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Transporting Problem-Based Learning to the Gulf Cooperation Council Countries (GCC): Using Cultural Scripts to Analyze Cultural Complexities

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ABSTRACT

The globalization of education has increased large-scale education reforms worldwide. Over the past 15 years, Gulf Cooperation Council Countries (GCC) have invested significant resources in reforming their education systems. This has led to extensive borrowing of pedagogical approaches to initiate and implement educational change. This article evokes several cultural learning scripts to identify the challenges that arise when pedagogical approaches are adopted and implemented. Specifically, problem-based learning (PBL) is examined against the backdrop of these cultural scripts to examine the cultural complexities of PBL in a GCC context. Discussion is provided that addresses several fundamental concerns that should be considered in order to reduce the cultural challenges and improve the implementation of PBL in GCC contexts. trends towards collaborative tools, while also describing opportunities and challenges with digital literacy. Finally, teachers described strategic approaches to assessment in light of the ill-structured problems posed by PBL. Implications for practice and theory are discussed.

Keywords: educational borrowing; education reform; cultural scripts; project-based learning; GCC countries

Introduction

Worldwide, the globalization of education has led to large-scale education reforms in developing countries (Sahlberg, 2006; Steiner-Khamsi, 2004). Under pressure to modernize, countries engage in educational borrowing, which refers to adopting ideas tested in developed nations, thinking these provide quick fixes that deliver fast results to improve their education systems (Donn & Manthri, 2013). Although educational borrowing appears to be a silver bullet, the process often lacks a robust cultural dimension, falling victim to a false universalism that assumes "that a practice generating good results in one place will unproblematically yield similar outcomes in another" (Nguyen-Phuong-Mai et al., 2012, p. 141). More importantly, educational policies and practices serve as blueprints that are seldom scrutinized regarding their appropriateness for a new cultural context (Dimmock

& Walker, 2000). In reality, these adopted practices encounter cross-cultural differences and contextual challenges that influence the fidelity of implementation, which determines how well a program is implemented compared to the original program design (O'Donnell, 2008). This can render the borrowed practice ineffective, preventing the achievement of the designed outcomes or even the elimination of the practice (Romanowski et al., 2018).

Over the past few decades, student-centered pedagogy has been conceived as a Western export to developing countries (Jackson, 2015). Among these pedagogical approaches is problem-based learning (PBL) that is implemented into various educational contexts worldwide (Nasr & Wilby, 2017; Wood, 2008). Although PBL has been implemented worldwide, the approach and its use in the Middle Eastern contexts is novel with limited information about its practice (Nasr & Wilby, 2017; Du et al., 2019). More importantly, PBL requires

concurrent changes in curriculum, instruction, and assessment practices, and many students are not familiar with this new pedagogical approach (Beringer, 2007; Du & Chaaban, 2020), which may impede the implementation process. Hence, it is essential to consider the role of culture and context in PBL implementation. Since cultural scripts describe the dominant cultural factors for teaching and learning, scripts are a useful tool to understand some of the challenges that may arise when implementing PBL in a GCC context.

This article is a conceptual and critical analysis of problem-based learning against the backdrop of educational borrowing. In what follows, the concept of educational borrowing in the Gulf Corporation Council Countries (GCC), which includes Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman, is briefly discussed. This is followed by a discussion of three previously constructed cultural scripts (Romanowski et al. 2018) used to identify cultural challenges that might emerge when pedagogical approaches are borrowed and implemented from a Western to a GCC context such as Qatar, Saudi Arabia, or the United Arab Emirates.

Next, a brief overview of problem-based learning (PBL) is provided, highlighting the epistemological assumptions and essential skills necessary for an effective PBL implementation. This is followed by an application of the three cultural scripts to PBL in order to analyze the cultural complexities of PBL in a GCC context. Finally, several fundamental concerns are addressed that should be considered in order to reduce the cultural challenges and improve the implementation of PBL in a GCC context.

Educational Borrowing and GCC Countries

Worldwide, the borrowing of pedagogical approaches is often considered an effective way of providing developing countries with resources to initiate and implement quick and effective educational change. Countries who opt for borrowing assume that transferring educational policies and practices from the original context to another will improve education (Phillips & Ochs, 2003). Although a widespread practice, there is regularly little consideration of contextualization in the borrowing process (McDonald, 2012).

Educational borrowing seems a straightforward matter of directly employing ideas from the experiences of another country. However, education systems and classrooms are far from straightforward, since they are embedded in complex indigenous cultural systems that shape and guide individuals' actions and understandings of the world, including their epistemic beliefs. These borrowed policies and practices often negate or devalue the influence of local culture (Liu & Feng, 2015). The process of educational borrowing often fails to consider that education is a culturally bounded system, leading to decontextualization or cultural mismatch (Burdett & O'Donnell, 2016; Steiner-Khamsi, 2004).

These new educational policies and practices require "cultural transformations and exchanges that challenge traditional values and norms in both sending and receiving countries" (Suarez-Orozco & Qin-Hilliard, 2004, p. 12). Teachers and students encounter uncertainty, challenges, and unanticipated results when educators insert local culture into the adopted program rather than insert the program into the local culture (Ladson-Billings, 1995).

Finally, borrowed educational practices redefine teachers' and students' roles and expectations by imposing particular sets of Western values, creating a situation where epistemological conflicts can occur (Romanowski et al. 2018). For example, teachers and students face cultural and learning challenges and can feel "marginalized by Western-imposed values, teaching methods and styles that are untraditional and for some students incomprehensible compared to their personal lives, culture and former schooling experiences" (Romanowski et al. 2018, p. 22).

Implementing Borrowed Pedagogical Approaches

Borrowed pedagogical approaches can lead to an unquestioning implementation of new models of teaching and learning that rely entirely on systems developed for another educational context. This can impede the implementation and effectiveness of educational policies and practices. In turn, this raises concerns about the fidelity of implementation, which refers to the degree to which an educational program or pedagogical approach is implemented compared to the design and objectives of the original program (Bauer & Kenton, 2005; Berman, 1981; Berman & McLaughlin, 1975, 1978; Fullan, 2001; O'Donnell, 2008).

One of the first studies that raised questions about the fidelity of implementation was the RAND report, which studied federal programs supporting educational change and innovation (Berman & McLaughlin, 1978). The Rand Report identified three patterns of implementation evident in innovative educational programs. These are:

cooptation or adapting the program without any changes in organizational behavior, mutual adaptation in which the program is adapted at the same time there are changes in the organization, and non-implementation and non-adoption in which neither happened. (Dusenbury et al., 2003, p. 239)

Dusenbury et al. (2003) point out that the report determined that lack of fidelity was consistent in the implementation of school programs.

Researchers have also examined the fidelity of implementation. Five elements of implementation fidelity must be measured: adherence to the intervention, exposure, quality of delivery, participant responsiveness, and program differentiation (Carroll, Patterson, & Wood, 2007; Dusenbury et al., 2003; Mihalic, 2004). Fixsen et al. (2005) categorize

the literature on degrees of implementation. First, there is paper implementation or the "recorded theory of change" (Hernandez & Hodges, 2003). Second, process implementation occurs when the operating procedures are in place, and "innovation is occurring, events are being counted, and innovation-related languages are adopted" (Fixsen et al., 2005, p. 6). Finally, performance implementation is putting the procedures into place in such a way that they are effective (i.e., integrated theory of change) (Hernandez & Hodges, 2003). Regarding the implementation of PBL, teachers face challenges that can influence the fidelity of implementation. These include but are not limited to addressing the constructivist approach, adopting to new pedagogical approaches, curriculum and assessment, designing PBL, and engaging in collaboration (Kolodner et al., 2003; Mitchell et al., 2009).

Research has responded to improve the fidelity of implementation. The search for educational programs that are effective across a wide variety of contexts and the differing impacts when implemented have led to the development of design-based implementation research (DBIR) (LeMahieu et al., 2017). DBIR is "a methodology designed by and for educators that seek to increase the impact, transfer, and translation of education research into improved practice" (Anderson & Shattuck, 2012, p. 16). Fishman (2014) suggests that DBIR provides "a greater awareness of the differences between different actors' perspectives establishes the grounds for the first principle: focusing on problems of practice from multiple stakeholders' perspectives" (Fishman, 2014, p. 118). DBIR is useful for the implementation of borrowed pedagogical approaches since it emphasizes collaboration between researchers and practitioners who are directly involved in the implementation.

Regarding schools and pedagogical approaches, there are a variety of characteristics of schools that must be considered in order to achieve a high fidelity of implementation. These include principal support and accommodation, teachers' sense of efficacy to educate their students, the receptivity of the school, school culture, leadership quality, staff morale, the school's approach to problem-solving, and the school's readiness to adapt new programs (Gottfredson, 1984; Wandersman et al., 1998).

Rogers (1995) posits that diffusion of innovation theory provides a way to better comprehend the process by which new ideas are implemented. Diffusion of innovation theory assumes that the consumers would consider the results of evaluation studies and then would base decisions on whether to adopt an innovation on these studies' findings. Dearing (2009) lists five key components of diffusion theory that should be considered when adopting an innovation. These are innovation, adopter, social system, individual adoption-process, and the diffusion system. An important aspect of

diffusion of innovation theory is not solely the diffusion of an innovation, but rather the "universal process of social change" when innovations are adopted (Rogers, 2003, p. xvi). For pedagogical approaches such as PBL, diffusion of innovation theory could prove useful, possibly improving the fidelity of implementation.

Finally, Young (2008) developed a culture-based model (CBM) which "is an intercultural, instructional design framework that guides designers through the management, design, development, and assessment process while taking into account explicit culture-based considerations" (p. 107). The model could prove useful in the borrowing of pedagogical approaches since CBM provides a framework to improve the design process by integrating "culture-based design specifications." Concerning the use of PBL in cross-cultural settings, Young suggests that CBMs are effective tools that can assist in developing instructional products, integrating features of the culture, and enhancing existing approaches.

Regarding the GCC countries, Al-Fadala (2015) notes that over the past 15 years, GCC countries have invested significant resources in education. This is based on the aspiration to prepare their economies and societies for a more globalized and competitive world. The result is an ambitious and comprehensive education reform agenda that is closely linked to long-term national strategies. The trademark of these educational reforms is educational borrowing in one form or another, including new approaches to instruction such as PBL, raising issues of implementation.

Cultural Scripts

Stigler and Hiebert (1999) define a cultural script as generalized knowledge that is shared among people of a particular culture. Goddard and Wierzbicka (2004) use cultural scripts as a tool to provide an understanding of complex cultural norms, values, and practices, making them accessible to both cultural insiders and outsiders. These scripts are intended to illustrate, in a specific cultural context, norms, beliefs, ways of thinking and acting, and cultural guidelines. Cultural scripts provide insights and understandings of the role that tacit dominant cultural factors play in shaping and guiding an individual's actions and understandings of the world (Goddard & Wierzbicka, 2004; Goddard, 1997; Welikala, 2011). Regarding education, cultural scripts have been developed by scholars (Jin & Cortazzi, 2006; Romanowski et al., 2018; Tan, 2015; Welikala, 2011) to provide insight about the presupposed values and beliefs individuals hold about teaching and learning and how this influences the educational borrowing process.

Since cultural scripts originate from local history, culture, traditions, and conditions, these scripts undergird teaching-learning and will interact with and shape borrowed

pedagogical approaches (Tan, 2015). When pedagogical approaches are imported and adopted, stakeholders apply their own scripts to the new pedagogical approach in ways that reveal their implicit assumptions about teaching and learning (Poole, 2016; Tan, 2015), impacting the fidelity of implementation. For example, Nguyen-Phuong-Mai et al. (2011) found there is a passiveness with Vietnamese students, and this aspect of culture could prove problematic with active pedagogical approaches.

Maintaining high fidelity during the implementation of PBL in, for example, Middle Eastern contexts is critical because PBL demands a pedagogical paradigm shift (Camp, 1996) that embraces new perspectives on instruction and learning. However, merely abiding by any fidelity of implementation frameworks, components, or policies may not improve implementation, but more importantly, will contend with norms, values, and practices identified in these cultural scripts that are essential for teaching and learning. As previously mentioned, teachers apply their own scripts to imported and adopted pedagogical approaches; we would argue that these cultural scripts could be integrated into the development of a pedagogical framework that can be used to develop a teacher education program for PBL. Ultimately, this integration has the potential to make PBL teaching and learning more effective.

Cultural Learning Scripts in the GCC

Before discussing the particular cultural scripts, a stipulation must be addressed. We are aware that the various cultural scripts developed in this paper are not static and deterministic. Indeed, all teachers and students in GCC contexts are neither bound by these scripts, nor are the scripts unalterable. Bendixen and Rule (2004) explained how cognitive disequilibria can cause epistemic change through epistemic doubt, epistemic volition, and resolution strategies. A complete discussion on epistemic change is outside the scope of this paper. Different cultures devised beliefs about education and preferred teaching and learning expectations (Liu, 2010). Cultural scripts provide a generic epistemological description that can be used to identify several challenges that may arise when implementing a new Western approach to teaching in a non-Western context. However, it is essential to note that the beliefs and ways of thinking embedded in the following scripts can be reinforced or altered. One can infer that a sophisticated understanding of epistemic beliefs and the use of design-based research, for example, would improve the implementation of new pedagogical approaches.

Romanowski et al. (2018) developed three cultural scripts that serve as a foundation for the epistemological beliefs about education, teaching, and learning in the GCC region using the existing literature. In what follows, three cultural

learning scripts that are predominant in GCC countries are discussed and later used to identify possible cultural conflicts that could surface as students face PBL as a new approach to learning. The scripts are epistemic, teaching, and cognitive flexibility.

Epistemic Script

Epistemic scripts are related to a learner's beliefs about the nature of knowledge, its certainty, and the acquisition of knowledge (Hofer, 2001). Hofer (2008) argues that there are important implications for learning based on epistemological understanding. She suggests, for example, that one's beliefs about the nature of knowledge could influence learning and cognitive processing. Epistemic beliefs are prominent in academic experiences and are not only relevant when encountering new knowledge, but a relationship exists between epistemological beliefs and learning (Hofer, 2001). Considering the GCC context, Hofer and Pintrich (1997) and Hofer (2002) have constructed four dimensions of epistemic beliefs based on authority-related cultural characteristics. These are as follows:

> (a) knowledge is simple versus complex; (b) knowledge is certain versus in a state of flux, (c) whether knowing is justified on the basis of dualistic, multiplistic opinions, or evaluative standards of evidence; and (d) the degree of reliance on authority to judge the veracity of knowledge claims (Hofer & Pintrich (1997) and Hofer (2002) as cited in Karabenick & Moosa, 2005).

Students who hold to these cultural characteristics could view knowledge simplistically as absolute, usually accepting an authority's view and understanding of knowledge. These students are more likely to rely on a single authority to provide the "correct" knowledge. This could influence their understanding. For example, Nasser and Virruru (2012) reported that when teaching Arab students about research, they faced resistance when presenting scientific facts that opposed the students' prior religious knowledge and epistemic beliefs.

Mohamed and El-Habbal (2013) suggest that there is a cultural tendency among students in the GCC to consent to authority based on the assumption that knowledge is static. Ghosh and Abdi (2004) found that Saudi students are taught in early education that all knowledge is permanent truth, "a static entity that is context and value free" (p. 135). Critical, reflective, and independent thinking via problem-solving to determine what to believe or to do—is discouraged in schools (Alghamdi, 2014). Furthermore, Bahgat (1999) suggests that Arab students often learn that not only is knowledge absolute, but it should not be questioned but accepted. These

epistemic beliefs could limit the use of classroom activities such as critical inquiry or analysis because these activities are considered unnecessary, since learning centers on the validity of exact and complete information.

Teaching Script

The teaching script addresses students' beliefs about teachers and teaching approaches. A common belief among Arab students is adherence to authority and traditions (Al-Salhi, 2001; Karabenick & Moosa, 2005). This suggests that a characteristic of some Arab students is high respect for teachers, considering them experts who take all initiative in classrooms (Sulimma, 2005). This view of teachers encourages students to become dependent on instructors for acquiring knowledge (Lansari et al., 2010). Alghamdi (2014) suggests that some Arab students begin to develop an overdependence and overreliance on teachers to direct learning, provide answers, and solve problems, which over time produces students who lack the skills necessary not only for developing their knowledge and responses but also for questioning knowledge. Some Arab education systems are based on these types of epistemic beliefs and are evident in the following studies.

Sulimma (2005) found that students in the UAE were comfortable in a structured learning atmosphere with learning concerns centering on correct answers. They held high expectations that teachers should provide the correct answer. Similarly, Hamdan (2014) found that students in Saudi Arabia developed a strong dependence and reliance on teachers who were there to solve problems and provide answers.

This belief about teachers is evident in how good teachers and lessons are often described. Chrystall (2014) points out that for many Arab students and parents, good teachers are those who demonstrate effective classroom management skills, where the vast majority of the class time is teacher instruction with teacher-directed rote memory level questions that require students to recall important information. This type of instruction regularly appears in the UAE and other Arab countries where teachers speak and students listen, using traditional pedagogical approaches designed to effectively transmit essential knowledge (Mohamed & El-Habbal, 2013).

Cognitive Flexibility Script

Cognitive flexibility is used to refer to the ability to adjust learning and cognitive processing approaches to address new and unexpected challenges in the environment (Canas et al., 2003). This script is used as an umbrella term to address thinking, reflection, and learning strategies (Romanowski et al. 2018).

Diallo (2014) suggests that Western educational systems are influenced by secular and liberal epistemologies exclusive of religious influence. Education and knowledge in the Arab world are influenced by religion, affecting not only knowledge but also how students are required to learn. For example, Diallo (2014) posits that the transmission of Islamic knowledge and overall basic education in the GCC relies on pedagogical approaches such as repetition, drills, and memorization. Traditional rote learning is dominant in the GCC, resulting in passive students who have acquired an unquestioning attitude (Chrystall, 2014). This type of education often excludes critical inquiry or analysis since these approaches are deemed unnecessary endeavors, resulting in an absence from much of the curriculum in the GCC (Al-Nagdy, 2005).

This rote teaching and learning are evident in assessment. The majority of exam questions in the GCC are located within the lower levels of Bloom's taxonomy, excluding questions requiring higher levels of thinking such as analysis and evaluation (Al-Shemri, 2005; Karam, 2004). The outcome is students who lack "familiarity with freedom of thought as they are accustomed to memorizing the ideas of authority figures instead of creating their own understanding of the world" (Bousquet, 2012, p. 7). However, free thinking is essential for students as they encounter different pedagogical approaches, such as PBL, that require different ways of thinking.

It is essential to provide some context in order to realize how these scripts play out. The overall structure of most GCC countries is centralized with a top-down system that filters throughout most aspects of life. Concerning education, many of the recent education reforms in the GCC were designed as decentralized systems, and often the goals, strategies, and outcomes of decentralization differ from the countries themselves (Dou et al., 2017). In addition, the reforms tend to be highly standardized (Nakib, 2015; Nasser, 2017), and this complements a top-down approach to education. This often leads to failed reforms and a return to a more centralized system of education (Yazdi, 2013).

One could argue that in a centralized system, when pedagogical approaches that require institution and teacher autonomy such as PBL are implemented using a top-down approach, the approaches are likely to fail without the needed autonomy and preparation (Romanowski & Du, 2020). Greening (1998) points out that PBL results in "wide-ranging changes to the values of traditional education and cannot be realistically applied 'on top of' existing infrastructure" (p. 10). What is often the case in GCC contexts is that teachers are given the task of implementing PBL by following a recipe with little preparation other than "how to" workshops. Ellili-Cherif, et al. (2011) argue that teachers are generally not readily willing to change their educational practices and

develop new skills, especially when decisions about teaching are top-down. The long history of a centralized educational bureaucracy could place institutional constraints on practices such as PBL, and this coupled with differing cultural scripts could cause challenges to the acceptance and effectiveness of PBL.

Problem-Based Learning

The urgency to prepare students with 21st-century skills has led educators to propose PBL as an alternative to traditional forms of instruction (Bell, 2010). PBL is a pedagogical approach that provides students with learning opportunities by actively engaging in meaningful problems (Hmelo-Silver, 2004; Schmidt & Moust, 2000). As an alternative to subject matter lectures, Savery (2006) suggests that PBL is a student-centered approach with teachers serving as facilitators to small collaborative groups of students who are working to solve open-ended problems (Gijbels et al., 2005). In PBL, students must define a problem, participate in research, and integrate theory and practice in order to develop practical solutions.

The constructivist framework provides the foundation of the instructional principles of PBL (Savery, 2006). Schmidt (1993) points out that constructivism's philosophical roots are located in Dewey's work of fostering independent learners and Brunner's concept of intrinsic motivation as a force that pushes one to know more. The fundamentals of constructivism are based on the premise that learners must actively engage the learning process to make meaning and construct knowledge in order for learning to occur. This represents a paradigm shift for teachers and students, who are required to be active questioners instead of passive recipients of knowledge (Forrester & Chau, 1999).

PBL has gained significance in education because of the assertions regarding PBL's Socratic learning virtues such as the development of questioning skills, the advancement of higher order thinking skills, the increase in students' ability to reflect on knowledge and the learning process, the growth of self-directed learning (Frambach, 2014; Hmelo & Ferrari, 1997; Tweed & Lehman, 2002), and the enhancement of problem-solving skills (Asad, Iqbal, & Sabir, 2015; Kadir et al., 2016; Simamora et al., 2017). However, PBL and constructivism is not without criticism. Concerns for epistemic relativism where knowledge is valid only to a specific context or culture could challenge the above scripts (Hua Liu & Matthews, 2005). Constructivism also develops a dichotomy where the learning theory emphasizes one end of the learning spectrum. Fox (2001) argues that constructivism stresses learners' active participation and dismisses the role of passive

perception, memorization, and all other learning methods in traditional didactic lecturing; many of these methods are dominant in the GCC setting.

Savin-Baden (2001) suggests that most of the PBL literature centers on examples of practical applications, omitting the complexities and challenges of the application. Concerning the challenges of PBL in Western contexts, Hmelo-Silver (2004) posits that students may not be adequately prepared because of lack of prior knowledge and learning experiences. Students often lose a sense of security because of the "messiness" of PBL over traditional teaching, causing anxiety (Pawson et al., 2006). Ahmed (2014) points out that issues with group dynamics could compromise the effectiveness of PBL. Weizman et al. (2008) suggest that less content knowledge is learned using PBL. Therefore, PBL can be difficult for students since they must develop an awareness of the existing gaps in their knowledge in order to understand what information they must learn (Dalgren et al., 1998) and they no longer can rely on memorizing facts and correct answers (Murray & Saven-Baden, 2000). Finally, constructivist teaching approaches such as one-to-one or small group classroom do not always guarantee teaching effectiveness (Jin & Cortazzi, 2006).

Regarding teachers, when implementing PBL, traditional pedagogy is challenged, forcing teachers to reexamine their pedagogical views since the philosophy behind PBL can often conflict with teachers' beliefs (Rosenfeld & Rosenfeld, 2006). PBL requires teachers to transfer from delivering information to facilitating learning (Dahlgren et al., 1998). This shift can cause conflicts between a new approach to teaching and epistemic beliefs. Teachers could think their expertise is not being utilized as a result of not using traditional lecture styles (Dahlgren et al., 1998) since their role moves from supplier of knowledge (Murray & Saven-Baden, 2000) to facilitator of knowledge acquisition (Rosenfeld & Rosenfeld, 2006). Finally, Dahlgren et al. (1998) point out that teachers are concerned when implementing PBL that they cannot cover as much material as with a traditional lecture-based style. In addition, Yadav et al. (2011) reported that "PBL students scored lower on basic science examinations and perceived themselves to be less prepared in basic sciences compared to their traditional peers" (p. 267). It is important to note that since many education reforms in the GCC use these exams for assessment.

Despite PBL's popularity, the cross-cultural applicability has been questioned (Frambach, 2014; Lee et al., 2004). Outside of a Western context, Khoo (2003) identified several Asian cultural attitudes that could be incompatible with PBL. These include dependency on teachers, respect for authority, fear of any confrontation, a reluctance to ask questions, a distaste for outspokenness, and low participation in class

discussions. Walker et al. (1996) found that cultural tensions impact Chinese students' discussion process, group dynamics, and communication. These students demonstrated a strong sense of politeness, harmony, and conformity as well as reluctance to directly introduce arguments in the discussion. Hussain et al. (2007) reported positive responses to PBL in several Asian universities while simultaneously reporting inhibitions to students' development of critical thinking during PBL sessions due to a non-confrontational attitude.

Frambach et al. (2012) found that Middle Eastern students compared to Dutch and students in Hong Kong expressed feelings of uncertainty as a cultural factor. These feelings were based on the "sharp contrasts between PBL and their prior educational experiences" (Frambach et al., 2012, p. 742). Students demonstrated a sense of being lost and unable to locate needed information. This uncertainty was linked to their traditional teacher-centered secondary education and also to "a culturally determined focus on tradition. Middle Eastern respondents referred to their society's respect for the 'old ways' and wariness regarding innovations" (Frambach et al., 2012, p. 742). However, as students became used to PBL, their attitudes changed and they began to support the approach and find that information was more accessible, "although students still felt PBL was not easy and wanted more guidance" (Frambach et al., 2012, p. 742).

PBL and Cultural Learning Scripts

For some Arab students, the PBL approach to learning can be problematic and present various cultural challenges. In what follows, several fundamental elements of PBL that could create cultural challenges are discussed against the backdrop of the previously developed cultural learning scripts. Depending on the context, there may be other aspects of PBL that might present cultural challenges for teachers and educators.

Constructivism

The constructivist basis of PBL positions the student at the core of the education process, requiring them to move beyond the mere passive acceptance of knowledge to a more active role in constructing knowledge. This can be diametrically opposite to dominant epistemic beliefs found in the GCC countries. In PBL, knowledge is not static but is continually being modified as students become more informed (Minnis, 1999), quite the opposite of the view of knowledge that is founded on authority. The demand to construct knowledge and meaning instead of passively receiving and memorizing information can be problematic for Arab students being introduced to PBL since there is often a dependency on teachers to provide knowledge (Lansari et al., 2010; Zajda, 2011). When there is a high social expectation in the

teacher's knowledge, the idea of the knowledge monopoly of the teacher and the knowledge dependence of students is perpetuated, which is an obstacle for constructivism (Woodrow, 2007).

This epistemic conflict with PBL is supported by a comparison between Omani and US students' epistemic beliefs. In a survey of Omani and US students, Karabenick and Moosa (2005) found that Omani students' epistemic beliefs were basic and less sophisticated than US students. Unlike US students, Omani students' beliefs involved obeying authority and traditions and an understanding of knowledge as simple and definite. Karabenick and Moosa (2005) also found that because of Oman's authoritarian societal structure, Omani students were more willing to accept authoritative knowledge statements about scientific information than US students. Zevin (2000) suggests that it could be problematic for students in the GCC to meet constructivism's demand to question, interpret, and challenge the knowledge students consider to be true.

Specifically considering PBL, Frambach (2014) studying Arab and Chinese students found that when more content is covered in lectures rather than PBL activities, students repeated the factual knowledge from the lectures and were less likely to engage in critical thought or ask critical questions. This can be attributed to students lacking familiarity with freedom of thought (Bousquet, 2012), possibly inadequate preparation for PBL (Hmelo-Silver, 2004), or anxiety with the PBL process (Pawson et al., 2006). Also, there is often no single right or wrong answer because of the ill-structured problems of PBL. Students are encouraged to attempt different solution paths to solve problems, and this can cause frustration for students (Jonassen, 1997). Overall, Bousquet (2012) suggests that it can be a challenge for these students entering a classroom where memorizing ideas and depending on teachers is no longer the norm. Dahl (2010) suggests that students whose educational experiences are limited to traditional classrooms "do not necessarily adapt instinctively to constructivist pedagogy" (p. 13).

Student-centered learning

For students who are accustomed to a teacher-centered classroom, the shift to a more student-centered education including interactive and teacher-independent classrooms can cause challenges and tensions in non-Western settings (Frambach et al., 2014; Gwee, 2008). PBL requires self-directed learners who can develop the ability to assess knowledge and seek out resources to address their insufficiencies. Several factors such as past teacher-centered education complicate student development of self-directed learning skills, and this can be problematic for students in the GCC. Lansari et al. (2010) found that when using a blended approach to

PBL in an attempt to develop independent learning skills for students in the UAE, students still needed guidance from instructors. Likewise, Ghosh and Abdi (2004) found that Saudi students were not accustomed to university teaching that promoted self-directed learning and study.

Furthermore, one possible consequence when shifting from teacher to student-centered instruction is that students begin to question and doubt the teacher's credentials (Nasser & Abouchedid, 2007). Since many Arab students view the teaching and learning process as one where teachers speak and students listen, these differing roles for both teachers and students could generate conflicts that hamper learning (Nasser & Abouchedid, 2007). Sulimma (2005) stresses that Western pedagogy depends on two-way communication between the teacher and student where the students can question and challenge knowledge. This should be considered and addressed with Arab students who respect teachers and consider them as "gurus who transfer personal wisdom" (Sulimma, 2005, p.78). The relationship between students and teachers is vital to understand and appropriately deal with when implementing PBL.

Critical thinking and questioning

PBL necessitates that students move beyond rote memorization and develop problem-solving and critical and creative thinking skills. However, the change is not easily attained since the knowledge taught at all levels of education in various GCC countries is rarely questioned (Hamdan, 2014; Frambach 2014). Sheikah Mozah Bint Nasser Al Missned (2006) confirms this viewpoint, stating:

> Scholars have affirmed that the "traditional" system of education in the Arab world, built upon the absolute power of those in authority, encourages learning by rote, and blind acceptance of power. In such schools, girls and boys, are taught not to question their teachers, just as individuals in society are taught not to question their rulers (as cited in Romanowski & Nasser, 2012, p. 126).

It can be difficult for students in the GCC to raise questions about what they are learning since they are not accustomed to education systems that promoted higher-level thinking and questioning. The PBL environment demands that students must not only actively engage in the learning process, but they are often expected to guide and monitor their own learning (Dahl, 2010), which is quite the opposite of what students learn in GCC educational systems. For example, Ghosh and Abdi (2004) suggest that critical

thinking that includes reflection and independent thinking directed at problem-solving—a requirement for PBL—has been discouraged in Saudi schools.

PBL requires that students not only have a desire but the ability to raise questions. Frambach (2014) argues that in student-centered classrooms, students need to exhibit assertive behaviors such as raising questions and a willingness to speak up and challenge the teacher's or other students' opinions. She suggests that values in Middle Eastern cultures, such as respect for tradition and possessing a simple and devout manner, could contribute to students' hesitation to raise questions or become involved in classroom discussions. Furthermore, Hamdan (2014) posits that the traditional education system in GCC countries instills in students the inability to question teachers' or other students' answers or to question other sources of knowledge. For some Arab students, it can be considered disrespectful to openly disagree with teachers and question their authority as knowledge experts (Frambach, 2014). There are few opportunities where students can develop the skill of asking questions, and students lacking this skill could shape the PBL process and learning outcomes.

Reflection

Fosnot (1996) suggests that teaching approaches based on constructivism such as PBL require students to engage in reflection. At first, the skill of reflection can be a challenge for Arab students since much of their education is centered on rote learning, and their epistemic scripts include the idea that knowledge is specific and based on authority, not students. For some students, engaging in critical reflection places them at a disadvantage since their religious training and cultural beliefs discourage raising critical questions, which places them in a position where they are unwilling or unable to engage in critical reflection (Richardson, 2004). There seems to be uncertainty and difficulty in thinking and reflecting because of the sharp contrasts between PBL and their previous educational experiences (Frambach, 2014). This raises the issue that learners' expectations and preferences are reliant on their culture, and this influences the required PBL shift from passive to active learner, more or less the responsibility for learning (Rodrigues, 2005).

Discussion

Concerning the implementation of PBL, both Western and non-Western contexts provide similar and different challenges for both teachers and students, but these can be overcome with adequate preparation of institutions, teachers, and students. Research demonstrates that borrowed pedagogical approaches such as PBL can provide educational

benefits. For example, Nasr and Wilby (2017) found that applying PBL at the College of Pharmacy in Qatar provided benefits. However, PBL also transported several cultural and contextual challenges for adaption from the type of PBL used in the Western context. Frambach (2014) found that in a sub-Saharan African context, as students became used to PBL, their attitudes changed, and they demonstrated support for the principles of PBL. However, similar to Western contexts, Nasr and Wilby (2017) found that one weakness of implementing PBL in a Middle Eastern context was that students lacked the needed preparation.

For students, borrowed educational practices can cause a sense of uncertainty and uncomfortableness, creating doubt in learners about their abilities (Dahl, 2010). For example, Dahl (2010) suggests that expecting different and high levels of thought can be stressful and intimidating for some students when it challenges the learners' habits and beliefs about learning. Nguyen-Phuong-Mai et al. (2012) discussed the cultural appropriateness of cooperative learning in Vietnam and raised several issues that are relevant to PBL. These include issues of power relationships between teachers and students, the change in student-to-student communication, and issues centering on group work and cooperative learning such as group dynamics and group harmony.

Governments, educational organizations, and policymakers who decide to transport PBL or other student-centered approaches to learning to different contexts as a part of education reform in the GCC are often short-sighted. They fail to adequately contemplate not only the cultural complexities embedded in teaching and learning but also the possible challenges faced by teachers and students implementing a PBL program. For example, one concern about PBL in a Western context is the inability to cover material. This is also evident in GCC contexts where most of the education reforms are standard-based, relying on a strict assessment plan that demands the coverage of content in order to prepare for national tests. Romanowski et al. found that teachers involved in education reform in Qatar noted that there was too much content to be covered in the new curriculum. PBL covers less content knowledge, and not addressing this concern will certainly add pressure to teachers and influence the effectiveness of PBL.

There needs to be a mechanism that can be used to bridge the gaps or develop the skills students need to maneuver PBL successfully. For example, teachers can help students adjust to PBL by identifying and discussing with students their habits and beliefs about learning. Through tutorial discussions, students can be introduced to constructivism and what is required of them, presenting what learning will be like in PBL. This would include addressing any conflicts and difficulties students may face. In addition, instead of just expecting students to be self-directed learners, students should be taught the skills required. Teachers should provide assurance that they will support students in the transition to a new learning experience.

Furthermore, teachers can use students' perspectives by adopting several teaching strategies that are well-matched with students' beliefs, values, and needs and "scaffold their development and growth based on different ways of knowing and of dealing with unfamiliar epistemic domains" (Alghamdi, 2014, p. 217). Finally, Hamdan (2014) states, "supportive, low-risk learning activities need to be used to allow uncertain students to explore non-traditional skills and knowledge, to experience success, and to develop more positive identities" (p. 218). Regarding the implementation of PBL, the challenges that emerge in the early stages of PBL implementation can be overcome during a period of adjustment with supportive teachers (Khoo, 2003).

It is essential to recognize that students always respond to any pedagogical approach. Even when rote learning or teacher-centered lectures are the norms, students provide their responses in various forms. With PBL, some students may engage as instructed by the teacher while others may demonstrate some form of resistance that indicates their preference for the existing customs. Teachers must identify student responses and understand how student responses can shape teaching and learning. Teachers must be able to respond effectively to students regarding their pedagogical actions or decisions in a way that can positively impact their attitudes and views toward the new approach.

Finally, another issue to consider when implementing any borrowed pedagogical approach like PBL in the GCC or similar contexts is faculty and student resistance. Bennett deMarrais and LeCompte (1995) define intellectual resistance differences as a "principled, conscious, ideological nonconformity that has its philosophical differences between the individual and the institution" (pp. 118–119). Concerning students, Richardson (2004) suggests that students engage in resistance when they are required to take more responsibility for their learning, stemming from their previous educational experiences where they were passive learners who were expected to memorize facts. Student resistance is apparent in the GCC. Nasr and Wilby (2017) found when implementing PBL into a Middle Eastern educational setting that one of the challenges is student resistance. In addition, educational reformers must also consider that teachers might engage in some form of resistance to new teaching approaches that challenge their epistemic beliefs. There can be various reasons for resistance, and it is vital to understand the reason for both teacher and student resistance so they can be effectively addressed.

Not only must the preparation of students be considered when implementing PBL, but also the complex role of the teacher must be deliberated when implementing a new pedagogical approach. Azer (2011) suggests that faculty must be prepared for the change by communicating the need for change and evidence of the benefits of PBL. These are vital for any new program. Keep in mind that in the GCC countries, "teachers come from different educational contexts and may hold cultural values, belief systems and educational philosophies that are different from those underlying the educational context where they operate" (Ellili-Cherif & Hadba, 2016, p. 2). Therefore, when implementing PBL in a non-Western context, additional faculty preparation is needed. In a cross-cultural context, faculty preparation should include identifying and understanding the sources of faculty fears or uncertainty. Kemp (2011) suggests that PBL adaptation requires teachers to develop an implicit and explicit commitment to the method, including faith in and understanding of constructivism, which is essential for implementation. This will require having teachers identify and reflect on their underpinning philosophy and the new constructivist pedagogy, considering the differences and possible conflicts.

However, Al-Rabiah (2004) found that when teachers in Saudi Arabia were asked to engage in critique and reflection about teaching, it was difficult since they experienced a teacher-centered philosophy in their education that did not teach how to engage in reflection and critical thinking. This needs to be considered when introducing a student-centered approach in GCC contexts. At times, this necessitates that teachers adapt and change their beliefs and practices, and this takes significant time. Therefore, it is necessary that educational reformers consider teacher readiness and abilities and establish plans that provide the opportunities for teachers to change their epistemic scripts and not merely provide them with the technical skills, which demands more than several workshops on PBL. Finally, teachers must be willing to confront and address their new role in utilizing PBL as well as identifying and addressing their lack of knowledge of PBL and understanding the problems students are facing.

The issue of teacher identity should be mentioned. Keiler (2018) states that "teachers' roles refer to what teachers do in classrooms and teachers' identities refer to the ways that teachers think about themselves and their classroom roles" (p. 3). A teacher's identity is based on their core beliefs about teaching and learning, which are constantly challenged when they face new professional experiences (Grier & Johnston, 2009). When teachers attempt to use a new teaching approach while simultaneously trying to meet students' educational needs, their identity as a teacher is challenged. MacLure (1993) suggests that teachers who feel alienated from the values and practices of their institution and have

difficulty resolving the conflict experience "dissatisfactions of the present in comparison to a lost past" (p. 317-318). Facilitators introducing PBL must take this into account.

Institutional and classroom restraints must be considered when implementing PBL. Nguyen-Phuong-Mai et al. (2012) point out other concerns, such as group work that would be used in PBL. These include class sizes. Western class sizes fluctuate at around 15-20, while class size in countries such as Japan, China, and Korea can range from 45 to 60 students. Also, the student-teacher ratio, the length of classes, the grouping strategies selected, and even classroom design and furniture should be considered when implementing the PBL approach. Therefore, any transfer of PBL to the GCC must take into account challenges faced in Western contexts, the unique cultural challenges found in this context, and institutional elements that could influence PBL in order for this pedagogical approach to be useful.

In closing, too often those who are introducing and facilitating PBL in a non-Western context use the same program and approach as they would in a Western context. This can impact the fidelity of implementation, which determines how well a program is implemented compared to the original program design (O'Donnell, 2008). PBL is not an approach to teaching that can be adopted lightly or fall victim to a false universalism. For a successful implementation, careful attention must be given to not only course preparation and problem design, but the support of the institution and careful preparation for teachers and students is required. More importantly, Sabah and Du (2018) suggest to achieve long-term implementation of PBL, the context of national culture and local schools and the unique characteristics of students and teachers are vital. Nevertheless, when educational practices move globally, we must realize there are cultural factors that can both advance and hinder the process and can influence the implementation and effectiveness of PBL (Anderson-Levitt, 2003). It is essential that educational policymakers understand the complex role of culture and context and that they adapt rather than adopt educational policies and practices. An argument can be made that there are benefits of studying specific contexts of educational systems prior to importing pedagogical approaches (Dimmock & Walker, 2000). Therefore, there is a need for strong support from the school administration regarding the introduction to PBL into the curriculum coupled with careful instruction for both faculty and students in order to attain a successful implementation (Khoo, 2003).

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