

IN SEARCH OF AUTHENTIC LEARNING IN KAZAKHSTAN

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ABSTRACT

The foreign faculty in Kazakhstan faced the challenge of designing a total authentic learning curricula for undergraduate students used to a traditional approach to learning. Students were asked to submit reflective learning journeys at the end of the spring 2011 semester. This study uses their stories as a springboard to explore their perspective of authentic learning. The case study was confined to data gathered from one class, which revealed that those students who remained in the course wanted to be challenged by authentic learning. To them, authentic learning was both a force driving their evolution from passive to active learners and a means for solving the real-world problems with a community of co-learners. Authentic learning is an agent of change that is worth contemplating. Its design can apply to the multiple life-spaces of a single student and other disciplines.

KEYWORDS

Authentic learning, cognitive learning, empowerment, teaching

1. INTRODUCTION

Kazakhstan (KZ) is the 9th largest country in the world, with about sixteen million people and ninety higher education institutions. Newsweek (2010) ranked KZ 14th worldwide in education, with a rating of 91.35% and a literacy rate of 99.5%. In Almaty, the KIMEP University has been ranked number one.

Kazakhstani students are generally ambitious. For example, many MBA students would overload themselves concurrently in study and in work and would resort to complaining as a survival mechanism to cope with the unrealistic pressure (Misch & Galantine, 2009).

A preference for rote learning (Lillis, 2009) appeared during the inquiry. It was further validated by first-hand experiences with students during the fall semester of 2010. Nevertheless, many students would want to be challenged by a demanding learning experience (McInnis, 2001). Therefore, authentic learning was introduced. However, it posed a huge challenge to faculty.

1.1 How did the Study Come About?

McInnis and Newsweek provided reasons to the belief that an authentic learning curriculum could be workable in an institution that claims to be world-class. As a consequence, the researcher incorporated authentic learning in all his classes in the spring semester of 2011. In this semester, he facilitated a Financial Statement Analysis (FSA) class (and two classes of Financial Accounting 2). The FSA was double-coded as ACC4208/FIN4214 for both senior and graduating Accounting- and Finance-students. Two sections ran concurrently from 17:30 to 19:30 every Tuesday and Thursday.

In the first section, a Kazakhstani instructor utilized a traditional teaching approach. His course consisted of five short exams, two projects, and a forty-percent final exam covering the first twelve chapters of Penman (2010). In the second section, the researcher approached the course non-traditionally.

The second section covered Chapters 13 and 14 of Stickney et al. (2007). All chapters of Penman and other chapters of Stickey are resources to thoroughly understand these two chapters in focus. The syllabus required each student to engage inquiry and to prepare evidence-based portfolio, which made up forty percent of the summative assessment. The learning portfolio included a project of student's own choosing, a

reflective learning journal, and a mind map. The project required an executive summary with spreadsheets and other pieces of supporting evidence.

Students are empowered to work on the project alone or in small team. Moreover, they would transform themselves to be reflective storytellers and to see their higher education as a construction of personal and social stories.

This second section went through several transition states. During the first two weeks, sessions blended traditional lectures (to introduce theories) with cooperative learning methods (to inspire participations). While exploring the strengths and interests of the FSA students, the researcher learned of a student who worked at one of the Big Four accounting firms. The student was allotted an entire session to share his knowledge about the valuation of firms in the real world. How students reacted, interacted, and responded to the presentation and to the idea of teaching themselves weighed against tradition.

The time seemed ripe to advance the learning to the next level. Bonus projects were added. Similar to the 40% learning portfolio, students were empowered to select their own topic(s) and to organize themselves as a community of learners.

Each student was distributed a yellow card. Three questions on the front side formalized their commitments (1) to conduct independent active in-depth learning engagements; (2) to submit weekly reflective journals; and (3) to undertake evidence-based and inquiry-based project in lieu of a written final exam. If students answered No to any of the three questions, they were advised to transfer to the first section. The yellow card would also be stamped for attendance (the front side) and student participation (the back side), in order to encourage them to show up for class and to take part in the engagements.

The important feature of the authentic learning curriculum was the no examination policy. The other sixty percent consisted of (1) participation in the two focus-group discussions; (2) weekly reflective journals; (3) eight assignments (some of which could be done in groups); and (4) an essay. Students were also asked to read the facilitator's teaching philosophy and to write their own (5) learning philosophy. Rubrics were designed to rate the assessments. The two focus-group discussions took place two weeks into the semester and two weeks prior to its end. Students reflected on their learning points. They also had the opportunity to participate in (6) an in-depth interview with an officer in the Research and PhD department. All these, except for the bonus projects, were designed before the start of the spring semester.

Assessing team work was a challenge. To avoid free loaders in the group, the team needed to detail the distribution of the jobs. Grade would be a one step lower if the distribution was equally divided among the members. In real life, it is unlikely that a work could be shared evenly.

2. AUTHENTIC LEARNING: ITS ESSENTIAL ATTRIBUTES

“The main point of authentic learning is to let students encounter and master situations that resemble real life” (Cronin, 1993, p. 79).

Authentic learning originated two decades ago as a simple idea of apprenticeship (Resnick, 1987). Such situated learning (Collins, 1988; Collins et al., 1989) connects theoretical learning to practical learning.

The learning engagements in classroom setting presuppose *more authenticity* (Cronin, 1993, p. 79) or *more situation* likely to be encountered in real life. The essence of authentic learning in curriculum design explores and exploits all available opportunities. The mere use of authentic learning tools in a traditional learning curriculum does not make it an authentic learning curriculum.

One essential feature of authentic learning is segmentation. The traditional learning is deeply engrained in many students. Authentic learning is radical. It disrupts the comfort of many students. The research of Brown and Venkatesh (2003) in innovation shows that sixteen percent are pro innovation and eighty four percent are against it. However, forty percent of those people who resist could be persuaded to reduce their negative bias and to accept the innovation in the end. Based on this insight, students who accept authentic learning belong to a special segment.

Second is the conception as agent of change. Authentic learning connects the “in-here” knowledge (thoughts, beliefs, feelings, and dreams) with the “out-there” world (the physical and material domains). The connectedness presupposes a heightened “in-here” awareness of one's own learning engagements when making sense of the “out-there” reality. It is useful to look at authentic learning from a deterministic or

instrumental perspective. In the first perspective, the learning is a force that imposes change and becomes part of a web of influences that is always in motion and constantly influences the community of learners. In the second perspective, the learning comes with perceived utilities or benefits that are a means to an end, which is the change. Any impediments could be mitigated by heightening the construction of meaning, the cognitive presence or the social presence during the four cognitive stages (Garrison et al., 2010; Garrison & Arbaugh, 2007). Wolf (2001) refers the change as a new alchemy of mind.

The third feature concerns the knowledge construction stages (or the knowledge development stages). Constructing and experiencing knowledge passes four cognitive stage (Garrison et al., 2001). First of the learning experience is the Agenda-setting stage. It is marked by the perception of the relative newness and values (Rogers, [1962] 2003) of the new curriculum. Second, the Exploration stage facilitates the examination of problems and encourages a deep approach to learning. The ideas produced in this stage are constructed into personal meaning during the Integration stage. Finally in the fourth stage, the Resolution stage links the ideas and meanings and evidence and reasoning in a chain. The need for heightened cognitive and for heightened social presence comes the need for heighten thinking (Lesh et al., 1999; Rule, 2006), such as asking questions, conducting studies, drawing conclusions, thinking about thinking (metacognition), revising theories, and communicating results and discourse (Akyol and Garrison, 2011; Callison and Lamb, 2004; Flavell, 1979; Renzulli et al., 2004; Vygotsky, 1978).

Fourth, a conception of authentic learning is as constructed knowledge. According to constructionism (Papert, [1980] 1993), knowledge is constructed through interactions of the community of learners, the creation of social artefacts (e.g., projects), and the building of new knowledge on old (prior) knowledge through above four cognitive stages. Papert ([1980] 1993) uses the metaphor of communal property (Barron, 2004; Brandsford et al., 2006).

Fifth is empowerment, allowing students to make the choice of what, when, where, how, and with whom the learning occurs (Barron, 2004; Kirby & Goodpaster, 2006). This puts the student's chosen focus in an individual personal frame (Kellouth, 2003; Rule, 2006) so that the learning activities remain student centered (Callison & Lamb, 2004; Maina, 2004, Renzulli et al., 2004). Empowerment also presupposes the diversity of learning pathways (Brandsford et al., 2006), with no single method for carrying out tasks (Bergeron & Rudenga, 1996). However, empowerment accepts the non-empowered dimensions, such as codified knowledge (concepts, facts, and procedures), learning strategies, and the learning environment. The latter set influences observation, coaching, and practice (Lave, 1988).

3. RESEARCH METHODOLOGY

The domains of this case study could be imagined as the three layers in an inverted triangle. At the widest level on top is the local setting of the higher education institution in Almaty, Kazakhstan. In the middle of the triangle is the complex phenomenon: the authentic learning of the FSA in the spring 2011 semester. The lowest level of the triangle is the abstract case. The fourteen learning journeys have highlighted four complex issues of authentic learning (1) as an agent of change, (2) as a process to construct knowledge, (3) as constructed knowledge, and (4) as empowerment. These four issues constitute the abstract case.

To explore the case and to thoroughly understand its issues, the research uses a tiered approach (Clark & Linn, 2003). The approach avoids a pitfall of designing one huge multiple-tiered study to address every single intertwining issue. Nevertheless, it assures that the complex phenomenon meets the rigor, yields good data, and maximizes learning (Carver, 2006; Stake, 2005).

Four important theoretical assumptions are essential to analyzing and interpreting the findings. First, authentic learning presupposes the cognitive readiness among individual students to form a community of learners, in small groups or in a whole group (the whole class). Second, because not all students want to undertake the authentic learning, the radical learning approach underscores the segmentation and the percentage of acceptance. Third, authentic learning cannot happen apart from the contexts. A curriculum developed for a certain student segment is not automatically applicable other students, other courses, and other higher institutions unless it is modified or reflected to fit the new contexts. A second implication of this assumption regards facilitators not as the source of expert knowledge but rather the source of interdisciplinary knowledge. Fourth, authentic learning assumes that students learn better if the learning is relevant to their needs.

Fourteen students included their learning journeys as a part of their learning portfolio. The journeys delved into their experiences, beliefs, emotions and thoughts and provide evidence that was otherwise not measurable nor explicit. The case study utilized these journeys as the primary data source. However, five journeys were highlighted in this paper. The other (1) nine journeys were used to triangulate the analysis. Other pieces of evidence used in triangulation included (Yin, 2009): (2) seven fifteen-minute in-depth open-ended interviews conducted by a colleague at the end of the semester (9th to 11th of May 2011); (3) submitted assignments; (4) the students' learning philosophy; (5) the two focus-group discussions; (6) the record books with their GPAs and English proficiency scores; and observations.

The units of analysis, as indicated in the problem, corollary question, and the four issues in the structured top-down diagram (see Figure 1), were as follows: (1) the cognitive presence in the Community of Inquiry (Anderson et al., 2001; Garrison et al., 2001; Rouke et al., 2001); (2) the perceived attributes (Rogers, [1962] 2003) triggering interest and commitment to authentic learning; (3) the stages in constructing knowledge; and (4) other necessary structures and procedures. The chosen units of analysis align with the three domains and call for slightly different modes of analysis and inferential perspectives in the Discussions section. A possible weakness is the inclusion of both structures and processes, but it is warranted by the exploratory nature of the study. The strength is the researcher's personal curiosity about the case. This intrinsic interest has made the inquiry memorable, challenging, and fun.

The foundation of the modes of analysis was the continuous contemplation of the evidence, which subsequently led to the emergence of insights (the theory). This general inductive approach balanced rigor, flexibility and iteration in all stages, from the reading of the raw data to the construction of the chain of reasoning. The analysis of qualitative data became simpler (Thomas, 2006). Issues were meshed to their common ground (Guba & Lincoln, 2005). During the thinking process, raw textual structural and procedural descriptions in the learning journeys were highlighted and/or summarized to underscore the experiences of the teaching and learning processes. The interpretations and findings were linked to the research objective.

The authentic learning of the FSA course in the spring semester of 2010 was an imperfect, real, and complex phenomenon. The interpretation of the learning journeys was the key to unlock its truth (Denzin & Lincoln, 2005). Although these journeys convey many shades of truths (absolute truths, empirically adequate truths, approximate truths, and even partial truths), nevertheless the stories passed through validation, triangulation, and argumentation in Figure 1.

4. RESULTS – THE CONCEPTS OF AUTHENTIC LEARNING

4.1 Authentic Learning as Segmentation

The curriculum design in the second section was radical in many ways. First, there was the no examination policy. Second, each student had a yellow card. It was used to inspire participations and at the same time monitor attendance. Third, the facilitator and the students played the role of co-teachers and co-learners in a community of learners. Thus, the teaching and learning passed through transitional stages.

Whereas traditional learning is deeply engrained in many students, authentic learning disrupts the comfort of many students. Thus from initial enrolment of sixty one students, twenty one students remained and, with the facilitator, formed a community of learners. These students were equivalent to thirty four percent of the population (21 divided by 61 equals 34.4262%). Finally, sixteen students passed the course. Fourteen students submitted their learning journeys. Many included mind maps. About half got an A+ or an A.

The 34% outcome was consistent to the research of Brown and Venkatesh (2003), arguing that sixteen percent of the one hundred percent population are initially positive in favor of the innovation (e.g., the authentic learning) and forty percent of the eighty four percent (that is, $40\% * 84\% = 33.6\%$) against it could be persuaded to accept the innovation in the end. In short, the people of the population who would accept an innovation range from a minimum of 16% to a maximum of 49.6%. The twenty one students who accepted authentic learning (the 34%) belonged to the mentioned segment.

4.2 Authentic Learning as an Agent of Change

Through authentic learning curriculum, Kazakhstani students evolved from passive learners to active learners. Student #1 recalled her learning journey, which started with hard knowledge in the textbook and ended with soft knowledge.

“Generally, the topics we were covering grew more complicated throughout the course, as they became closer to reality. Indeed, in practice, things are more complicated and not as easily approachable as described in the textbook. In reality, each company has its own unique features and performance patterns that need certain adjustments. These adjustments involve more judgment and soft knowledge.” - Student #1

Likewise, students who conducted actively with their independent in-depth learning engagements realized a heightened cognitive presence. An evidence is the recognition of unique features and patterns (see previous quote). Another evidence is the construction of knowledge in stages. According to Student #1, the first hard-pure stage established the foundation. In this stage, the lectures were entirely delivered by the facilitator. The second hard-applied stage included simple and straightforward application of theory in practice. The knowledge was based on textbook examples. Although the lecturer maintained the leading role, the learning process gradually involved interactions with other students in small groups.

“[The] third ... soft-applied stage... was the longest and important stage associated with most advanced real-life approach to the study. It was aimed to apply the previous experience and knowledge to existing companies in a more sophisticated real-life environment. It used more complicated examples... [The] fourth ... soft-pure stage...had an essay worth 20% of the grade that had to cover the practical issues and problems we face[d] while implementing the final project and others. These problems had to be considered not merely in the frames of the particular project, but rather in relation to the whole country’s financial system. It was significant to realize how these problems affect the decision quality made by investors not just in the case of the final project, but...[with] regard to all companies in Kazakhstan....[Our] understanding of financial analysis expanded to the scope of the environment and society we lived in.” - Student #1

Student #3 likewise experienced heightened cognitive presence as well as social presence. He recognized the sensitive factors of capital structure of the firm, realized the privilege of being empowered to choose and make decision, and the effective learning.

“[W]e *decided* to take a particular Kazakhstan company, and calculate all of the ratios for it... We also *decided* to make our presentation more interactive... [and] to encourage students to be more active... I understood more about the risk of the company and how it depends on the company’s capital structure... (italics emphasized)” - Student #3

Heightened social presence accompanied the heightened cognitive presence. Students recognized the motivation to solve problems as a community of learners.

“The process of working on the bonus projects was amazing... [W]e all were working in the groups, communicating, observing and looking for the solution together. We all received support... from each other. ... It was a terrific motivational tool for making everyone engaged in the process, discussions and conversations. The chance to give the lectures to other classmates makes you responsible for the information that you give to others, as you should understand everything concerning the topic and should be prepared to explain it in more detail. [The discussion, a] winning strategy in [learning, making] the class more volatile in reaction to the learning activities and new topics and are consistent with the studying procedure.” - Student #4

A key feature of authentic learning is the uncertainty. Student #4 anticipated the uncertainty (e.g., “more volatile in reaction”). Likewise, Student #5 experienced the same feeling.

“The whole course for me was like [a] jump. When I got those yellow cards and all supplementary materials, it seemed to be clear how, what and when to do the activities... However, soon you are totally disoriented and don’t know what to do. There is so much uncertainty and you don’t know how to start... [Teaching and learning] ease the educational process, as there is no need to research every question; some of them were already done by other students. At some point, I realized that learning became much easier. Finally, you see the result of an excellent job and realize that it was not as difficult as it seemed to be at some point.” - Student #5

4.3 Authentic Learning as Knowledge Development Stages

The four stages of learning, as conveyed by Student #1, actually correspond to the four types of knowledge, namely: the hard-pure knowledge learned from the lecturers; the hard-applied knowledge learned from cooperative learning and problem solving; the soft-applied knowledge, requiring intensive use of spreadsheets, advanced real-life approaches, and a high level of judgment; and finally the soft-pure knowledge where students took everything they learned and wove them into their new knowledge. Student #1 understood that the knowledge covered both the classroom issues and the wider context of society.

“Presentations of our co-learners demonstrated, using the example of existing companies, how to apply the theoretical materials introduced in Chapter 13. This involved an Excel spreadsheet application... to enhance our learning experience and develop our practical skills. [The] spreadsheet became the main part of every presentation ... to explain [the] practical side of every topic... Chapter 14 was introduced to widen our learning of broader, abstract and soft topics like accounting quality and forecasting... Additional bonus projects were undertaken to enrich our practical experience and go beyond textbook materials. These projects focused on assessing the risks of existing start-up companies. The objectives of the project were to learn how to obtain necessary information from online data directories and how to use historical information and statistics... It is significant to mention that softer skills and professional judgment were used during this task.” - Student #1

The construction of knowledge did not happen only through group projects. The reflection on the learning process was imposed as a means to construct knowledge. However, not many students (like Student #2 below), realized the importance of the thinking about the learning process.

“I didn’t like reflections; they took so much time... But work on projects was like *fresh air* for me. I liked them most, because we tried to be creative, innovative and tried to implement our knowledge from all fields. I wish we had more [of] that kind of work... [I also] liked that all our works were evaluated with comments. (italics emphasized)” - Student #2

Heightened cognitive and social presence also came from the focus-group discussions at the start and toward the end of the semester, the assignments, and the summative learning journey. This heightened presence, in turn, was essential to quality knowledge development stages.

4.4 Authentic Learning as Constructed Knowledge

The knowledge development stages underscore the knowledge constructed, which comes in the form of communal artefacts (projects and situated works) and which is created when teaching and learning methods connect the individual learners to the community of learners. Student #2 conceived the project as a breath of *fresh air*, going beyond textbook materials, enriching practical experience, encompassing knowledge from many fields, and empowering learners to be more creative and innovative. The emphasis is on collective and non-isolated knowledge structures. For instance, Chapters 13 and 14 were read not in isolation from other chapters that were also critical to the understanding of the valuation of the firm. The sense of connectedness and integration is the heart of constructed knowledge.

4.5 Authentic Learning as Empowerment

Constructed knowledge in authentic learning puts greater emphasis on collaborative inquiry and on the opportunities for students to make choices and create the epistemic artefact (e.g., the project). Students realized that collaboration and empowerment to make the learning easier (refer to the reflections of Student #3, Student #4, and Student #5).

The case study revealed that providing choices to students results in better learning because they see the learning as context-rich, diversified, and relevant to their needs and motivations. The empowerment is not limited to what is learned, but includes the environments (schools or classrooms), situations (formal or informal), and other traditional or non-traditional (radical) alternatives. Yet there do remain unavoidable mandates, such as, in this case, the focus on Chapter 13 and 14 and on weekly reflection on the learning process.

5. DISCUSSION

The case study has validated the four truth statements corresponding to the four issues in Figure 1. Firstly, authentic learning acts as an agent of change, helping students develop positive perspectives about the realities affecting them. Unlike traditional learning, authentic learning demands heightened cognitive presence, heightened social presence, and heightened (teaching and) learning methods. Such a triple heightened presence in turns requires (1) a community of learners, (2) the credibility of the facilitator and students, (3) the innovativeness of the facilitator, (4) the commitment of students to independent in-depth learning, (5) positive attitudes and beliefs of co-teachers and co-learners, and (6) a positive and empowered learning environment. All these elements make authentic learning curriculum design an art in development, facilitation and engagement.

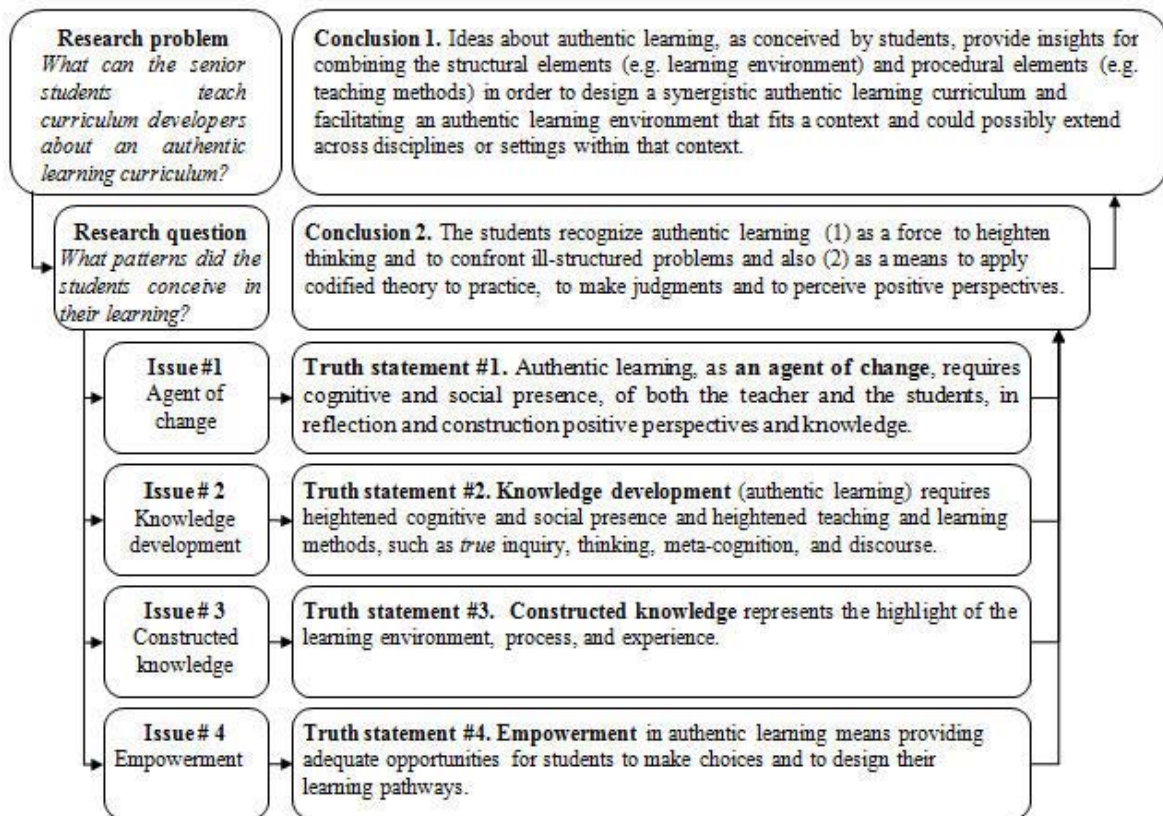


Figure 1. Argumentation

Back to the corollary question: *What patterns did the students conceive in their learning?* Student #5's description of authentic learning as a jump (a force) acknowledge its elements of instability and uncertainty. Student #1 expressed authentic learning as a means (a journey) to develop one's codified (hard) understanding of financial analysis first into judgmental (soft) understanding and later into something even broader and more abstract.

The researcher found that many students wanted to be challenged by authentic learning. That is, they were able to see the value of trying to solve the real-world problems with a community of co-learners. Thus, authentic learning is an agent of change worth contemplating.

The learning journeys examined reveal the readiness of students to commit to authentic learning (the first assumption in Table 1) and assume that the same commitment was not present in the students who withdrew from the course. But two students did not submit their learning journeys and could be presumed to have lower readiness, although they nevertheless passed the course. The fourth segment could be students who had the readiness but chose to withdraw due to peer pressure. The implied challenge is to find ways to reduce

negative bias so that authentic learning appears effective and meaningful.

A second assumption is that authentic learning cannot happen apart from the contexts and must be modified to fit the individuals, the small groups, the whole class, the course, and the institute of higher education. For instance, an Introductory Accounting for freshmen would require a different design from the FSA course.

A third assumption presumes that students learn better if the learning is relevant to their needs or interests. This takes for granted that students know what they want. Yet there is always the possibility that they might choose something that would not maximize their learning. The curriculum designer's concern becomes how to minimize this risk.

6. CONCLUSION

From the segment of students who remained in the section, the evidence shows that students recognized the alchemy in the course (Issue #1 in Figure 1). The authentic learning as an agent of change requires heightened cognitive presence and heightened social presence to be able for the co-teachers and co-learners to create positive perspectives from the micro level of the learners to the macro level of society.

Second, students evolved from passive learners to active learners through several stages. Aside from the heightened cognitive presence and heightened social presence, a third pre-requisite in the knowledge development stages is the heightened teaching and learning methods, such as true inquiry, thinking, thinking about thinking (meta-cognition), and discourse (Issue #2 in Figure 1).

Third, the construction of knowledge connected the in-here judgment with the out-there performance patterns of the firm. At the same time, the learning engagements were means to an end, namely, the summative assessments. Students appeared to recognize both the deterministic and instrumental perspectives. Thus, the constructed knowledge is the outcome of the authentic learning process. It highlights the learning environment and the teaching and learning process and experience.

Fourth, an essence of authentic learning is empowerment, which comes with providing students with adequate opportunities for them to make choices and to design their learning pathways, challenges, and experiences.

The co-teachers and co-learners in a community of learners need to have heightened awareness of these elements. The study affirms that only teacher who recognizes authentic learning would design and implement such a non-traditional curriculum, while only students with a positive biased toward authentic learning would remain and actively engage in the course. Furthermore, the study confirms that many senior Kazakhstani students have the readiness and the desire to be challenged by authentic learning. They see themselves becoming active learners in a nurturing authentic learning environment, and later on, experts in their chosen fields.

7. DIRECTIONS FOR FUTURE RESEARCH

Authentic learning can potentially cross-pollinate learning opportunities across disciplines (e.g., accounting, marketing and entrepreneurship) or across settings (e.g., learners belonging to multi-cultures). It also needs a different balance of informal and formal learning opportunities as people move across multiple life-spaces. It would be useful to look at how, when, and where learning occurs for people who straddle multiple life-spaces.

Authentic learning holds students responsible for conducting independent in-depth engagements and also holds the facilitators responsible for creating and nurturing a harmonious learning environment. These two assumptions, however, do not apply to students who refused to commit themselves. The future research could explore ways to capture the reasons for withdrawing from the course. Lastly, this exploratory study is of instrumental interest to positivist research as an agenda for future research.

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