs – the treatment of the levels is different from the norm. Article 1 of the *Law of Kazakhstan* states that the bachelor is an academic degree awarded to individuals who have mastered the appropriate educational programs of higher education, and the master is the academic degree awarded to individuals who have completed professional training programs of postgraduate education. That is, the master's program is the level of postgraduate education.

The *Code of Belarus*, although it does not use the term "bachelors program", also provides for the two levels of higher education (article 202): higher education of level I and higher education of level II – the master's program.

In the second group of countries, higher education depends upon the educational programs that provide the qualifications of bachelor, specialist and master (Armenia, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, and Ukraine). Particularly, in line with article 3 of the *Law of Armenia*, the bachelor is the higher degree qualification awarded to those who have completed at least four-years of a higher professional educational program; certified specialist is the higher education qualification awarded to those who have completed at least five years of a higher professional education program; and master is the higher education qualification awarded to those who already have a bachelors or specialists degree followed by a further two years of higher professional education.

The ratio of above-listed levels of higher education is similar in the laws of Turkmenistan (article 27), Russia (article 10) and Tajikistan (article 19).

There is a special regulation at article 1 of the *Law of Kyrgyzstan*, which states that the bachelor, master's and specialist awards qualify as an academic degree of basic higher

education, an academic degree of full higher education, and a professional qualification degree of full professional higher education, respectively.

The *Law of Ukraine*, at article 43, provides that institutions of higher education provide training of specialists with the following educational and qualification levels: a junior specialist – prepared by technical schools, colleges and other higher education institutions is the first level of accreditation; a bachelor – trained in colleges and other higher educational institutions is the second level of accreditation; and master – at higher educational institutions – is the third and fourth levels of accreditation (institute, conservatory, academy, university).

Overall, the two-tier system of higher education introduced in the CIS countries raises many questions. Considering there is already an emerging social problem in relation to the inability of those with bachelor level degrees to find employment, it is evident that the integration of the dual system of education has yet to be fully incorporated into the legal system. In addition, it is necessary to change public perceptions of the model of higher education and change the master's programs; that is, those undertaking master's programs must be more self-sufficient and more engaged in self-development (with the possibility of obtaining assistance from supervisors) than those undertaking bachelor's degrees. As already noted, currently, fulltime master's courses in Russia are not fundamentally different from education at the bachelor's level.

QUALITY OF EDUCATION

Much attention has been paid to the quality of education in the education legislation of the CIS. The legislators of Moldova appear to have provided the most robust regard. Article 3 of the *Code* specifies that the quality of education is a complex of characteristics of the educational program and should aim to meet the quality expectations of consumers. Article 7 defines quality as a fundamental principle of education by which educational activity is correlated to basic and advanced national standards and international practices. In article 18, those responsible for the quality of general education are the Ministry of Education and the National School Inspection (at the national level); local sectoral bodies in the field of education (at the local level); and the managers of educational institutions (at the institutional level). The agencies responsible for vocational and technical training and higher education are: at the national level, the Ministry of Education, the competent ministries and the National Agency for Quality Assurance in Vocational Education; and, at the institutional level, appropriate structures for provision of quality in education.

Article 99 of the *Code* provides that external assessment of the educational process in higher education is to be performed by the National Agency for Quality Assurance in Vocational Education; internal evaluation of the educational process in higher education is to be carried out by institutional structures of quality assurance on the basis of institutional regulations.

Article 110 foresees that the direction of partnerships of higher education with business must involve highly qualified personnel from businesses to monitor and assess the quality of higher education. Further, article 140 states that it is the responsibility of the Ministry of Education to manage, monitor and evaluate the national education system, including research in the field of higher education and approval of procedures for assessment of teaching and administrative educational staff in order to assign or to confirm their teaching and administrative degrees and ensure control of compliance with these

procedures. Article 120 provides for the evaluation of pedagogical, academic research and scientific staff on the condition that assessment of academic research staff by students is mandatory.

Specific provisions for the quality of assessment in higher education are fixed in article 113 of the *Code*. Quality assessment is a complex of actions on self-assessment and internal evaluation (conducted by institutional structures responsible for ensuring quality according to basic national standards) and external assessment of quality (carried out by the National Agency for Quality Assurance in Vocational Education or another agency for quality assessment included in the European register of quality assurance in higher education) in compliance with accreditation standards and approved criteria and parameters. The assessment of the quality of higher education refers to the potential capacity of the institution, educational effectiveness (including academic results), quality of programs of initial and continuous professional training, institutional quality management, the results of research and/or artistic creativity, and compliance of internal assessment to the actual state of things.

A separate article of the *Code* (115) is dedicated to the National Agency for Quality Assurance in Vocational Professional Education. The article is made up of 12 parts and exceeds two pages by volume. It reflects the approach of the legislator to the issues of quality assurance of education and the objectives of the *Bologna Declaration of 1999*; that is, the establishment of a system of education quality assessment, existing in parallel with the traditional government agencies exercising administrative management and control of the education system. The above-mentioned agency is defined as an administrative body of national significance with the status of a legal entity, autonomous in relation to the Government, independent in decision-making and organizationally, and funded from the state budget and from its own revenues. That article also determines the structure, terms of office and powers of the governing bodies of the agency. In particular, it stipulates that members of the agency's governing council are elected for a term of four years on the basis of a public competition held with participation of the international jury, with a right for a one-time re-election.

A more succinct version of education quality standards is stated in the *Law of Azerbaijan*. At article 9, the level of quality of education is defined in accordance with the system of quality indicators on levels of education (educational programs, level of competence of students, material and technical base, infrastructure and information resources, professional, scientific and educational level of teachers, innovative educational technologies, etc.), adjusted in line with the principles of international and European education systems on the basis of state education standards adopted in the country. The level of the quality of the staff of an education institution facilitates the competitiveness of graduates on the national and international labour markets, and their role in social and economic development of the country; the quality of education stems from requirements related to the socio-political, socio-economic, scientific and cultural development in every historical period, and is to be evaluated in an appropriate manner by the accreditation service. Article 16 states that the accreditation of educational institutions shall be carried out by the state accreditation service created in compliance with the procedure set forth by the corresponding executive authority. The accreditation is completed by the issuance of the relevant document – the certificate of quality.

Article 12 of the *Law of Ukraine* states that the central executive authority that implements the state policy in the field of education, among other powers, controls and

participates in the monitoring of the quality of training of pupils and students; the central executive authorities in charge of all educational institutions, together with the Ministry of Education of Ukraine, perform supervisory functions to ensure compliance with the requirements of quality of education. Under article 15, based on accreditation results of higher educational institutions and facilities of postgraduate education, the central executive authority conducting the state policy in the sphere of education, together with other central authorities in charge of educational institutions, inform the public about the quality of educational and scientific activities of such institutions. Article 18 of the same law states that educational institutions, regardless of status and affiliation, must ensure the quality of education to the extent required by the state educational standards. One can say the *Law of Ukraine* formulates just guidelines.

Interestingly, the updated legislation of the *Russian Law*, in terms of implementation of control over the quality of education, seems to have taken a step backwards. Thus, in article 15 of the *Law of the Russian Federation of 1992 on Education* (annulled) it had been stated that the objective control of the quality of graduates upon completion of each level of education is provided in compliance with the state educational standards of the State Certification Service, independent of the governing educational authorities. But now, the function of licensing and accreditation, including quality control of education, is performed by the Federal Service for Supervision in the sphere of education and science, which, according to p. 2 of the *Regulation of the Russian Government #594 on Approval of Provision on the Federal Service for Supervision in the Sphere of Education and Science (2013)*, is under the jurisdiction of the Ministry of Education and Science of the Russian Federation.

Some CIS countries have included an abbreviated (compared to the *Law of Azerbaijan*) variant of the legal regulation in the laws on education and without indication of specific government agencies. Thus, in Belarus, Armenia, Uzbekistan, Turkmenistan and Kyrgyzstan, the state control over the quality of education is understood as compliance with educational standards during certification, accreditation, licensing, and similar procedures.

For instance, article 20 of the *Code of Belarus* stipulates that educational institutions must provide assistance to the empowered state agencies in carrying out monitoring of the quality of education and the quality of education itself, which is understood as compliance with the requirements of the educational standard. Article 43 specifies that state control over the quality of education is implemented during the process of licensing and accreditation. Similarly, article 35 of the *Law of Kyrgyzstan* points to the state's obligation to guarantee the quality of education through institutions of licensing, testing and accreditation. As per article 15 of the *Law of Turkmenistan*, state control over the quality of education is carried out by state authorities managing the education system through the state's final attestation of graduates, certification of an educational institution, scheduled and unscheduled inspections of the content and quality of training of students, and their compliance with educational programs. Article 26 of the *Law of Uzbekistan* notes that the enforcement of state educational standards, requirements to the quality of education and professional training fall within the competence of the state education authorities.

The provisions in the laws of Tajikistan and Kazakhstan containing the concept of "education quality management" are unique. It appears that, here, the emphasis is laid not at the denotation of external forms of state control but on the requirements of the content of the quality of education. As indicated in article 27 of the *Law of Tajikistan*, the control

over the quality of education implies a unified state policy in the sphere of education and is based on the sole national order of assessment of the quality of education and its efficiency. It is carried out by methods of internal and external evaluation based on the results of monitoring as well as regulatory decisions in educational institutions.

Article 55 of the *Law of Kazakhstan* specifies that the control over the quality of education is directed at the implementation of a unified state policy in the sphere of education, and includes public and institutional structures that make up a unified national system for assessing the quality of education, the rational use of funds allocated for financing of education, and overall efficiency of the education system. The control over the quality of education is performed through the adoption of regulatory decisions at all levels upon results of educational monitoring.

The innovative approaches to quality assurance requirements stipulated in the *Code* represent the most perfect variant of education regulation among CIS countries. One of the most important provisions appears to be the establishment of a special agency on verification of the quality of education which is independent from other executive structures. In other countries, though some attention is paid to the quality of education, actual implementation corresponds poorly to European trends as expressed, particularly, in the *Bologna Declaration*.

CONCLUSION

On the whole, the above analysis enables a conclusion that, in spite of a goal proclaimed in 1997 for the formation of a unified (general) educational space in the CIS (the *Decision of the CIS Council of the Heads of Governments*, dd. 17.01.1997), member-states of CIS have consistently reinforced their commitment to the creation of a system aligned with the European educational space. Ongoing reforms are aimed at borrowing Western models of education (especially higher education). However, such reforms are superimposed on national and regional historical and cultural peculiarities. Progressive provisions coexist with rules which are a legacy of the Soviet era. The analysis of legislation reveals numerous overlaps and gaps, and there is a lack of clarity in the implementation of progressive approaches, especially in the sphere of higher education. Concepts with vague content are secured in legislation requiring the involvement of law-enforcers to enact the concepts with more specific content or legislative reforms. Given the nature of law making in CIS countries, where reasons for law changes are often not forthcoming, it is difficult to be certain how the laws will continue to change. National legislators of all CIS display an "inferiority complex", borrowing from national European laws (primarily, Germany) and international (EU) laws. For example, during the reform of the Civil Code of the Russian Federation in 2013, even official law project proposals contained a reference to the European procedural regulations as a basis for the introduction of changes. The effectiveness of the use of foreign models will depend on the quality of implementation of the standards in the legislation, the precision in implementation of administrative activities of government bodies, and the recognition of these standards in civil society.

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Linguistic differences and problem-solving routines in mathematics

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The purpose of this study is to investigate routines as guides for mathematical thinking. Four English-speaking and four Korean-speaking students were interviewed in English about the concepts of limit and infinity. Based on the communicational approach to cognition, which views mathematics as a discourse, we identified the primary characteristics of students' routines for infinity and limit. Results show that language differences between English and Korean affect students' problem-solving routines in mathematics. On the basis of these results, we conclude that there is a need to deal with linguistic sensitivity in mathematics learning.

Keywords: discourse analysis; English and Korean language differences; mathematics; problem-solving routines

INTRODUCTION

Language is one of the important tools teachers use to communicate new concepts to students; new concepts are explained in context through the use of spoken and written words and symbols. In the process of such explanations, students develop routines that pattern their thinking; the use of words and symbols at the object-level, and routines at the meta-level correlate in the process of learning (Sfard, 2008). Routines play a role in this interwoven process when students learn mathematics,

A basic assumption in this study is that meta-discursive rules in meta-level activities guide students to think in certain patterns. In this study, routines are regarded as meta-discursive rules that exemplify regularities in students' discourses. There are two important aspects to the definition of discursive routines: when the routine should be used; and how routines should be implemented (Sfard, 2008). *When* refers to the cues for beginning discursive routines. *How* refers to the kinds of patterns which exist in discursive routines. Mathematical discourses are composed of a number of object-level and meta-level activities (Sfard, 2008).

We employed a discourse analysis methodology in our study to examine the role of language in object-level learning and the impact of language differences on meta-level learning. The reason for undertaking a linguistic comparison between English and Korean, is because English embodies a continuity in lexical development between colloquial and mathematical discourses in the uses of mathematical words but Korean does not. Thus, we assumed that the linguistically different mechanisms in lexical development between English and Korean may account for differences in students' object-level learning and mathematical routines in meta-level activities.

THEORETICAL FRAMEWORK

Learning the notions of infinity and limit and their epistemology

In the history of mathematics, the concept of infinity is interwoven with the concept of limit. In spite of their mutual interdependence, there is little research on students' simultaneous understanding of, and difficulties with, these concepts. Various aspects of learning about these concepts, however, have been investigated over the last few decades, with researchers identifying reasons for learning difficulties associated with mathematical structure (Borasi, 1985; Cornu, 1992; Cottrill et al., 1996; Tall, 1992; Tirosh, 1992; Vinner, 1992), misconceptions and cognitive obstacles (Davis & Vinner, 1986; Fischbein, 2001; Fischbein, Tirosh, & Hass, 1979; Przenioslo, 2004; Williams, 2001) and cognitive theory (Tsamir & Dreyfus, 2002; Weller, Brown, Dubinsky, McDonald, & Stenger, 2004). The studies have provided important insights into mathematical learning and teaching but have not led to satisfactory solutions to students' learning problems. Discourse analysis may be a means of furthering understanding of the learning problems, especially, in the case of this study, in the role of language in routines at the meta-level.

Conceptual framework

We considered two main issues when establishing a theoretical framework for this research: the role of language in the consideration of object-level learning, and the impact of linguistic differences on the mechanism of meta-level activities.

The nature of language in object-level learning

In Vygotsky's (1978) opinion, speech for communicating with others comes before internal speech in children's internalization of higher mental processes:

> Every function in the child's cultural development appears twice: first on the social level, and later, on the individual level; first between people (inter-psychological), and then inside the child (intra-psychological). (p. 57)

Thus, because of the inherently social nature of human activities, thinking arises from an individualized version of interpersonal communication; thinking is communication with oneself (Sfard, 2008). Learning is sensitive to contexts, including society, culture, and situations (Nunes, Schliemann, & Carraher, 1993; Rogoff, 1990). Cobb (1994) believes that because of the social nature of student learning, it should be "a process of enculturation into a community of practice," not "a process of active cognitive reorganization". Therefore, learning is the act of becoming a participant.

To be a participant in a community of practice, such as in learning mathematics, mathematical tools, such as symbols and mathematical language, are important and enable shared consciousness (Hersh, 1997); they are a collection of tool-mediated products. As Vygotsky (1986) points out, higher mental processes are not only developed through the procedures of internalization of public speech to inner private speech, but also tightly related to tool-mediated activity. The properties of these tools are inseparable from the cognitive processes related to the uses of the tools (Rogoff, 1990): thought must be transferred through meanings and only then through words as a tool. According to Vygotsky (1986), "the word is a direct expression of the historical

nature of human consciousness" (p. 256). In other words, consciousness can be investigated in a word and thus thought and language are inseparable.

Routines in meta-level learning

If the aim of learning mathematics is to become a more skilful participant in mathematical discourse, two important factors deserve particular attention: the mediating tools that students use in their mathematical discourse, and the meta-discursive rules that regulate their mathematical discourse in certain patterns (Sfard, 2008). The mediating tools deal with the object-level activities in mathematical discourse, and the meta-discursive rules guide the meta-level factors of mathematical discourse. When students use mathematical keywords and solve problems, it is possible to detect certain discursive routines.

DESIGN OF STUDY

Research questions

The study was designed to characterize the ways students think about the mathematical concepts of infinity and limit, and has two aims:

- Examine the primary characteristics of routines of native English and Korean students' discourse on infinity and limit.

- Examine the differences between the discourses of two linguistically distinct groups of students on infinity and limit.

Methodology

Study participants were divided into two ethnically distinct groups. Each group included one elementary student, one middle school student, one high school student, and one university undergraduate (groups members were tagged with symbols for reference, such as A10 for the American 10th grader and KU for the Korean undergraduate.). Elementary school students were included not only because we searched for differences in the mathematical discourses of different age groups within and across the ethnic groups, but also because English-speaking students encounter the words infinity and limit in everyday life. The four American students were English speakers from the US, while the four Korean students were English speakers whose first language is Korean. Data were collected on the basis of one-to-one interviews in English using open-ended questions. The interview questionnaire consisted of seven questions. The first question aimed to reveal students' mathematical discourses on infinity, and the remaining questions were targeted at investigating students' mathematical discourses on infinity and limit. Figure 1 shows a sample of interview questions.

The four Korean student study participants had been living in the US and attending US schools for more than three years. Participants within the same grade level (elementary, middle and high schools, and college) were selected based on the criteria of the same age, grade, and educational institution. For instance, the middle and high school students selected for the study attended the same schools in the same school district, and the undergraduates in both groups were enrolled at the same university. The pair of

elementary school students attended different schools from each other. All students, except the undergraduate students in each group who had taken a calculus course, said that they had no formal education about mathematical infinity and limit. Because all Korean students had been living in the US and attending US school for more than three years, they could have been influenced by the colloquial and mathematical English discourses on infinity and limits.

I. Which is a greater amount and how do you know?

    1. A: Your fingers   B: Your toes

    2. A: Odd numbers   B: Even numbers

    3. A: Odd numbers   B: Integers

II. What do you think will happen later in this table? How do you know?

x	$\dfrac{\sqrt{x+25}-5}{x}$
1.0	0.099020
0.5	0.099505
0.1	0.099900
0.05	0.099950
…	…

III. What is the limit of the following when x goes to infinity?

    4. $\dfrac{1}{x}$ 5. $\dfrac{x^2}{1+x}$ 6. $\dfrac{x^2}{(1+x)^2}$

Figure 1: Representative samples of questions

The audio- and video-taped individual interviews lasted between 30 to 40 minutes per interview. The interviews were conducted in English and transcribed in their entirety.

As noted earlier, the reason for a comparison between American and Korean students is that the Korean terms for infinity and limit in a mathematical context rarely appear in colloquial Korean language. Therefore, while US students have experience with the colloquial use of the English words "infinity" and "limit", Korean students have little experience with colloquial Korean use of the mathematical terms. Information about instructional materials in school curricula shows that Korean students had more intensively studied topics related to the words *infinity* and *limit* than US students.

Data analysis was conducted to identify and obtain detailed information on the distinctive features of routines in the two ethnic groups' discourses. In this process, several comparisons were made: (a) for the two groups, we looked for salient characteristics of routines for each group; (b) we searched for similarities and differences between the groups' uses of routines; and (c) we compared routines of the two ethnic groups based on linguistic differences.

Our sample size is too small to permit confident generalizations about the effects of linguistic differences on mathematics learning, but the results of our study can serve as a basis for hypotheses for future testing in a more comprehensive project.

FINDINGS

Infinity

In order to explore students' mathematical discourse on infinity, students were asked to compare pairs of infinite sets. They were also asked to compare a pair of finite sets so that we could determine whether they used the same routines for comparing finite and infinite sets. Table 1 shows the responses to other questions about comparing pairs of two infinite sets. In summary, the Korean students seemed to focus on elements of sets in their use of the words "odd numbers, even numbers, and integers" when comparing a pair of infinite sets, whereas US students compared the sets on the basis of entire sets. In addition, the difference in word use (a set-based approach in the US group versus an element-based approach in the Korean group) was related to differences in routines. The following section discusses when each routine is used and how each is implemented.

Table 1: Summary of comparisons between odd and either even numbers or integers

Students		Which is a greater amount and how do you know?	
		(b) A: Odd numbers, B: Even numbers	(c) A: Odd numbers, B: Integers
English	A5	[1] They [A and B] are the same because if an even number comes up, then an odd number comes up and an even number and odd, even, odd, even, so…	[5] They [A and B] are the same because odd numbers go up and integers keep going up and odd numbers and integers keep going up.
	A7	[2] They are equal because they both go on forever and once you had an even number then the next one is odd. So, there isn't really a place that they both end.	[6] I think it's integers because they can be every number...odd numbers are only a half of integers.
	A10	[3] They are the same because they are an infinite amount of numbers.	[7] A and B are equally…because all patterns of numbers...keep going on and on.
	AU	[4] I think the same because they are… numbers are infinite…so even…	[8] Odds are every other number…odd numbers are a part of integers and more integers.
Korean	K4	[9] Even numbers because odd numbers ties of odd numbers like nine like that. But the highest is even number like ten. Something like that.	[13] Integers because integers can be like any number but odd numbers can only be like odd numbers.
	K7	[10] I think they are equal because for every odd number, the next number is an even number.	[14] I think B because odd numbers are…there is only a half of the amount…integers are all like one, two, three, four…odd numbers are only one, three.
	K10	[11] You have to know where is the	[15] Integers are greater than odd

	end…even numbers can't be bigger than the odd numbers…odd numbers can't...	numbers in that sense because integers include odd numbers.
KU	[12] Even numbers because they start from zero but odd numbers start from one	[16] Integers because they also include even numbers.

Finite sets

When asked "Which is a greater amount and how do you know (between your finger and toes)?", almost all US and Korean students used the same number-word routine. They first counted ten (or five) fingers and ten (or five) toes and then compared the final number to get the answer.

Two exclusive infinite sets (odd and even numbers)

In the case of comparing odd and even numbers (sets with no common elements), there was a considerable difference between the US and Korean groups. The Koreans focused on individual elements as a means of comparing odd numbers with even numbers. Some students (K4 and KU) selected even numbers as having a greater amount because of either the starting [12] or the ending number [9]. Their explanations seemed to be based on a "competition" (or race) between two running lists of odd and even numbers ("the highest" [9], "the next number" [10], "the end" [11], and "zero" or "one" [12]). By using phrases like "the next number" [10] and "the end" [11], the other Korean students (K7 and K10) concluded that the amount of odd and even numbers is the same or incomparable.

The US students considered the entire sets of odd and even numbers when comparing them. The younger US students (A5 and A7) observed a one-to-one infinite correspondence between the two running lists ("…odd, even, odd, even, so…"[1], "there isn't really a place that they both end" [2]). They concluded that the amount of odd and even numbers is equal because of an operational use of the infinite sets, that is, as referring to an infinite process in the sets. The older US students (A10 and AU) said that the amount of odd and even numbers are equal because the sets have an infinite amounts of numbers ("an infinite amount of numbers" [3], "infinite…even" [4]). In both cases, the object of analysis for the US students is the entire set. Although the same number-word routine is not mathematically applicable to a pair of infinite sets, there were signs of attempts to adopt this routine to the infinite sets. A10 and AU noted: "They are the same because they have an infinite amount of numbers" ([3], [4]). This statement seems to indicate a belief that infinite and finite are interchangeable in terms of their properties. For instance, the students seem to imply that the word finite could be replaced with infinite in the sentence "Two finite sets are the same because they have the same number of elements."

Two inclusive infinite sets (odd numbers and integers)

When comparing odd numbers with integers, both groups used the part-to-whole routine; subjects noted that one set (e.g., odd numbers) is a part of the other set (e.g., integers) ([6], [8], [13], [14], [15], and [16]). All the Korean students and some of the US students (A7 and AU) who used the part-to-whole routine concluded that the

number of integers is greater than the number of odd numbers. However, there is an ontological difference between the US and Korean students in using the part-to-whole routine. The Koreans seemed to suggest that odd numbers were a part of integers because the individual elements of integers include each odd number. By contrast, the US students who used the part-to-whole routine concluded that integers include odd numbers because of an operational use of elements within the sets of integers and odd numbers: the idea that integers are "every number," and odd numbers are "every other number" ("integers…can be every number…instead of just odd numbers" [6], "odds are every other number" [8]). The US students' use of the patterns "every number" and "every other number" suggests that their routines are based on the entire sets of odd numbers and integers rather than individual elements. The other US students (A5 and A10), who used the "race" analogy for comparing odd numbers with integers, concluded that the number of odd numbers and integers is the same because they both keep going on ("keep going up" [5], "keep going on and on" [7]). Once again, the subjects' routines can be interpreted on the basis of an operational use in the infinite sets of odd numbers and integers. Therefore, the US students used the two different routines grounded in the infinite sets of odd numbers and integers, whereas the Koreans employed the part-to-whole routine based on individual elements of odd numbers and integers.

Table 2 summarizes the features of the students' routines in comparing two infinite sets. It is noteworthy that all of the US and Korean students used different routines in the case of questions (b) and (c). For instance, all the Korean students who used the routine of comparison as a "race" in question (b) applied the part-to-whole routine to question (c). Thus, the comparison routines seemed to be highly context-dependent because the students in both groups used different routines in different cases.

Table 2: Summary of routines in comparison

Students		(b) odd and even numbers	(c) odd numbers and integers
American	A5	one-to-one correspondence in the comparison as a "race" based on infinite sets	routines of using an infinite going-up process based on sets
	A7		part-to-whole routine based on sets
	A10	routines of using an infinite amount based on sets	routines of using an infinite going-up process based on sets
	AU		part-to-whole routine based on sets
Korean	K4	comparison as a "race" based on individual elements	part-to-whole routine based on individual elements.
	K7		
	K10		
	KU		

Limit

Sequence

In order to provide material for the investigation of the mathematical discourse on infinity and limit, students were asked to find the limit of an infinite sequence and to justify their answers. The questions: "What will happen later in this table? How do you know?" were used to investigate students' conceptions of the limit value of a sequence without using the word limit. When finding a pattern in the context of a given infinite

sequence, the US 7th and 10th graders looked at either an increasing or decreasing pattern of numbers in the infinite sequence ("smaller and smaller", "keep increasing"). Their discourse seemed to be mediated syntactically, as it was based on changes in the sequence without the concept of limit. By contrast, the Korean 7th and 10th graders seemed to first look at the operational patterns of the infinite sequence and then implicitly present the number that those patterns approached as the limit value ("keep going up . . . to infinity", "keep get and go down . . . it will just come to one"). The two undergraduates mentioned that the pattern of 0.0999 . . . in the infinite sequence approached a value of 0.1 as its limit. The common characteristic is that they (AU, K7, K10, and KU) explicitly or implicitly objectified the operational patterns with the concept of limit as a number. The transition from syntactic to objectified mode suggests a certain degree of flexibility in their discourses. Their routines are more applicable to the task of finding limits in infinite sequences than those of A7 and A10.

Functions

In order to elicit students' mathematical discourse on infinity and limit, we asked them to find the limit of a given function when x goes to infinity. Table 3 summarizes students' responses about the limit of $1/x$. When students were asked to calculate the limit of an infinite sequence and with a function, all of the Korean students (except the elementary student) and the US undergraduate showed different patterns from the US 7th and 10th graders. The prevalent features of the students' routines were deeply related to their word use characteristics for infinity and limit: an operational use and a number-based operation use.

Table 3. Summary of response about the limit of 1/x

Students		(b) What is the limit of $1/x$ when x goes to infinity?
American	A5	[1] . . . x equals…infinity approaches . . . it's like zero.
	A7	[2] I don't know what the limit is . . . That's gonna be one over infinity. When x goes on forever, one over forever.
	A10	[3] The limit is always one over infinity . . . infinity does have no limit … something keeps going on and on . . . I am not sure what the limit is.
	AU	[4] One (problem) would be zero because the bigger x gets . . . it just be smaller and smaller decimal. It's a sense of going infinity, there is no ending which is gonna be very, very tiny.
Korean	K4	[5] I don't get what it means by when x goes to infinity…
	K7	[6] This would become zero . . . because the number one, you know one…this will be close to thirty . . . It won't really be anything.
	K10	[7] It will get close to zero…because x is two…point five…x…ten…it will get to keep smaller and . . .
	KU	[8] One over x goes to infinity…then I can say like…then I can think like one over infinity . . . if I divided one…one over one…but one over two is point five . . . that meaning is zero because infinity means too large number.

In calculating the limit in the case of $1/x$, the elementary students also seemed to have no idea of the given context. The routines of the US 7th and 10th graders were to substitute infinity for x by alluding to an operational use of infinity ("when x goes on forever" [2] and "something keep going on and on" [3]). Then, in the more complicated functions

$x^2/(1+x)$ and $x^2/(1+x)^2$, their routines for finding the limit of each function was the same as the routine in the case of ("infinity squared over one plus infinity" by A7, "infinity is being multiplied by itself" by A10, "infinity divided by itself" by A10). They seemed to be using just one mediational mode (syntactic) with little flexibility. This syntactic mode allows for little interpretation of finding limits and no predictions.

By contrast, the Koreans (K7, K10, and KU) and the US undergraduate substituted several increasing numbers for x ("the bigger x gets" [4], "the number one, you know one . . . this will be close thirty" [6], "x is two . . . point five . . . x . . . ten . . ." [7], and "if I divided one . . . but one over two . . . infinity means too large number" [8]) and checked whether the values of $1/x$ were increasing or decreasing to determine the limit. Then, in the more complex cases of $x^2/(1+x)$ and $x^2/(1+x)^2$, the Koreans used the routine of deciding whether numerators are bigger than denominators to find the limit ("x squared always is bigger than 1 plus x" by K7, "x is one . . . one . . . two, x is two then four . . . nine . . . so it will get bigger . . ." by K10, "infinity square is much bigger than one plus infinity" by KU). Unlike the Korean students, the US undergraduate considered whether the entire values of each function are increasing or decreasing to determine the limit.

In the case of $1/x$, they (K7, K10, KU, and AU) made a few transitions from one mediational mode to another; from syntactic to concrete mode and then from concrete to objectified mode. In the cases of $x^2/(1+x)$ and $x^2/(1+x)^2$, the Koreans (K7, K10, and KU) made an additional transition to a new *objectified* mode, as they created the *numerator-denominator-comparison* routine rather than using substituted numbers in their mathematical discourse. Their flexibility from one mediational mode to another in the process of finding limits can be described as *objectified* discourse. This mediational flexibility provides more interpretations and predications regarding the concept of limit than only one mediational mode. Based on mediational flexibility, Table 4 summarizes the characteristics in the students' routines in the two situations (i.e., when calculating the limit of an infinite sequence and calculating the limit with a function).

Table 4: Summary of mediational flexibility in calculating limits

Students		(a) sequence	(b) $1/x$	(b) $x^2/(1+x)$	(b) $x^2/(1+x)^2$
American	A5	No idea			
	A7	Syntactic mode			
	A10				
	AU	from syntactic to objectified mode	from syntactic to concrete mode; from concrete to objectified mode		
Korean	K4	No idea			
	K7	from syntactic to objectified mode	from syntactic to concrete mode; from concrete to objectified mode		
	K10				
	KU				

DISCUSSION

Routines based on word use

The first research aim pertains to the characteristics of students' mathematical discourses on infinity and limit in terms of routines. In the mathematical discourse, one important characteristic of the US students was a set-based approach to infinity, which means that they focused on an operational use of infinity rather than on numerical values. The set-based word use was present in two different forms: the set of all numbers in cardinality comparisons and an operational use in calculating limits (cf., a numerically-based operational use by AU). The first word use is set-based because comparisons are related to an operational use of elements within sets of numbers. In the second use, students substituted infinity as a process for x to find the limit for a given function. There was no dependency on numerical values. Although the US undergraduate used set-based words in the cardinality comparison, she employed element-based word use (a number-based operational use) in calculating limits, unlike the other US students (grades 7 and 10). This difference may be related to her formal education on limit.

One noticeable common characteristic of the word use of the Korean students in the mathematical discourse on infinity was their predominantly element-based approach. Element-based word use is characterized by a focus on numbers themselves rather than on sets of numbers. This word use was observed in two different mathematical tasks: individual numbers in cardinality comparison and a number-based operational use of infinity in calculating limits. The first such word use is element-based, since individual numbers (elements) were compared rather than their respective sets (odds, evens, and integers). In the second task, students considered several increasing input values (elements) for each function in order to determine the limit.

As for the second research aim about salient differences between the Korean and US groups, the different characteristics in word use are with routines. For instance, in the cardinality comparison task, the element-based use of the words "odd numbers, even numbers, and integers" seemed to lead the Korean students to use either a "race" comparison routine or a part-to-whole routine, both of which are based on relationships between individual elements of these groups of numbers. In the calculating limit tasks, an element-based word use (i.e., a number-based operational use of infinity) was related to the flexible use of visual mediators (involving both concrete and objectified modes). To calculate the limit of each function, manipulation of concrete input values (a number-based operational use of infinity) was related to both the substituted values of each function (*concrete* mode) and an approachable number by increasing or decreasing these values (*objectified* mode). This also shows a flexible transition from one mediational mode to another in routines.

Comparatively, in the mathematical discourse of cardinalities of sets, the set-based use of the words "odd numbers, even numbers, and integers" seemed to lead the US students' routines, which were also based on the comparison of entire sets. In limit-finding tasks, an operational use of infinity was related to only one mediational mode (syntactic) in the use of visual mediators because infinity was scanned as a process and the variable *x* in each function was replaced by infinity. This shows little flexibility in routines. Based on the observations of students' routines, the US and Korean students displayed qualitatively different patterns grounded in their word use in different cases.

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A salient property in routines is that all students used different routines for the different cases. It is noteworthy that all four Korean students had different routines for the different cases. This implies that their routines are highly context-dependent. For instance, they used a "race" comparison routine to compare odd and even numbers, but applied a part-to-whole routine in comparing odd numbers with integers. This may be explained on the basis of the fact that learning (transfer) does not happen automatically, but takes time and practice. Although more information is needed to fully understand students' meta-rules, routines seem to be highly context-dependent.

Impact of linguistic differences on routines

One significant characteristic of US students' colloquial discourse on infinity and limit is their use of real-life contexts and an operational use in their application. By contrast, the Korean group's explanations were more abstract and mathematical, and they used the words structurally rather than operationally (Kim, Sfard, & Ferrini-Mundy, 2010). Students' colloquial discourse about the notions may thus have an impact on their later mathematical *word use* and other aspects of their mathematical discourse, such as *routines*. This is evidenced by the application of the word *infinite* to numbers (the *elements* of sets in the Korean group versus the *sets* of numbers in the US group) in colloquial discourse related to the two characteristics (the *element-based approach* in the Korean group versus the *set-based approach* in the American group) in mathematical discourse. Thus, colloquial discourse seems to have an impact on mathematical discourse because of certain clear differences between the mathematical discourses on infinity and limit between US and Korean students; these differences may be ascribed to the mathematical words infinity and limit not being available in the Korean language colloquial discourse.

Other factors apart from language may account for the observed differences between the discourses of the Korean-speaking and English-speaking students. For example, Korean students could be more advanced in their formal mathematical discourse on infinity and limit because they had slightly more opportunities to learn about infinity and limit in their formal school setting. However, since English-speakers' discourse on infinity and limit tends to be mainly processual, these students need help to develop their objectifications in the discourse. Since the Korean-speakers' discourse is more abstract and formal, both structural and element-related approaches to infinity and limit have to be attended to with much care.

CONCLUSIONS

Understanding students' routines can give mathematics educators insights into mathematics education and provide solutions to unresolved learning difficulties through understanding the role of language in learning. Mathematics learning and routines are inextricably interwoven. In addition, the linguistic infrastructure of mathematical discourse can be responsible for the differences in routines. For example, little continuity in lexical development between Korean colloquial and mathematical discourses can account for Korean students' abstract and structuralized word uses and routines. By contrast, US students' mainly processual word uses and routines can be ascribed to continuity in lexical development between English colloquial and

mathematical discourses. Thus, the results of this study imply the different needs of Korean and US students in their discursive development.

There is a need to move beyond cognitive methods of research to uncover contextual sensitivity in mathematical learning, such as the use of language, the active process of "enculturation into a community of practice" (Cobb, 1994), and continuous changes of learning contexts. Without examining learning context, such as linguistic differences, researchers may obtain distorted findings. To reveal situated learning difficulties, researchers need to investigate thinking (a process of learning) in context rather than thought (the second-construct of thinking). The multi-lateral approach of discourse analysis is a theory-based method emphasizing contextual sensitivity to the use of language. It is a promising research method to reveal the mechanisms of mathematical learning in complex contexts because it can deepen our fundamental understanding and provide pragmatic processes to resolve student learning difficulties.

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Making our schools more creative: Korea's efforts and challenges

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The Korean government has been interested in developing creativity in education and has attempted to increase the creativity of schools since the mid-1990s. This study critically reviews the efforts of the Korean Government over the past 20 years. The study analyses government documents and related department website materials published since mid-1990s when creativity emerged as a key agenda in Korean education policy. The results reveal that the government's endeavours for achieving creativity include increasing flexibility in the national curriculum, developing teachers' creativity by improving teacher education, and establishing supporting systems such as online information websites and teaching and learning materials. However, these efforts have not achieved a real transformation in schools. For the government to achieve its aims, this study recommends that it supports an emphasis on creativity in school subjects and supports teacher-driven development of teaching materials.

Keywords: creativity in education; creative school environment; Korean education; education policy

INTRODUCTION

Fostering creativity is a fundamental objective of national education policy worldwide, driven by the unprecedented economic, technological, social, and personal challenges of the 21st Century (NACCCE, 1999). In Korea, too, fostering creativity is being emphasized, particularly, as a key to solving the crisis in education. According to PISA (Programme for International Student Assessment) results, indexes of the affective domain, such as students' attribute factor and their degree of happiness, are relatively low, even though Korean student achieve excellent academic results (OECD, 2014; So & Kang, 2014). This means that, although Korean education has successfully produced brilliant students, it has failed to develop in them a desire to learn and to develop their own aptitude. Fostering increased creativity may be a key to solving these problems, because creativity makes learning interesting and dynamic (Mindham, 2004) and, therefore, the Korean Government introduced "the 5-31 Educational Reform Plan", a milestone in the current Korea education system which aims "to raise a creative person" (Choi et al., 2011). In the context of the plan, there have been a number of policies to increase student creativity in the past 20 years.

Success in the aims of the policies, however, depends upon supportive conditions (Azzam, 2009; Dobbins, 2009; Prentice, 2000); that is, depends upon schools having an environment that is supportive of creativity.

This study critically reviews the level of success of the Korean government's education policy for creativity and makes recommendations for future policies to improve policy outcomes.

THEORETICAL FRAMEWORK

The focus on creativity in education is not a recent innovation (Sæbø, McCammon, & O'Farrell, 2006). Interest in creativity can actually be traced to Plato's times (Cropley, 2004), and studies on creativity have been conducted across a variety of fields (Craft, 2001). The studies are diverse, but most follow one of two directions. (Kaufman & Beghetto, 2009, p. 1). The first direction is a focus on Big-C, the eminent creativity possessed by a genius, and the second is the little-c, everyday creativity that is expected of everyone.

In case of education, studies prior to 1980 usually focused on the Big-C possessed by exceptional geniuses (Craft, 2006). However, the studies were of limited benefit to educationalists because they considered creativity to be an aptitude possessed only by a few people (NACCCE, 1999). Studies of little-c creativity, however, are increasing (Craft, 2001; Kaufman & Beghetto, 2009); they begin with the assumption that all individuals can be creative, and can exert their creativity in different ways. Such a finding is particularly useful in today's world, which relies on individuals to be creative to enable nations to maintain international competitiveness. The belief that everyone can be creative in their own way places great expectation on school education, which are expected to develop the creative abilities of all the students.

Lucas (2001) defines creativity as a state of mind in which all intelligences work together. It involves seeing, thinking, and innovating. Craft (2001) describes the characteristics of a state of mind as: (1) the active and intentional taking of action in the world, (2) a way of coping with everyday challenges, which may involve knowledge-based intuition as well as step-by-step thought, (3) innovation, (4) a moving on, (5) problem identification as well as problem-solving. Creativity, as a state of mind can be demonstrated in any subject at school and in any aspect of life (Lucas, 2001). This conceptualization shows that all students can develop their creativity in any subject or activity, and directs us to the conditions of school education that enable students to develop creativity.

Many studies have found that densely prescribed curriculum is the biggest obstacle to developing students' creativity through school education. For example, Dobbins (2009) says that the unit-based structure of curricula, along with the allocated blocks of time to cover each topic, is a key restriction to teachers' ability to be flexible and adaptable with what and how they teach. He also claims that excessive content to teach makes it impossible for education to achieve anything except the bare minimum of completing the curriculum. Azzam (2009) and Prentice (2000) also note that it is absurd to expect students to develop their creativity within a highly prescribed and narrow curriculum system. These studies argue that teachers, when freed from simply delivering densely prescribed content and skills, are more likely to be able to focus on students' creative

abilities; that is, creativity is more likely to be fostered when the frame of the national curriculum becomes open and light.

Creativity is not irrelevant to knowledge; knowledge or knowledge traditions is not something that hinders creativity. Boden (2001) points out that it is difficult to be creative without sufficient knowledge. Existing knowledge actively interacts with creative thinking and acts as the criteria to judge the creativity of new ideas. For these reasons, a curriculum for student creativity should be formulated in ways that do not exclude the gaining of knowledge but by developing creativity through knowledge such that students can make associations with existing knowledge in different ways.

The role of teachers is very important in creativity education. According to recent studies, young people's creative abilities are most likely to develop in an environment in which teachers' creative abilities are appropriately engaged (Jeffrey & Craft, 2004; NACCCE, 1999). NACCCE (1999) launched a discussion on teacher creativity by conceptually drawing a line between teaching creatively and teaching for creativity. The former is defined as "using imaginative approaches to make learning more interesting and effective" (p. 89). The latter is defined as forms of teaching that are intended to develop young people's individual creative thinking or behaviour. It used to be the case that teacher creativity tended to be limited to teaching creatively. However, teaching creatively does not automatically guarantee the development of students' creative potential; in fact, it may weaken or interrupt student creativity. Thus, some scholars claim that teacher creativity should be understood as teaching for creativity rather than teaching creatively (Sæbø, McCammon, & O'Farrell, 2006; NACCCE, 1999). Jeffrey and Craft (2004), however, suggest that we should understand teaching creatively and teaching for creativity not as separate concepts but as interrelated ones. The former is inherent in and often leads directly to the latter. Therefore, they claim that we should be wary of the conceptual dichotomization of teaching creatively or teaching for creativity, and both should be dealt with as strategies that teachers can use depending upon the situation.

The overall ethos and conditions of schools are vital for fostering creative education. Creative schools are mostly characterized by a communicative and cooperative atmosphere (Azzam, 2009; Fisher, 2004; Sawyer, 2004). In general, creativity is understood as an individualistic task, but creative achievements are commonly stimulated by other people's ideas and achievements (NACCCE, 1999; Sternberg, 2003). We usually witness great scientific innovations that are generated by cooperation among people who share interests but think in different ways. Even people who stick to their own style of living can be inspired by the cultures they are involved in and the achievements of others. Cooperation, diversity, exchange of ideas, and building upon others' achievements are at the core of creative works. Therefore, for the development of creativity, school ethos should be open and cooperative towards creating, reviewing, sharing, and trying ideas (Fisher, 2004). Furthermore, schools must support rich resources for the development of creativity. This is because exposing students to various and adequate resources to experience and use is a key factor for stimulating the development of student creativity (Dobbins, 2009).

METHODOLOGY

This study aims to critically review the Korean government's policy efforts for increasing the fostering of creativity in schools. For this purpose, we gathered

government documents and related department materials from the mid-1990s when creativity began to be emphasized in Korea's education policies. First, we searched for data using keywords such as "creativity education" or "to raise a creative person". Additionally, in order to understand the policies quoted by those materials more precisely, we downloaded materials from the online-sites of related departments and government-funded research institutes. Through this process, we gathered 30 documents: 20 from the central government including the Ministry of Education and 10 from government-funded research institutes.

The analysis involved repeatedly reading the texts and categorizing contents into various themes. We then identified the relationships among the themes and further divided them into upper categories and sub-categories. In cases of disagreement among researchers, we revisited the raw data and discussed the appropriateness of categories.

4. RESULTS

The results of our investigation revealed three themes: increasing flexibility in the national curriculum, developing teachers' creativity, and supporting creative teaching and learning. Each of these themes were further divided into subthemes.

Increasing flexibility in the national curriculum

Adding creative curriculum into the existing curriculum

The Korean national curriculum has driven changes and reforms of the Korean education system since 1954, when it was first implemented. Accordingly, education policies related to creativity have been guided by the national curriculum. For example, the national curriculums revised after the mid-1990s proclaimed that one of the most important goals of education should be to develop a creative person. However, it was not till 2009 that creativity-related education policies began to become more visible. For example, the 2009 revised curriculum, which is still relevant today, introduced "Creative experiential learning activities". These are units in which teachers and students are free to choose a topic of interest and study it in any way they wish. Elementary and secondary schools are required to allocate three to four units to these activities (Ministry of Education, Science and Technology, 2010a). Creative experiential learning activities are ground-breaking, particularly in Korea, where students are burdened with intensive course work, and where text-driven and instructor-led courses dominate. Unfortunately, creative experiential learning activities are limited to extra-curricular units, and, in themselves, are not enough to change the overall school culture.

Recently, Korean government's efforts to make school education more creative have taken another step. The "Exam-free Semester" program, the new system that was introduced in the second semester of 2013 and applied to all middle schools since 2016, illustrates this step. Usually, Korean students do not have adequate time and energy to think about their own talents and dreams because of the constant pressure of exams. During the exam-free semester, students are exempted from regular mid-term and term-end examination and, instead, the school curriculum is operated flexibly, enabling students to enjoy various activities including career exploration. Additionally, teachers encourage students to participate in learning by offering student-centred activities, such as debates and experiments in the classroom (Ministry of Education, 2013a). The

"Exam-free Semester" program, however, provides only limited opportunities to develop creativity because it is restricted to only one semester, and continues to be overwhelmed by the text-driven teaching and learning in the other semesters.

Making space by reducing learning contents

The excessive learning content prescribed by the national curriculum has been constantly questioned in Korea. Such content hinders teachers and students from engaging in creative teaching and learning because it compels teachers to dedicate themselves to delivering knowledge rather than to teaching creatively. Students, in turn, rarely get a chance to develop their creativity under such circumstances. Policies introduced by the Korean government, such as "Creative experiential learning activities" and "Exam-free Semester", cannot succeed in fostering creativity in schools unless the amount of prescribed content is reduced.

The Korean government, therefore, has attempted to lessen the amount of prescriptive curriculum content. Since the mid-1990s, Korea has revised its national curriculum four times and reducing the learning content of the subjects was one of the main reasons for the frequent revisions (So & Kang, 2014). For instance, the required number of subjects in each semester was reduced in the revised 2009 national curriculum from approximately 13–14 subjects every semester to eight compulsory subjects per semester. This policy was based on an assumption that a reduction in the number of subjects would guarantee more time for more creative teaching and learning. In addition, the Korean government has revised its national curriculum to reduce the learning content to be covered under each subject.

Developing teachers' creativity: Let them take the initiative

Extended support for teachers as researchers

At the same time that the Korean government introduced creativity education, it explicitly recognized the need to enable teachers to implement new educational system (Ministry of Education, 1998; Presidential Commission on Education Reform, 1996). Thus, in the 1990s, when creativity education was first introduced, the Korean government presented a plan to support the further teacher training. In addition, the government announced that it would provide research funds for elementary and secondary teachers to conduct research into how to implement the program in their school. The government expected that such funds would inspire teachers to carry out research and utilize the research results in educational activities (Presidential Commission on Education Reform, 1996). This was a significant step because it recognized teachers as autonomous agents who understand and interpret policies in their own ways rather than as mere policy practitioners.

Teacher research on creativity education has recently gained momentum, with support given to teachers who are studying how to practice creativity education in class. Teacher research groups are usually named after keywords of an education policy; for example: "Research Groups for Creativity-character Class" includes "creativity-character", which is a keyword recently coined and has been emphasized in the Korean education policy since 2009; and "Teacher Research Groups for Exam-free Semester". The topics of the research is generally focused on developing or applying new teaching methods, evaluation models, and education programs. The research outcomes are submitted to

and assessed by host institutions, such as the Ministry of Education or government-funded research institutions. The host institutions select the most creditable results and convert them into online resources or books to be shared with other schools across a region or the nation. The Korean government appears to expect excellent models for creativity education to be developed at the school level that can then be spread throughout the majority of schools (Korean Educational Development Institute, 2015).

This method of developing teacher creativity is an inspiring movement in Korea, where most teacher education has traditionally been led by teacher training institutions and focused on delivering knowledge. Through these changes, teachers can practice creative teaching voluntarily and actively, rather than taking a passive role. However, because teacher research is funded by the government, it is evaluated largely based on tangible outcomes, which could lead to the research becoming superficial or outcome driven (Lee & Choi, 2013). Moreover, since the aims and results of those studies are usually linked to national policies, a legitimate question is whether the agency of teachers is exploited as a tool to realize government policies.

Practical contents and methods of teacher education

Teachers in Korea have either a theory-oriented or a practical knowledge and skill-oriented education. The former method was initially prevalent; it was relatively low cost and efficient, and simultaneously delivered the same knowledge to hundreds of teachers. However, such a focus on the acquisition of concepts and theories led to a widening of the gap between teacher education and the reality of the needs of the schooling of children; arguably, such a method can act as a barrier to school reform.

In an attempt to more closely connect teacher education to classroom and individual school needs, recent in-service teacher education for creativity education does not confine itself to understanding the concept of creativity and creative teaching theories (Ministry of Education, 1998). Teacher education has changed from a focus on theory and academic knowledge to practical methods and teaching skills that can be utilized in classes and to advance the school curriculum. For instance, the main content of teacher education now centres on competencies, such as leadership, creativity, and understanding students, all of which are required in teaching practices (Ministry of Education, Science and Technology, 2012). Certainly, Korean teachers still learn theories about creativity and creative teaching but the larger part of teacher education pertains to practical contents that entail discovering spaces for increasing field trips and applying creative teaching methods to their own classes (Ministry of Education, Science & Technology, 2011; 2012; 2013).

Methods of teacher education are also changing from lecture-centred to learner-centred. As stated by The Ministry of Education: teacher training programs for creativity education "should focus on teachers' practices and include introduction of instruction models for each subjects and teaching methods that can be used in the actual teaching and learning situations" (Ministry of Education, 2014, p. 6). As a result, teachers no longer merely sit at desks and engross themselves in note-taking during the training program. Instead, they analyse or assess the best practices for themselves and even develop their own creative curriculums, evaluation methods, and teaching skills suitable for their schools (Ministry of Education, Science and Technology, 2010b; Ministry of Education, 2013b; 2014). This more practical style of teacher education appears to help teachers to better deal with issues they face in today's classes and usefully aligns with

the creativity education policy. The problem, however, is that teacher education still leans too much towards learning how to use ready-made materials, online systems and developing teaching techniques, all methods that may reduce teachers' competencies and knowledge for creativity education to a mere technical strategy, thus undermining the ultimate goal and value of creativity education.

Supporting creative teaching and learning

Ready-made educational materials: Easy and convenient to use

Ministry of Education, Science and Technology (2010b) notes that "imputing responsibility of educational reform and school improvement to individual teachers without systematic support from the government" (p. 7) has caused teachers to become lethargic and dispirited. Achieving educational reform without the understanding and support of schools and teachers is difficult (Moon et al., 2010). The Korean government, therefore, established various aids at the national level to enable teachers to practice creativity education in their schools and classrooms. One method was to develop and disseminate educational materials for creativity with the aim of reducing the burden on teachers to develop their own materials and an expectation that teachers will apply the given resources flexibly (Moon et al., 2010).

The resources are detailed enough to be used directly in lessons and for implementing the curriculum, having been developed through government-funded research institutes (Choi et al., 2014). The resources include lesson plans on specific topics, activity sheets for students, and teaching materials for experiential programs, as well as procedures, forms, checkpoints, and actions required for operating particular types of school events and programs for creativity. Foreign documents and books related to creativity were translated into Korean and are also provided through online websites run by government-funded research institutes (e.g. www.crezone.net).

These initiatives may help to directly support teaching and learning activities in classes. Nevertheless, the educational materials and resources are ready-made goods developed by outside experts rather than the teachers themselves and require immediate application. As a result, their misuse may even hinder teachers from becoming creative.

Building an online System

The Korean government constructed an online service in the mid-1990s to provide comprehensive education information to students, parents, and teachers (Ministry of Education, 1998). Since then, utilizing Korea's highly advanced information technology, special online systems have been built exclusively for creativity education. One of the best examples is *Education Network for Creativity-character* (www.crezone.net). It provides not only information on available facilities and resources across the nation for creative experiential learning activities but also professional materials for creativity-character education, such as teaching models, exemplary cases of creative curriculum, and outcomes of teacher research studies. It also functions as a channel for introducing events and forums on creativity education. This system is a useful and effective channel for communicating and sharing information.

Another online system for creativity education is the Creative-activity Resource Map (CRM) system. It introduces a list of accessible institutions for creative field work

across the nation and their programs. Each provincial office of education runs its own CRM, and every regional CRM site is interlocked with "Education Network for Creativity-character" in order to provide all information about creative activity resources at a glance.

Through such systems, the Korean government intends to overcome the limitation of institution-led supports system. Online support systems make it easier and quicker for schools, teachers, parents, and students to access the extensive information and services on creativity education. However, it may be that, since the government usually focuses on the development of physical resources, invisible factors such as school culture and ethos might get ignored.

DISCUSSION AND CONCLUSION

The Korean government has steadily endeavoured to realize creativity education through changes to curriculum, teacher education, and infrastructure since the mid-1990s. First, the government increased the flexibility of the national curriculum to make room for creativity education. Programs that allowed more autonomy were added to the existing national curriculum, and the amount of learning content was reduced. The government also provided teachers with opportunities to take initiative in developing their professionalism and to acquire practical knowledge and skills for creative teaching. In this context, the government funds for teacher research were extended, and the contents and methods of teacher education became more closely connected to classroom contexts. Lastly, the Korean government developed ready-made educational materials for creativity education and built online systems to support creative environments in schools.

However, the Korean government's efforts to foster creativity education have limits. First, Korean creativity education policies consider creativity education as separate from school subjects. The addition of special programs and autonomous time for creativity education in the Korean national curriculum stems from this perspective. This tactic gives a false impression that creativity and school subjects can be divided into a discrete category. The development of creativity, however, depends upon subject knowledge (Boden, 2001). That is, creativity can only be cultivated effectively when students acquire a certain amount of knowledge from school subjects. Creativity education, therefore, should be linked to subject knowledge in novel and various ways rather than separated from it. The curriculum for creativity education should encourage students not to simply memorize information but to apply it to a given situation and create new ideas or concepts based on the information.

Secondly, even though the Korean government attempts to nurture teacher creativity, it regards teachers as passive receptors. Providing learning materials in a package for a creative teaching and learning environment, which is similar to the ready-made packages for other subjects, highlights this problem. In other words, Korean teacher education for creativity emphasizes mastering teaching methods and materials that are already developed and which focus on implementing government policies faithfully. Such a strategy inhibits teachers from demonstrating their own creativity. "Ownership" and "control" are the fundamental characteristics of creative teaching and learning (Jeffrey & Craft, 2004; Woods, 1990). Teachers, as with any other learners, would face difficulties developing their creativity without the authority to decide what they are learning. When teachers themselves become creative individuals and are able to use

their creativity in their classes, students' creative ability will also be developed (Jeffrey & Craft, 2004; NACCCE, 1999).

Thus, teacher training and the method of providing education materials, which assume teachers as passive recipients of information should be reconsidered. The competency of teachers to create and creatively utilize education materials needs to be encouraged. Additionally, schools should also be modified to provide teachers with adequate time and resources to practice creativity rather than to merely utilizing disseminated ready-made materials.

Thirdly, because teacher education for creativity in Korea currently focuses on how creatively teachers can teach, the creativity of students is actually neglected. Although "Teaching creatively" and "teaching for creativity" are connected, the former does not necessarily imply the latter (NACCCE, 1999). Teaching creatively might even hinder the development of students' creativity. The Korean government's focus on teaching creatively implies that it is not completely aware of the importance of students' creativity. Teacher education for creativity education, therefore, should not merely focus on how to teach creatively but on the ultimate goal of developing teachers' creativity to enhance students' creativity.

Lastly, the Korean government appears to overlook the value of overall ethos and sociocultural context in Korea when seeking to improve students' creativity. In Korea, a powerful cultural factor that influences schooling is the excessive competition engendered by the university entrance exams, the so-called CSAT (College Scholastic Ability Test). This stems from Koreans' general belief in the correlation between test scores and socioeconomic status (So & Kang, 2014). That is, Koreans assume that admission to a prestigious middle/high school guarantees admission to a prestigious university, which eventually leads to acquiring a good job with high socioeconomic status.

This ethos considerably influences the practice of creative education policies, distorting their original intentions. For instance, even if the government tried to reduce prescribed content and make room for teachers' autonomy, students would still be forced to follow predetermined paths and seek predefined answers because of the existence of standardized tests. This may inhibit students from thinking creatively. Furthermore, the nature of the teacher evaluation system, which in part evaluates teacher performance based on how many of their students enter more highly ranked universities, limits their drive to teach more creatively. Teachers will thus gravitate towards intensively teaching a narrow range of subjects to prepare their students for the tests (Sung & Kang, 2012). Moreover, the excessive competition for CSAT tends to disrupt any communicative and cooperative atmosphere, which is essential to creative school environment (Azzam, 2009). One Korean newspaper reported that many Korean students even do not lend their notes to their classmates in order to achieve higher grades. Korean teachers also have fewer opportunities to work together with their fellow teachers across the boundaries of subjects and classrooms. This may hinder their creativity by limiting their opportunity to share ideas with others.

This study has revealed that, for the last 20 years, the Korean government has actively attempted to make schools practice creativity education by developing a new curriculum, educating teachers, and improving the school environment. However, this type of nation-led efforts does not assure the realization of creativity education at the school level. The Korean government's polices are based on a superficial understanding

of creativity education and the overall conditions of school change. The key point of making creative schools and teachers, who actually implement creativity education policies, lies in helping them to be self-directed and creative agencies of school education and in taking into consideration the educational system and cultural context that affects schooling.

ACKNOWLEDGEMENTS

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Transnational students in Mexico: A summer writing workshop as a way to improve English writing skills

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Transnational students, that is, those who have had one or more years of schooling in the US and are now in school in Mexico, make up a sizeable and growing population. For these students, the language of the home, Spanish, abruptly becomes the language of school and what was the language of school and socialization outside the home, English, is all but removed from their sphere. However, English is a language with which they identify. Further, in my interviews with them, transnational students express a desire to maintain English and express concern over lack of opportunities to do so. Thus, a writing workshop was offered for three weeks in the summer of 2015. The four member instructional team made up of US university students and a professor engaged the workshop participants in warm-up activities, mini-lessons, sustained writing periods and sharing of work. Some gains were found in the areas of mechanics, content and spelling, but the study's greater contribution is as a case study on which to design an improved workshop in the future.

Keywords: transnational students; English language; writing workshop; Mexico

INTRODUCTION

Kiara was born in Pasadena, CA, where she attended school from preschool through fifth grade. Her parents are both Mexican, but she had never been to their home country. The US was her home. Then, in the summer of 2012, when she was 11 years old, her mother told her that they were going to Mexico so that Kiara (not her real name but the name she asked me to use when I shared her story) could meet her grandmother. They made it just in time. The old woman's throat cancer prevented her from speaking to her granddaughter, but they did have a few days together before her grandmother passed away. However, because Kiara's mother did not have legal status in the US, she could not safely return. Kiara and her mom settled in Puebla, the south central state where Kiara's paternal grandparents reside. Her father remained in Pasadena. Kiara was enrolled in 6th grade in the local public school that August. She had never lived in Mexico, never attended school in Mexico and never used Spanish for any academic purpose. Yet Kiara, like other US born children of Mexican parents, was expected to read, write and function, without any special support, in a classroom where Spanish was the only language. Furthermore, and equally as important to Kiara, she desired to maintain her ability and identity as an English speaker with precious few prospects for how to do so.

According to the Pew Research Center Hispanic Studies "[f]rom 2009 to 2014, 1 million Mexicans and their families (including children born in the US) left the US for Mexico"

(González-Barrera, 2015). In almost every municipality in Mexico, the rate of return migration—mostly Mexicans who had been living in the US returning to their homeland––was up in 2010 when compared with 2003 (CONAPO, 2012). Approximately "500,000 U.S.-born children [younger than 15] resided in Mexico in 2010" (Alba, 2013).

Most, if not all, of these children are enrolled in school in Mexico upon arrival or soon thereafter. These transnational students, defined here as those who have had one or more years of schooling in the US and are now in school in Mexico, make up a sizeable group. In a survey that included the Mexican states of Zacatecas, Nuevo León, Jalisco and Puebla, an estimated 69,500 transnational students were found in the 1st through 9th grades (Zúñiga & Hamann, 2013, p. 174).

Research in the past 10–15 years has begun to recognize that children born of Mexican parents and educated in the US who now reside in Mexico "experience difficulties integrating into Mexican society and its education system" (Alba, 2013).

LINGUISTIC CHALLENGES FOR TRANSNATIONAL YOUTH AND CHILDREN

Since Cummins (1979) first distinguished Basic Interpersonal Communicative Skills (BICS) from Cognitive Academic Language Proficiency (CALP), or even before (Bruner, 1975; Donaldson, 1978), the time and effort needed for learning language for school success has been acknowledged. Immigrant parents, even as they struggle with their own language acquisition, go to great lengths so that their children will learn well the primary language of school. They need not worry. Research suggests that the second generation prefers the language of their schoolmates and that in one or two generations the children of immigrants have learned the language of wider communication so well that they have all but forgotten the home language (López, 1996; Parameshwaran, 2014; Wong-Fillmore, 2000).

In the US, the imperative for children of international migrants to learn English well for school success is an enduring one. And the stakes are higher than ever with fewer jobs going to those with only a high school education (Luhby, 2016). So important is the relationship of language proficiency with school success, that Suárez-Orozco, Darbes, Dias, & Sutin (2011) call it the "defining element of mass migration in the era of globalization" (p. 314).

Understanding how displaced children handle the linguistic challenges of school is a topic where more study is needed. The research presented here is part of a longitudinal study initiated in 2010 that incorporates US-Mexico transnational students. In particular, I will report on the findings of a pilot writing workshop designed for transnational youth held in the summer of 2015. The following research question guided the planning, preparation and evaluation of the workshop:

> *How are transnational students who participate in a summer intensive writing workshop affected in terms of gains in writing ability as tested by a holistic rubric and revealed by written evaluation and interviews?*

First, the linguistic reality of transnational students is set in context by examining both relevant research and the voices of transnational students.

Spanish

The long history of research on the teaching and learning of English in the US among students whose first language is not English has stressed "the importance of addressing the language barrier to effectively help children . . . navigate the educational system" (Plata-Potter & de Guzman, 2012). Only more recently have researchers begun to recognize the reality of the changing demographic in Mexico and the need for emphasis on Spanish for those who have been largely educated in English (Alba, 2013; Kral & Solano Castillo, 2013; Zúñiga & Hamann, 2013).

The importance of academic Spanish is paramount. Princeton social scientist, Marta Tienda asserts that the success of (return) migrants in transitioning (back) to Mexican life will depend on "language skills, school and family dynamics" (Cave, 2012). Students report challenges with Spanish, especially in the first days and months.

Research regarding immigrating to a country where one does not know the language "after eight years of age leads to variations in education attainment that influence how well children speak [the language] in adulthood" (Beck, Corak, & Tienda, 2012). Thus, even though many transnational students have been speaking Spanish in their homes their whole lives, it is the lack of formal education in Spanish that may cause difficulty upon (re)entry into Mexican schools. Like immigrants anywhere, school experiences vary widely, but age may be an important factor. For example, if a student arrives in Mexico under the age of eight or so, teachers' expectations regarding reading and writing ability will likely be less stringent. Further, teachers might be more likely to help transnational students with difficulties in Spanish just as they are helping all of the children in that age group as they learn to read and write. However, a fourth or fifth grader who does not know how to read Spanish may be deemed slow or even lacking in intelligence and perhaps not ready to enter a certain grade, thus increasing the possibility of repeating a grade they already have completed in the US.

Some Mexican teachers report that transnational students have "weak Spanish" (Zúñiga & Hamann, 2006). Other research has found that students express linguistic difficulties as they transition to a school environment in Spanish. Students report that they have trouble understanding the Spanish of both teachers and other students when they go (back) to Mexico after having been schooled in the US (Tacelosky, 2013).

Although students report issues with the transition to schooling in Spanish, they also share strategies they use to cope. If they do not understand a word or an assignment, they ask a teacher or a peer to help them. They also get help from parents, grandparents, and other family members.

In some instances, transnational children and youth are forced to make difficult linguistic decisions, conscious or otherwise. A case study regarding transnational literacy practices on the US/Mexican border concluded that even "familial and transnational capital" could not prevent students from the conscious choice to stop speaking Spanish in a US school "that was much Americanized" (Brochin Ceballos, 2012). Transnational youth in Mexican schools may not want to stop speaking English, they just may not have anyone with whom to communicate in that language.

English

For transnational students who move to Mexico from the US, the language of the home, Spanish, suddenly becomes the language of school. Likewise, English, the language of

school and socialization outside the home, and one with which they identify is removed from their daily lives. One student told me that the conversation she was having with me during an interview was the first time she had spoken English since her arrival to Mexico three months before. This young woman (age 16) had lived in the US for 12 years.

For other students, English—the fact that they know it and how they use it—may be a private matter. One girl, who moved to Mexico when she was 11 and, at the time of our interview, was almost 15, reported that she read (for pleasure) almost exclusively in English, but that she did not like to watch movies in English. Even though the movies were originally made in English, she preferred to watch the versions dubbed in Spanish because when she was younger she watched with her parents who do not understand English well enough to enjoy a movie. Thus, she became accustomed to watching movies in Spanish. However, she did admit that during the movies, "usually in my head I'm thinking in English."

Students have genuine concerns regarding maintaining English, "I'm like worried to forget the English because I'm like No! I'm not going to forget it . . . and the easy words I'm like uh, how do you say it? And I don't remember." If for immigrant children in the US, who have ample opportunity to speak to parents in the home in Spanish, the tendency is to switch to English by the second generation, it stands to reason that children of Mexican return migrants would be concerned that their English might get forgotten. Some children and youth have siblings or cousins with whom they speak English. But many have little or no place to practice, no one to talk to, nothing to read except possibly some old books brought from the US or textbooks. Some report watching movies or playing video games, but admit that these opportunities might be few and far between.

Addressing the need

Zúñiga & Hamann (2013) observe that standardized schooling is not appropriate for transnational students. Although it is without doubt the responsibility of the public school system to offer "appropriate" schooling for all its students, until such an offering is made available, alternatives must be sought.

Appropriately meeting the educational needs of transnational students presents a challenge for Mexican schools. Teachers express an interest in helping but lack the knowledge (Zúñiga & Hamann, 2013). The Secretary of Education (Secretaría de Educación Pública or SEP) has begun to pay attention to the issue. In 2008 they published a book, *Escuelas mexicanas frente a la globalización* (Mexican schools in the face of globalization) in which the issues of transnational students are recognized. More recently, a didactic guide was created to serve as a resource for teachers. However, it can still be argued that the realities and challenges of transnational students "aun no ha[n] sido . . . tratado suficientemente por parte de la Secretaría de Educación Pública (still have not been sufficiently dealt with by the SEP) (Kral & Solano Castillo, 2013, p. 2).

While it is imperative that the education of transnational students be included in teacher training programs and integrated into every public school, alternative programs can be considered. One way to address the needs of the transnational learning community is through specialized programs held outside the regular school year. Thus, a writing workshop was offered in the summer of 2015.

METHODS

Motivated by the idea that skill strengthening might contribute to transnational students' sense of selves as knowers and users of English, our purpose for offering the Writing Workshop was to help transnational students become better writers in English. A mixed method design was implemented: student writing samples were evaluated using a writing rubric (Butvilofsky & Sparrow, 2012; Reyes, 1990); the facilitators (college students and professor) reflected daily on strategy; and, at the conclusion of the workshop, participants were given an evaluation form to fill out in writing and we asked several of the participants, as part of a longer interview, what recommendations they had for a future writer's workshop—their answers were recorded and transcribed.

The study was found to be exempt from review and of minimal risk by the Lebanon Valley College Institutional Review Board.

Participants

Participants were recruited using the following criteria:

- have had one or more years of schooling in the US

- be currently enrolled in a Mexican public school

Thus the study consisted of a type of purposeful sampling—homogeneous sampling—that is warranted when the very people under study are sought for their commonalities (as opposed to a random sample). Such is often the case when the research question is examining the traits of a particular group and seeking depth of understanding (Palinkas et al., 2015).

A total of 10 students attended. They ranged in age from 10 to 22 years ($\bar{x} = 15$) and averaged nine years living in the US and about four and a half in Mexico. Six were born in the US, four in Mexico.

Comparing the Mexican and US school systems

In order to compare years of school attendance of workshop participants, it is necessary to understand mandatory schooling in the two countries. Mexico requires three years of *kinder*, roughly corresponding to ages three though six. In the US, there is only one year of mandatory kindergarten, which begins for children at age five. Thus, third year of *kinder* approximately compares to US kindergarten. In the US families may send their children to preschool, which is usually private and optional. In both countries, students start primary school, first grade, at around age six. Thus, for the purposes of comparison, years of school was counted from age five.

On average, students in the workshop had been in US schools for about five years and had been in Mexican schools for just under four years. It was not uncommon for students to move part way through the year. Nor was it uncommon to find that students started school in Mexico, went to the US and then returned to Mexico. The 22-year old participant had dropped out of school the year before, but we allowed her to attend. Table 1 summarizes participant details.

Table 1: Workshop participant details

Student*	Born	Age at start of 2015 workshop	Years in US school	Years in Mexican school	Years in US	Years in Mexico
Max	US	10	4	0.25	10	0.25
George	US	11	4	2	10	2
Aricel	US	13	3.5	4.5	9	4.5
Kiara	US	14	6	4	11	4
Joan	US	15	8	2	9	5
Ulysses	Mexico	15	2	6	2	13
Mickey	Mexico	16	3	6	3	13
Daniel	US	16	7.5	3.5	12	4
Luz	Mexico	19	8	4	8	10
Violeta	Mexico	22	7	4.0	8	14
Average		15.1	5.3	3.6	8.2	7

* Pseudonym chosen by the student

Description of the workshop

The workshop was held during a three-week period in July and August of 2015 during the summer break of the Mexican school calendar. There were two groups: one met on Monday, Wednesday, and Friday (MWF) and the other met Tuesday and Thursday (TTh). Each session lasted two and a half hours. The MWF group had two and a half hours more class time for the first two weeks, for an additional total of five hours. In the third week, both groups met three times because on the Friday we all met together for a closing ceremony, which included receiving certificates of completion and sharing, orally, samples of students' writing. Thus, in total the MWF group met for 22.5 hours, and the TTh group met for 17.5 hours.

There were four people on the teaching team: one university professor (the author) and three university students—a US university student with an education major/Spanish minor entering her senior year, an English major university student who had just completed his first year and who was a heritage speaker of Spanish, and a US university student who had German and music major, limited Spanish skills, and was entering his senior year.

Writing workshops have long been offered for budding and professional adult writers, but also have been part of elementary (Jasmine & Weiner, 2007), middle and high school classrooms (Atwell, 1998). The writing workshop in the school setting (Calkins, 1986) is centered on the process of pre-writing, writing and rewriting. Pre-writing includes warm-up activities, such as reading or watching a video related to the theme, and a mini-lesson. Then writing takes place for a sustained, often silent, period, and can include conferencing with facilitator/teacher and peers. Editing and revising are followed by rewriting. Other elements may be added, for example, starting the session with a status update (Peha, 1995) to hear what each person plans to accomplish in that session. Finally, writers are invited to share their work with the group.

Although our Writer's Workshop took place in a classroom, it was during summer break and students attended voluntarily. Furthermore, the participants did not know each other

and not all attended the same school. What they had in common was that they currently lived in Mexico and formerly had gone to school in the US. Thus, each day began with an icebreaker or game designed to develop group rapport, guide students' thinking to the theme of the day and serve as a pre-writing activity. For example, we made "Who am I?" collages before writing an autobiographical essay.

To address the specific needs of learners, workshop sessions also included mini-lessons. In some instances learners requested review of concepts or practices, in other cases instructors observed weaknesses in writing samples that then were addressed in the mini lessons. Topics of mini-lessons included specific grammatical structures, such as review of past tense, appropriate use of sequencing and transition words, and punctuation conventions, such as use of semi-colons.

Workshop participants were given writing prompts and then 30 minutes or so to engage in private writing. Due to the location that was provided to us by the collaborators, the MWF group had access to computers but the TTh group had only paper and pencil. In both groups, students were allowed to ask for assistance during the writing period, but were encouraged to forge ahead and do their best.

Perhaps the most lavish part of the writing workshop, for both groups, was the individualized attention afforded to participants during the process. The college students and professor were available to offer support by answering questions, pointing out errors and even engaging in detailed, personalized explanations to meet the specific needs of individual writers.

We held a closing ceremony in the final week of the workshop. Family, friends, teachers, school and local government officials attended. Participants shared excerpts from their best work (as selected by each author) and were granted certificates of completion. Some members of the audience did not know enough English to appreciate how well the students wrote and read, but there was pride on their faces none the less. Workshop participants, too, were rightly gratified with their accomplishments.

Data collection and measures of workshop success

Writing rubrics

In all, three to four written works were produced by each student, ranging considerably in length from 60 words to 250. The first and last writing sample of each participant was evaluated using a rubric that we adapted from existing rubrics designed by researchers who were evaluating the writing of bilingual learners in the US (Butvilofsky & Sparrow, 2012; Reyes, 1990).

Two of the researchers (the professor and the education major) independently evaluated writing samples. We measured mechanics (capitalization, verb tenses, paragraphing, syntactic style and variation; content (story development, time sequencing, etc.) and spelling (which included conventional spelling, approximating standard spelling, and notions of conventionality, spelling patterns and sounds represented by letters). Each of the categories was measured on a six-point scale.

We performed an interrater reliability analysis using the Kappa statistic (Freelon, 2013) to determine consistency between raters. There was 81.8% agreement between the two researchers, when a .5 difference on a 6 point scale was allowed. The interrater reliability for the raters was found to be Kappa = 0.79 ($p < 0.001$), 95% CI (0.504, 0.848).

Participants' evaluation of the writing workshop

Workshop participants were asked to evaluate the workshop in writing by answering the open-ended questions: "What did you learn regarding writing in English? and "Did the workshop help you improve your speaking ability in English?" if so, "How?" Additionally, they were asked to rate activities from the workshop, including icebreakers, games and essays. Each student rated each item according to how much they enjoyed the activities: a lot, so-so, a little or not at all.

Toward the end of the three weeks, some, but not all, of the participants participated in an interview which included the question: "What would you do to improve the workshop if it were offered again?"

Reflections and observations of teaching team

We (the university students and the professor) held a reflection session at the conclusion of the workshop. We discussed logistics, topics, location and length of the workshop.

RESULTS

Writing rubrics

When drop-outs were excluded, there were six students with first and last writing samples. Four students improved in all areas—mechanics, content and spelling—from first writing sample to last. The other two students showed small gains in one area each (mechanics for one, spelling for the other) and no gains or minor losses in the other areas.

Participants in the group that met three days a week showed improvements in their writing. It is worth noting that this group had some advantages. First, they meet a total of five hours more than the other group. Second, because of the location assigned to us by our colleagues in Mexico, the Monday/Wednesday/Friday group had computers (no Internet, just word-processing software) available for their use. These participants were taught to use spellcheckers and grammar checkers, which undoubtedly had some effect on their writing, at least in the areas of spelling and possibly mechanics. In addition to meeting fewer hours and having limited resources, the Tuesday/Thursday group had a higher dropout and absentee rate.

Participants' evaluation of the writing workshop

When students were asked what they learned about writing better in English several referred to the value of the mini-lessons. Of particular help to them was reviewing the past and present tenses and other "basics." Some more general comments included how to use ellipses, "making sentences" and "writing words better." One girl apparently benefitted from the editing and rewriting process: "Since I had not been practicing my writing in English, I made errors such as spelling . . . In general it helped me a lot to correct my writing in English."

Although improving speaking ability in English was not a stated goal of the workshop, we used English almost exclusively with each other. It should be noted, however, that language use was neither prescribed nor prohibited. Spanish, English and Spanglish were welcome. When asked if they felt that their speaking skills improved from having attended the workshop, several participants mentioned what they had been forgetting:

"pronunciations that I was forgetting;" "Teachers speaking English all the time really helped me remember many things;" "remembering words that I had forgotten."

Further, workshop participants expressed an interest in reading books at home and discussing them together. Another suggestion included talking more about the writing topics so that "we won't lose our spoken English." One of the younger participants suggested "some games like duck, duck, goose."

One of the advantages of the workshop was that the participants had the opportunity to meet people who had shared a similar experience. The participants shared with us that often they feel isolated in their experience of having been partially or wholly educated in the US before coming to Mexico. An experience like a writing workshop crosses school boundaries such that students get to know others that do not attend the same school in a different, non-school environment. One participant, when responding to a question about her first impressions of the workshop, liked that we could speak English the entire time and thus "sentirnos a gusto" (*feel comfortable*).

Reflections and observations of teaching team

The teaching team agreed that if a future occasion for such a workshop exists, we would seek out ways to have technological support (computers and Internet access) for all workshop participants. Spell checkers and other digital tools, when used appropriately and not distracting, can help students with their writing. An online dictionary and thesaurus can also help students remember and enhance vocabulary.

The major change we would make would be to meet for a longer time. By the time we waited for late arrivals, warmed up our bodies (the mornings in Puebla are chilly in July and August) and our brains, the actual time for the writing process was reduced to under two hours. Ideally, we would have two teams of instructors in two locations so that each group could meet five days a week for two to three hours. Although one truthful participant did warn, "Not too long because [people] will lose interest."

The writing topics regarding school experience, identity and comparison of aspects of life in Mexico and the US were deemed appropriate and valuable by the instructional team. However, like some of the workshop participants, we agreed that including a reading component would be helpful. With additional hours, we would be able to include guided reading related to the topics.

Finally, we discussed the number of participants. The team was delighted to be able to offer personal attention due to the low student/instructor ratio and felt that, as a result, we became acquainted with each other as learners and as friends. However, for a future workshop we would attempt to attract more participants.

DISCUSSION AND CONCLUSION

The study lacked sufficient numerical power to attempt any statistical analysis. However, it does have value as a case study and offers some lessons regarding the need for and value of short-term language workshops such as these for transnational students.

Although some transnational learners may move easily between real and imagined linguistic boundaries through social media and other digital communications, many of the transnational students interviewed worry that they do not have enough encounters with English to feel like they can maintain or improve their skills. Over the years, students

have expressed a concern over losing or forgetting their English. They may engage in "trans-idiomatic practices [that are] both local and distant" (Jacquemet, 2005, p. 264–265), such as texting, chatting or gaming with English-speaking friends and family far away, but the students who attended this workshop may feel very much alone in their experiences, linguistic and otherwise, which in turn may be very isolating, as the following examples illustrate:

> I guess that sounds kind of weird, but like whenever I'm reading something in Spanish I try to translate it to English so I won't lose it but like I don't talk about it. But I can read it, and I feel I'm going well, but when I start talking I'm like ok I kind of get nervous. (Interview with Kiara, age 14)

> When I first got to the US, it was pretty difficult. I can still remember how I could not understand a word they said. . . . When I got back [to Mexico and] started school it was difficult because I didn't know how to write [Spanish] and I kind of understood it. (Writing sample from Joan, age 15)

> My first day in school [in Mexico] was not that fun because I didn't know how to speak too much Spanish . . . I went to my class and everyone was staring at me; it was very ridiculous . . . During recess, I ate a sandwich alone. (Writing sample from Aricel, age 13)

Transnational children are a subcategory of migrants, twice disempowered. Once because they do not have a say (voice) in their current circumstances as parents or other authority figures usually decide when and where they will go to school. And secondly because they worry that their skills and identities as English-speakers are slipping away. As exemplified in some of the quotes above and to their very great credit, they engage in strategies to maintain their linguistic repertoire. The workshop described in this article offered students a place not only to refresh their language skills and learn new ones but also to grapple with their place in the world and how they relate to it.

In the weeks we spent together, students were able to interact with others who had had similar experiences. The essay topics: Who am I?; A comparison of life in the US and Mexico; Sharing school experiences, etc., were carefully crafted to encourage reflection on their shared experiences. This space "in which one no longer needs to rely on the binaries of home or host countries" (Darvin & Norton, 2014, p. 59) offered learners a safe environment for interaction and self-expression.

Application of the study to other contexts

The world's people are on the move. From 1960 to 2015, there has been a 200% increase in the number of international migrants, having gone from 79 million to 250 million (Connor, 2016). Lack of food, limited employment opportunities and war have forced over a million and a half people to leave their homes in South Sudan (UNHCR reports crisis, 2016; Wachiaya, 2017), Syria (Connor, 2016) and Afghanistan (Zirack, 2016), among others. Many of these refugees are school-aged, the number having grown by over half a million from 2010-2016 and increased 30% in 2014 alone (UNHCR reports crisis, 2016).

The education of children and youth who temporarily or permanently settle in a country other than the one they were born in is becoming a worldwide concern (Le Blond, 2016; Solis, 2016). Displaced people from war-ravaged countries are vulnerable and their opportunities often depend on the good will of agencies and others who might help them.

Refugee camps sometimes set up schools, but language challenges may marginalize further groups that are already at risk. Thus, this workshop could serve as a basis on which to build culturally and linguistically appropriate educational offerings to students who might be temporarily living in an area, such as refugees, or who are transitioning to a setting for a longer period. As Tobin, Boulmier, Zhu, Hancock, & Muennig (2015) note, "Given the instability and trauma they face, refugee children are in great need of educational interventions that promote both academic achievement and positive child development" (p. 146).

Students whose lives include back and forth movement between countries and school systems face significant challenges, linguistic and otherwise. Usually without consulting them, their parents or other adults make decisions that affect their daily lives. The transnational students in this study express concern and even worry about losing the part of themselves that is associated with English. They show interest and willingness in maintaining English. This workshop was a step in the direction of meeting their linguistic and identity-related needs and could serve as a foundation on which to build future, similar workshops.

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