Medical Students' Experiences of a Project Design

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Abstract
Human capital plays a major role in bringing about appropriate changes in the social and economic areas of a country. In this light, the first president of the Republic of Kazakhstan Nursultan Nazarbayev has launched the program *Ruhani zhang'yru (Spiritual Renewal).* This program embodies diverse activities oriented to trigger fundamental shifts in people's mind such as the translation of international books into Kazakh, the transition from the Cyrillic to the Latin script for the Kazakh language and other components that would help modernize the culture. Education is one of the key tools to accelerate such a paradigm change. In light of the above Karaganda State Medical University with its approximate 8000 students is contributing to the realization of the *Ruhani zhang'yru* program. A pilot project has been launched at the department of the History of Kazakhstan, whereby 25 medical students from the General Medicine specialty have been taking part. Their research interests are dedicated to examining possible issues that may hinder the paradigm from changing successfully. The students conducted their research over a ten-week period from October, 2018 to December, 2018, when they presented their results. Overall, five focus group discussions and 25 surveys were conducted to explore this phenomenon. The advantages and disadvantages of the pilot project will be presented at the IAFOR ERI conference to receive feedback from the participants. This will be helpful in improving the structure of the pilot project and making it more efficient for next year.

Keywords: project design, public consciousness, students' experiences

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Introduction

Rukhani zhang'yru [translated as spiritual renewal; hereinafter referred to as the Program), which was established by the first President Nursultan Nazarbayev (hereinafter referred to as the First President) contains a pivotal clause that calls upon the engagement of the Kazakhstani nation as a whole. As the First President mentioned in the Program the major political and economic modernization plans have been undertaken and now the third wave shifted focus to the modernization of consciousness (Nazarbayev, 2017). Indeed, it is a long and implicit process that is difficult to measure. Nevertheless, the First President identified the six dimensions that would be incorporated in the modernization of consciousness and suggested six projects to develop the program further.

The first dimension is "compatibility." The First President believes that, at minimum, the Kazakhstani nation requires the three skills related to computer knowledge, foreign language proficiency, and cultural openness (Nazarbayev, 2017). The second is "pragmatism", which is significant to the current study because it is related to the altering of some stereotypes and habits. Stereotypes are ingrained in almost every sphere of life and shape the way people choose their major, educate themselves, participate in sports, and conduct themselves within their families, and it is only by changing previously formed some stereotypes that we can move forward as a nation. The third dimension is the "maintenance of a national identity" by eliminating some elements currently present in the Kazakhstani culture that precludes the harmonic development of the society. The fourth is "cult of knowledge", which also relates to this study since education is instrumental in the development of critical thinking skills that, in turn, nurture flexibility and adaptability skills that help the individual to deal with constant changes. The First President has underlined the significance of education because the younger generation has to be prepared to readily upgrade their qualifications and adjust to permanent global changes (Nazarbayev, 2017). Finally, the fifth and the sixth dimensions have similar content, suggesting the necessity of making wise decisions regarding global issues and to being open to learning from foreign experiences respectively. This is very important as more than 100 different nationalities reside in Kazakhstan, and over 70 of these nationalities have lived in peace as one family, and this should be sustained.

Regarding the six projects suggested by the First President, several activities have been conducted at both national and international levels to introduce the Kazakh culture to the rest of the world; the implementation of these would be better covered in a separate article.

At Karaganda Medical University, university leaders have launched small projects through a project-based learning approach where students identified areas of social issues, hence, providing them the space to formulate their research. This ensures sense of ownership and responsibility for their own projects. It has been recommended that they communicate with each other as well as with other groups of students who have reached different phases in their academic pursuits in Russian, Kazakh and English medium educational establishments. Through this they will interact and develop cultural openness and improve their language proficiency skills, both of which are aligned to the dimensions provided in the Program.

Literature Review

A project-based learning (hereinafter referred to as PBL) is a convenient approach to explore different social issues within the frame of the *Rukhani zhang'yru* program objectives. International experiences show that this approach has been employed to engage learners in a way that triggers their interest in current social problems via their involvement in projects at the school level (Holthuis, Deutscher, Schultz, and Jamshidi, 2018), through the collaboration efforts of schools and universities (Hunter and Botchwey, 2017), in addressing existing issues with members of non-governmental organizations (Banakhr, Iqbal and Shaukat, 2018; Deepamala and Shobha, 2018; Arantes do Amaral and Lino dos Santos, 2018), and by improving students' soft skills by launching long-term projects (Hamon, Casani, Pomeda-Rodriguez and Albacete, 2017). On that account, this study used project-based learning (PBL) to explore issues that impede the social development, and thus, the modernizing of public consciousness, according to the students' findings.

Another convenience of the PBL as it applies to this study, is that the research design can be developed, and then adapted for any component. For example, a study undertaken by Kazun and Pastukhova (2018) presented five countries' experiences using PBL. It was found that in Finland, PBL is used to develop social and communicative skills. Furthermore, in France, the main focus within the implementation of PBL was applying the research results for industrial and practical purposes. In Australia, the PBL approach was oriented to the development of innovation technologies, whereas in China it was utilized to address ecological issues and to enhance foreign language acquisition. On top of that, in the USA, most forms of PBL are utilized in project-based experiences and in schools and universities, this approach is largely employed. These experiences show that depending on weaknesses or areas in need of improvement, PBL can be employed, adapted, and developed by project participants. In the Kazakhstani context, the best projects launched by students might be further explored by other undergraduate students or scholars studying at the master's and doctoral levels.

During collaborative work different roles emerge among the participants. The students of this study were allocated greater freedom to run their own projects. This means that there was no tutor to distribute tasks equally among them. In this regard, they were responsible for setting the time-frame for each section of the project, assigning the various tasks, and maintaining discipline. This entailed the emergence of the diverse behaviors and attitudes of peers while examining social issues. For instance, Zavyalova and Saginova (2017) in their study at Plekhanov Russian Economic University (Moscow, Russia) have found different types of student behavior during completion of their project. This project required much effort on the part of the participants to get along with others, and in this respect, the authors have pinpointed four types of behaviors. The first is 'chalyavsh'iki' [translated from Russian to mean *freeloaders*]. These are students who mainly rely on other students work without contributing their own labor to the work. The second type is the 'dictator.' These are leaders that have concerns about and are distrustful of the other group members, and thus attempt to undertake all initiatives and tasks themselves. The 'procrastinator' is the third type. These students postpone their work to the last moment and cause tension among their groupmates. The final type is the 'zhalobsh'iki' [or *complainers*]. As the name suggests, they continually complain

about their assigned work to their groupmates. Hence, these are the major behavioral types which were noted by Zavyalova and Saginova (2017), and which appear during the implementation of project-based learning. In this regard, Kazakhstani students are no exception. Their possible and unconscious behavior with the four types of behaviors, has been researched in this study.

Hence, this study aimed to explore students' experiences with project design. This paper consists of two sections. The first is the methodology, and the second is the findings and subsequent discussion. In the conclusion section the main experiences of the students are presented.

Methodology

This is a qualitative study that helps to examine a particular issue in-depth and highlight participants' perceptions of the process (Creswell, 2012). A survey questionnaire and focus group discussions were employed to explore students' experiences regarding PBL. The survey consisted of twelve questions, nine of which were related to their project experiences. The focus group questions were related to the challenges and the overall process of conducting the project. In this regard, 23 out of 25 students took part in the survey and focus group discussions; two students were absent due to health issues. 65% of the respondents were female and 35% were male students. Their age varied from 17 to 23 years, the majority of whom 48% (11) were 18 years old and 36% (8) were 19 years old. In addition, in order to develop a holistic picture of students' experiences, their contribution to the project was observed weekly. These results were evaluated by the Vice-Rector for Education, who, after presentations given by the students, provided them with feedback regarding the strengths and weaknesses of each project according to a prepared rubric. The survey questions that were closed-ended were purposefully unused in order to avoid imposing prescribed prejudices on students. Document analysis was undertaken and encompassed the students' project materials.

Findings and Discussions

The members of the student theme were diverse. They struggled to form the theme because they encountered challenges defining their idea of the modernization of consciousness. After thought provoking discussion, they came up with the following areas of research. The first group decided to explore students' sport habits. This was related to whether they practice sports, how often, what kinds of sports they practice, and whether they exercise in the morning. Additionally, they looked at whether there is enough sporting equipment at university campuses. The second group decided to explore students' superstitions that could come up during exams as there are many superstitious beliefs in the society. They examined students from first to fifth year of university and found some interesting facts. The third group came up with the idea of examining the extent to which values between the students and their parents vary. This group interviewed their parents, and from their responses, generated statistics regarding the respondents' values, and then used this model to create a values scale. The fourth group was concerned with the necessity of including social sciences in the curriculum of medical students. By the end of their research, this group understood why subject matters related to the social sciences are important to them. Finally, the fifth group was interested in competencies. Their main interested dealt with

comparing how local and international students tried to identify the list of core competencies of medical students. Students narratives regarding their experiences and research findings is expected to be published in another article which is on the process of negotiation.

The research results revealed inconsistencies between the data collected from the survey and focus group discussions, and weekly observations of the students accomplishing the tasks designed to fulfill the requirements of the project. After making decisions regarding elements of the project work with the students, informal talks with group leaders helped to counteract the indifference of some students. A work plan was prepared (a table with empty lines) where each week, before at the start of the class, students listed the project-related tasks that were to be done either individually or in their group. This sheet was developed for each group with the aim of having students learn to plan their work in advance and take the responsibility of finishing the project on time. In order to avoid placing pressure on the students, the sheets were left on a table and filling it in was optional. Two of the groups had members that have written their reflections on the project and printed them out for each member to read. Yet another group failed to enter anything in the work plan, either before or after their project presentation. However, in the survey 92% of the respondents stated that they had met once a week, whereas 8% pointed out that they had communicated through the mobile application, *WhatsApp*.

The confidence of students regarding their conducting this project was underpinned by their previous experience. Informal talks with the students before launching the project showed that they are familiar with research methods since they studied them in a previous sociology class, which they took during their first year of studies. According to the survey, 30% of respondents mentioned that their decision to join this project and become members was based on their previous experiences, for instance, as this extract pointed out:

because I did a project with this group last year (Survey_Student_3, Male_19_years old)

The survey results confirmed that 65% of the respondents have experienced conducting project work versus 35% who have not. Those students who lacked project work experience seemed to face challenge just building a project team, for example, 22% of the respondents stated that they joined their group accidently, as this extract shows:

The five of us remained without a group, and this is how we became a group (Survey_Student_10, Female_19_years old)

It seems that this approach of grouping members for the project placed those who are sensitive to conducting this type of work with others in a difficult position. The following extract indicates that not all members were involved in group work:

The tasks were distributed according to form, but in reality, all the work was done by one person (Survey, Student_10, Female_19_years old)

This state of affairs lacked an explanation as to why this problem was not raised in a timelier manner. The only response that could be allocated to this was that it was due to the characteristics of the 'complainer' behavior provided by Zavyalova and Saginova (2017) and referred to above; however, this could also have been caused by the "dictator" or leader who suffered due to a lack of trust among her or his peers. Nevertheless, 48% of the respondents adopted a rational approach in selecting their group members. They mentioned the different characteristics of their peers that attracted them to invite them to join the groups. Among these characteristics are motivation, tranquility, open-mindedness, similar interests, and diverse skills. Here is a short extract that pointed out some of these characteristics:

They were really open-minded and responsible people (Survey_Student_8, Female_18_years_old)

As can be seen, this experience of the students indicates that from the early stages of the project, they took their responsibilities seriously and adopted a rational approach in selecting the most suitable teammates to work with. It seems that their previous experience helped them to understand that project completion depends on the responsibility of group members as well as individual contributions. The importance of the choice regarding whom they wanted to complete their project with was directly related to their strategy. Survey results showed that 92% of respondents distributed tasks among themselves, as mentioned in this extract:

Some did the survey, some did interviews, some create discussion questions (Survey_Student_20, Female_19_years old)

The same responses were consistent in focus group discussions. The students found this to be a very convenient and efficient method of working together. Here is the extract that pointed this out:

We have divided everything at once. You will do this, you will do this, and we laugh to our presentation because in each page we wrote "You [name of a student] will do this". Then everyone conducts own part. Then we explain each other (Focus group_4, Student_1, Female)

This way of selecting of group members and the subsequent division of roles places pressure on each participant because they do not wish to fail their friends and teammates, who relied on him or her. Nevertheless, the observation of one another's other skills and consequent delegation of tasks was done according everyone's capability, as this extract shows:

We worked together before, therefore, we know each other's skills (Focus group_4, Student_2, Male)

In addition, they developed a sense of trust towards each other during the practical class where before each class, they played team-building games. Besides giving a presentation, students have to draw a concept map with their peers, write reflections on articles they read, and search for answers and information from these articles. These activities require diverse skills in timing and presenting the provided

information accurately. These events seem to have had an impact on the project work, as this extract from focus group discussion presents:

Conducting work in team was easy because we played team-building games every week during practical class. We learned to work with different people. Then we found out who the best speaker is, and who the best writer is. It helped us to distribute tasks among our members in such order as " you will do this; you will do that." This is how we completed our project quickly (Focus group_2, Student_2, Female)

In these extracts the word 'we' causes ambiguity. How could they all can decide at once? One of the respondents in survey mentioned, for instance, 'our leader decided it' (Survey, Student_2, Female_18_years old), pointed out that there was someone whom they trusted to delegate all the tasks, hence, the role of the leaders in this study referred to as the 'dictator that was found in the study by Zavyalova and Saginova (2017). However, this task distribution has also created obstacles to their team work. According to the survey, 30% of the respondents mentioned difficulties in building a common understanding among their group members, 22% mentioned the incommensurability of individual characteristics, and 8% found it challenging to find a suitable time for everyone. Focus group discussion also revealed this issue, as the following extract points out:

We had a lot of misunderstandings among ourselves during the project (Focus group_2, Student_5, Female)

These are related to challenges of team work, whereby the division of responsibilities created some tension between some participants as 13% mentioned that they had experienced difficulties in conducting literature review, and 17% mentioned such difficulties arising during the data collection and analysis. In the former the students were even challenged during practical classes because of a school experience of recalling information, whereas in the latter, they lacked the experience in these tasks. The analysis and synthesis of the reading material, as it appeared in the project work, was the most difficult part for these students during the practical classes. This was also visible during their presentations, as the vice-rector's feedback for all five projects pertained to a lack of data interpretation skills.

One of the questions was allocated to having the students determine the most enjoyable part of the project. Interestingly, even though they were familiar with research methods, 87% of the respondents mentioned that this was the data collection process. By interviewing medical students in different years of studies, from different mediums of instruction – English, Kazakh and Russian and even international students, they experienced another communication format. This format had them posing the types of questions that they might never have asked their peers before in their informal communication with them. The remaining 13% enjoyed the process of preparing and rehearsing their presentation with their friends. This is also enabled them to bond together.

The final two questions were related to the new skills they have obtained and their suggestions for the next group of students. 87% of students mentioned that as a result of this project, they have improved their public speaking skills, and 13% stated that they have gained data analysis and information-searching skills. In searching for

information, articles were selected from credible resources such as Scopus, Web of Science, and Elsevier.

In terms of suggestions, here again, the previously mentioned inconsistency in student responses emerged; for instance, despite the fact that 92% of the respondents mentioned that they had met weekly, 70% suggested completing the work on time without leaving tasks to the last minute, as was pointed out in this extract:

Work every day because time moves on and does not return (Survey, Student_22, Female_18_years old) or Work steadily on small tasks and do not to leave everything to last minute (Survey, Student_10, Female_19_years old)

Although these extracts contain positive advice they were based on the students' own experience. From this, it appears that the students completed their work at the last minute, and this was the reason for most students neglecting to fill out the work plan that was provided at the beginning of the semester for them to utilize optionally. In addition to this one, another three possible strategies that emerged from the suggestions included 'asking advise from a tutor', 'working as independently as well as in a team', 'being proactive and having some original ideas to conduct research'.

To conclude, according to research that was conducted by Kazun and Pastukhova (2018), PBL was used in five countries for different purposes, and this study enlargens the area of PBL by employing it to explore implicit believes and stereotypes in society, thus, contributing to existing knowledge.

This study uncovered three out of the four of the suggested behaviors of students that arise during project work that were highlighted in Zavyalova's and Saginova's (2017) study. These were the "complainer," "dictator," "procrastinator." The division of responsibilities among participants helped them to avoid having 'chalyavsh'iki' members who are those who do no work, but instead merely benefited from other people's work. This is why it is beneficial to remind students to fill in the weekly work plan, even if this is not required, as this would help them realize the extent to which they contributed to the project overall.

Conclusion

To sum up, this study employed project-based learning to enable students to explore issues that are ingrained in people's minds due to the inhibition of modernizing trends and ideas being acceptable to them in a way that affects their consciousness. The students' experiences conducting this project indicate that, to some extent, they were overly confident because of their previous experiences with research methods in their sociology courses. Their previous ideas of team work were vastly altered by this experience. Yet they maintained a sense of responsibility for their own part, which prevented them from seeing the project as a whole process. This also related to a lack of experience in analyzing data. Despite the fact that they stated that they attended regular weekly meetings, their suggestions emphasized the fact that they conducted their work at the last minute, which created some tension and misunderstandings among each other. The leaders were responsible for the project, overall, and they delegated their tasks among members by taking on the role pf 'dictator'. Though there were complainers as well, they were a minority. There also have been a leader who,

instead of delegating and trusting her group members, took everything in her own hand to make sure that the project would be completed on time. Lastly, there were 'procrastinators', people who said that they did not have enough time to complete their work and postponed meetings because their tasks had not been completed by due date. Nevertheless, students' experiences emphasized the fact that the delegation of tasks among members eliminated the fourth type of behavior, '*chalyavsh'iki*.' Hence, in the early stages of the study, it was better to prepare a work plan where students had to fill out what was done weekly, because, even though some students neglected it, most of them understood that each student's contribution will be questioned at the end of completion. Therefore, they tried to show in focus group discussions, in their presentation and even in their survey results that everyone was engaged in the process.

The limitation of the study is that it was used only at the level of one university with a small scale of participants, which presented limits to the drawing of a solid conclusion. This pilot project experience, nonetheless, serves to frame structure and procedure of further projects. For the next project, the area of research could be expanded to a collaboration with schools as was done in the study by Hunter and Botchwey (2017), or to invite other non-governmental organization as was done by the following scholars, Banakhr, Iqbal and Shaukat (2018), Deepamala and Shobha (2018), and Arantes do Amaral and Lino dos Santos (2018).

References

Arantes do Amaral, J.A., & Lino dos Santos, R.J.R. (2018). Combining Project-Based Learning and Community-Based Research in a Research Methodology Course: The lessons Learned. *International Journal of Instruction, 11* (1), 47-60.

Banakhr, F.A., Iqbal, M.J., & Shaukat, N. (2018). Active Project Based Learning Pedagogies: Learning hardware, software design and wireless sensor instrumentation. *IEEE Global Engineering Education Conference* (EDUCON) (pp.1870-1874), 17-20 April, Santa Cruz de Tenerife, Canary Islands, Spain.

Creswell, J. (2012). *Educational Research: Planning, conducting, and evaluating quantitative and qualitative research* (4th Ed.). Pearson.

Deepamala,N., & Shobha, G. (2018). Effective approach in making capstone project a holistic learning experience to students of undergraduate computer science engineering program. *Journal of Technology and Science Education*, 8(4), 420-438.

Nazarbayev, N. (2017). *Vzglyad v budush'ee: modernizatsiya obsh'estvennogo soznaniya* [*Modernization of public consciousness*]. "REGIS-C-CT Poligraf", Astana, pp.29-55

Hamon, L., Casani, F., Pomeda-Rodriguez, J., & Albacete, R.O. (2017). Project-based learning in the teaching-learning process university. A longitudinal study. *SHS Web of Conferences, 37*, 01077. doi:10.1051/shsconf/20173701077

Holthuis, N., Deutscher, R., Schultz, S.E. & Jamshidi, A. (2018). The New NGSS Classroom: A Curriculum Framework for Project-Based Science Learning. *American Educator*, 23-27.

Hunter, P.E., and Botchwey, N.D. (2017). Partnership in learning: A collaborative project between higher education students and elementary school students. *Innovation in Higher Education, 42*, 70-90.

Kazun, A.P., & Pastukhova, L.S. (2018). Praktika primeneniya proektnogo metoda obucheniya: opyt raznych stran [The practices of project-based learning technique application: experience of different countries]. *Obrazovaniye i Nauka, 20* (2), 32-59. doi:10.17853/1994-5639-2018-2-32-59

Zavyalova, N.B. & Saginova, O.V. (2017). Proektnaya rabota studentov: kak uluchshit rezultat [Students' project work: how to improve the result]. *Kreativnaya ekonomika, 11* (9), 943-952. doi:10.18334/ce.11.9.38328

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