A Mixed Model Study on Perception Towards Outcome Based Education from Graduating Scholars in a Private University

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Abstract

Outcome-Based Education (OBE) is now identified as essential to excellence in education. OBE can be described as the transparent application of a set of measurable criteria in setting a standard of proficiency. The students' perception is the most crucial part as they are the medium of the system, as they are the ones who undergo the system thoroughly, and are the final product of the OBE system. Thus, their perception will directly show the effectiveness of the OBE system. This study focused on students' perception on OBE system that had been applied in KPJ Healthcare University College (KPJUC) since 2014, in terms of students' understanding and academic achievement. This is a mixed model study, which consisted of quantitative and qualitative study. A descriptive method of analysis was used, wherein the quantitative data were gathered using questionnaires and a survey interview was done as a qualitative supplementary data. The findings of this study discovered that the students have a positive perception toward the system.

Keywords

outcome based education, students' perception, education system

1. Introduction

OBE is an education philosophy that focuses on the graduate attributes or outcomes after completing an academic program (Spady, 1994). The desired outcomes are determined first and the program curriculum, teaching and learning methodology and supporting facilities are designed to support the intended outcomes. The students' achievements of the outcomes are measured during the course of the study and after the students have graduated. Most studies have focused solely on the system; formation of the curriculum, preparation for implementation of the system and preparation of instructors. But there is a notable lack of studies that focused on the students' perception on the educational system. Thus, this study focused on students' perception on OBE system in terms of students' understanding

and their academic achievement.

OBE requires the students to demonstrate what they have learned, the required skills and content. OBE is a recurring education reform model. Higher education is pressured for continuation of quality assurance or quality enhancement of teaching and learning due to the potential students demanding high profile programs that will enhance their prospects. Hence, the challenge lies on how the higher institution provides the relevant approach to teaching that will address those aspects that bear upon teaching and learning (Guico & Dolor, 2013).

As defined by Killen (2000), there are two main types of outcomes in OBE. The first highlights on measurement of coursework, examination results, proportions of course completion and employment upon graduation, while the second performance indicator is less tangible, commonly required the learners to express what they have learned and capable to perform as a result of completing their education. It places greater focus on long-term outcomes leading to the future career success of the learner. OBE consists of four main principles (Brant, 1992); clarity of focus, expanded opportunity, high expectations and design down.

The objective of this study is to determine the students' perception toward OBE system that has been implemented in KPJ Healthcare University College, Kota Seriemas, Nilai, Malaysia since 2014.

2. Literature Review

The meaning of the OBE has been a subject of much debate. To bring some clarity to this mélange of meanings and models, it can be done by looking systematically at the term outcome based education itself. The meaning based on Oxford Advanced Learner's Dictionary of the term "outcome" is the result or affect of an action or event. Then "based" is containing something as an important part or feature. The combination of "outcome" and "based" showed that the approach will depends on the result that the learner should learn at the end of the course/study. Next, "education" is a process of teaching, training and learning, especially in schools or colleges, to improve knowledge and develop skills.

The OBE model, like other restructuring models, relies on a complex change process that makes excessive demands upon resources. Chelliah (2011) stated that the extensive planning process may require more time than others would like to use. The desired outcomes are determined first and the program curriculum, teaching and learning methodology and supporting facilities are designed to support the intended outcomes. There are several bases for designing curricula: the nature of the subject disciplines, the knowledge for transmitting the culture, the skills for reconstructing society, the nature of cognition, and the needs of the individual (Tritton, 2008).

Learning is no longer based on year levels and the belief that students must succeed in a set period of time. The implementation of OBE which promotes the practice of constructive alignment between outcomes learning activities and assessment tools needs an environment where all stakeholders are engaged in the process of transformative reflection and constant action. OBE provides a platform of making teaching and learning process more explicit and transparent to both teacher and students

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(D'Andrea, 2003). Each of these participants reflects in interaction with the others in three domains: educator and student, educator and institution, student and institution that would have built-in quality enhancement and mechanisms for not only assuring quality but for enhancing quality (Biggs, 2007).

KPJUC has implemented OBE in its teaching and learning strategy in 2014. Apart from the three learning domains, namely: cognitive, psychomotor and affective, KPJUC has also emphasized that students achieve eight learning outcomes as determined by the Malaysian Ministry of Higher Education (MoHE) which are important in providing wholesome quality education to students.

3. Method

This study is a mixed model research, in which the researchers mixed both qualitative and quantitative approaches within a stage of the study based from Creswell et al. (2011) on Best Practices for Mixed Methods Research in the Health Sciences. For the quantitative method, a questionnaire was prepared to determine the students' perception on OBE system and to correlate it with their academic achievement. The participants are 19 graduating students in 2016, which comprised of the first cohort students of Bachelor of Medical Imaging (BMI) and Bachelor of Physiotherapy (BPY) in KPJUC. The questionnaire was adopted from the program learning outcomes of Faculty of Health Sciences. The questionnaire consists of; Part A: demographic data which included current GPA and CGPA and Part B: questions related to extent of achievement of all program learning outcomes with the scale as follows: 1) Weak; 2) Moderate; 3) Good; 4) Very Good; 5) Excellent.

For the qualitative method, a set of open-ended interview questions were constructed by the researcher and were based on two themes; Theme 1 on students' understanding of OBE and Theme 2 on the relationship between OBE and academic achievement. Eight individuals were called but only three persons completed the interview. These interviews were confidential and coded in similar manner as the quantitative data, so that synchronization between it could be easily accomplished. The interviews were conducted via phone call after the students' graduation, based on their availability and willingness to participate. The whole interviews were recorded.

4. Results

4.1 Quantitative Study

A total of 19 students participated in the study. This part presents the demographic data gathered from the answers of the respondents. The data gathered were tabulated and presented with the analysis and interpretation for better understanding. Table 1 demonstrates the distribution of the respondents in terms of gender, age, academic achievement GPA and CGPA in the current semester.

Table 1. Demographic Profile of the Respondents

Gender	Frequency (n)	Percentage (%)
Male	2	10.5
Female	17	89.5
Total	19	100.0
Age	Frequency (n)	Percentage (%)
23	1	5.3
24	10	52.6
25	2	10.5
26	4	21.1
27	1	5.3
29	1	5.3
Total	19	100.0
GPA	Frequency (n)	Percentage (%)
2.50-3.00	5	26.3
3.01-3.50	8	42.1
3.51-4.00	6	31.6
Total	19	100.0
CGPA	Frequency (n)	Percentage (%)
2.50-3.00	3	15.8
3.01-3.50	9	47.4
3.51-4.00	7	36.8
Total	19	100.0

A total of 19 respondents participated from BMI and BPY and with majority of the respondents are female. Their ages range quite far due to different background experience, which most of them had a diploma background and some of them had work experience. It is shown that most of the students are moderate to high achievers.

Table 2 presents the mean score of the perception of the students (n=19) on OBE.

Table 2. Descriptive Statistics on Program Outcomes

PO	Mean	Variable Interpretation	Std. Deviation
PO1 I can demonstrate the fundamental knowledge and skill in the field of study.	3.68	Good	0.89
PO2 I can perform procedures safely and competently.	3.74	Good	0.73

PO3 I am able to seek, adapt and provide solution to address challenges in this field.	3.63	Good	0.83
PO4 I can communicate effectively with patients, relatives and other healthcare professionals to provide quality patient care.	4.16	Very good	0.77
PO5 I am able to collaborate with other healthcare professionals and perform as an effective team member.	4.00	Very good	0.88
PO6 I can practice within the ethical framework of the profession and comply with the legal and professional code of conduct in this field.	3.68	Good	0.82
PO7 I can conduct research under supervision utilizing ICT skills and embracing life-long learning.	3.58	Good	0.96
PO8 I can demonstrate awareness and understanding of management, business practice and entrepreneurship.	3.74	Good	0.87
PO9 I can demonstrate leadership skills and develop individual growth and responsibility to community.	4.00	Very good	0.88
Composite mean	3.80	Good	

The Program Outcomes (POs) receive the minimum mark of 2 and the maximum mark self-graded by the students for all POs are 5. The mean calculated for all POs is approximately around 3.50 to 4.16. As shown in Table, PO4 has the highest mean (S.D) of 4.16 (0.77) and PO7 has the lowest mean (S.D) of 3.58 (0.96). It can be observed from the table that the students have clear perception on OBE having a composite mean of 3.80. All the items yield low to high mean ranging from 3.00 to 3.99 interpreted as good, while a mean score of 4.00 and above is interpreted as very good.

4.2 Qualitative Study

Supplemental qualitative data was obtained from interviews conducted by the researcher after the participants complete the questionnaire. The participants of this interview were chosen randomly among the 19 students who participate in the quantitative study. Out of eight calls, three complete interviews were transcribed and used for analysis. This is due to lack of time and declining participation on interview session by the participants. The interviews were done with Participant 1 (P1) on 19th February, Participant 2 (P2) on 20th February and with Participant 3 (P3) on 21st February 2017.

The interview questions explored the participants' understanding and comparing OBE with traditional approach, perceptions, satisfaction and how OBE may have played a role in their future careers. Understanding and relating OBE with achievement can be a challenging process where it started from the beginning of the education journey itself and may be a long-life experience. This may become a barrier and bias toward research as all of the respondents are from BMI and had a diploma background. As expected by the participant, their defining of OBE was similar and consistent with the basic definition of OBE. Interestingly, OBE can be easily understood but it is systematically organized and

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practical to achieve its successfulness.

"*OBE is the first thing that comes in learning, … where everything you need to do by your own (as a student) but with lecturer guidance then we have to explore...*" (P1).

"*OBE is like a feedback in which it is what student should learn in every chapter of learning*" (P2).

"*OBE is an education where student have to achieve the outcome of the subject*" (P3).

The exposure to OBE varied according to participants' respective former education center and also depended on extends of accentuation of OBE toward students by the former educator(s).

"*I'd been exposed to OBE since diploma*" (P1).

"*I'd never been exposed to OBE, but actually I'm not sure if it's OBE or not, because the learning outcomes had been given but I never know that it was OBE*" (P2).

"*So much of exposure in classes (degree), not more than that*" (P3).

In other words, the participants had undergone OBE system but were not aware of it, due to minimal accentuation by the education center throughout the course of study in the institution. The effect of OBE in their studies also relied on each individual themselves, as they have different ways and strategies of learning in different circumstances, as stated by Zain, Hadi and Hamid (2016).

Quoting P1, "*In my opinion, it does depend on students themselves, there's a few student who are hardworking to explore on the outcome by their own and there are some student who are lazy and just depend on their friend*".

P2, quoted "*Yes, definitely!*" that she felt that OBE has given her more exposure and increased her understanding in her study.

On the other hand, quoting P3, "*Yes, quite a lot (OBE has given her more exposure and increased her understanding). When we study according to OBE, you can understand more and learn more*".

In terms of the acknowledgment and differentiation of OBE approach to the other traditional means, the participants' responses are quoted as below:

"*The difference that I noticed between OBE and the traditional approach is, the traditional approach is more like 'spoon feeding' where everything is given by the teacher and student will keep on receiving, but in OBE, we need to learn by our own and we will not be focusing on one topic to understand, we will also be searching for additional information*" (P1).

"*There's difference between OBE and other approach, where in diploma more to lecturer centered but in degree OBE forced us to study on our own and search by our own where lecturer just facilitate*" (P2).

"*I can't differentiate much because I never undergo traditional approach as long as I remember*" (P3).

Moving on to Theme 2, on the relationship between OBE and academic achievement. One way to know the successfulness and the feedback of OBE from the students is by relating OBE with their academic achievement. As the academic achievement one of the measurements of students' understanding.

"*The OBE affecting in my study in just fine, ok as it is for undergraduate student like us, we are not*

school student anymore, we need to be independent, and will improve in how we search for information and do not depend on others and so on" (P1).

"*OBE help me a lot in time management where I can focus in each topic in more detail*" (P2).

"*OBE really did help me a lot in my academic and knowledge*" (P3).

OBE emphasizes the necessity of a structured curriculum that is organized and practical, with the purpose of generating a versatile graduate who can understand and master the said curriculum. Education institutions are being tasked to provide their students the knowledge and skills that will match the industry requirements. Thus, did the student felt the same thing about OBE and their future profession?

"*OBE makes me become more independent*" (P1).

"*OBE motivate me to be more proactive and more eager to know which help me in my work to be more focus and manageable*" (P2).

"*OBE did prepare me well in my future profession in a holistic way. Not only focusing in medical imaging but also polished in managerial and entrepreneurial skill*" (P3).

Every development needs an improvement because nothing is perfect. Particularly, when it goes to development of education system, it is about shaping the future human race. Thus, the researcher asked if there is any improvement needed for the OBE implementation based on their experienced.

"*So far so good, but still in need of lecturer guidance, so that student won't be lost*" (P1).

"*OBE need to be linked with a few references and websites to facilitate students*" (P2).

"*The OBE implemented was good, but the lecturers need to emphasize that what is OBE all about, so that student would understand*" (P3).

Lastly, the researcher asked directly to the participants, what are their personal perceptions toward the OBE system implemented in KPJUC?

"*Yes, I think OBE is the best way of learning, we will not become a receiver anymore, student will becoming more diligent*" (P1).

"*OBE give an effective impact to student by making student be more focus, and self-learning is more effective in memorizing*" (P2).

"*Yes, OBE is the best approach of learning in my experienced, as I learned to depend on myself and always be ready and confident*" (P3).

From the interviews and questionnaire answering, OBE gave positive results based on the feedback given by the participants through quantitative and qualitative studies.

5. Discussion

5.1 Quantitative Data

The results of the study were described in terms of descriptive statistics (mean and standard deviation). Based on the data gathered, the students have positive attitude towards OBE, in terms of knowledge, reaction and acceptance level.

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According to Table 2, the respondents are generally satisfied with all the POs as seen by the interpretation ranging from good to very good. PO1, PO2 and PO3 showed the mean range from 3.60 to 3.75. It shows that in terms of knowledge, procedural skills and problem solving skills, the students are confident enough as they had undergone an ample duration of time for theoretical and practical training. Based on the PO with the lowest standard deviation (PO2, 0.73), the consistency of satisfaction is the highest, showing that in terms of performing procedures safely and competently, the students are well assured.

Communication wise, PO4 shows the highest mean of 4.16 which indicates very good perception by the students. The ability to communicate and connect with patients and health care professionals can help build relationships, prevent mistakes and provide a higher level of care. According to a 2013 study published in the Journal of Patient Safety, as many as 440,000 people died each year from preventable medical errors, representing the third leading cause of death in the U.S. on the list from the Centers for Disease Control and Prevention (CDC). Of deaths due to medical errors, the Joint Commission estimates that 80 percent of cases involved miscommunication (Neese, 2015).

Collaboration in health care is defined as health care professionals assuming complementary roles and cooperatively working together, sharing responsibility for problem-solving and making decisions to formulate and carry out plans for patient care (O'Daniel, 2008). Unfortunately, nowadays many health care workers are used to poor communication and teamwork neither in public nor private sector, because of a culture of low expectations that has developed in many health care settings. Surprisingly, the finding for PO5 shows the mean of 4.0, which indicates a very good level of satisfaction from the participants. This may due to nature of study program of bachelor students that only go for clinical attachment during Semester 4 and 8 of their whole four-year course thus, they were minimally exposed to and experienced in the real clinical setting. Everything learned during clinical attachment was regarded as new to each of them. Hence leaving a positive perception of satisfaction, especially in terms of problem-solving and decision making process throughout the care of patients.

Health-care providers encounter ethical conflicts, uncertainty or distress in their everyday practice. Continuous changes in the health care system, in areas such as technology, and changes in values contribute to these ethical dilemmas. It is important for each of individual to practice within the ethical framework of the profession and comply with the legal and professional code of conduct in the field. The respondents agreed with PO6 with the mean of 3.68. Ethical issues are one of big issues nowadays for healthcare in Malaysia. With the technology at the tip of fingers, everything can be misunderstood and go viral.

The lowest mean of 3.58 goes to PO7. We may define "research skills" as the ability to identify a problem, determine what sorts of informational resources are needed to respond to the problem, find those resources efficiently, evaluate the gathered information for quality and relevance, and use the information effectively to address the problem. As a result, promoting research and ICT skills in employment is an increasingly important goal of policy makers looking to harness the economic and

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social potential of these technologies. On behalf of the student, research is a new knowledge to be applied that has only learned in fourth year of their study program and time constraints can be the factor of the students not digesting every bits of research and incorporating in their research activity. The aim of students is mainly to complete the research in one semester, than actually applying it from understanding the whole process.

PO8 is on management, business practice and entrepreneurship showed a mean of 3.74. Students showed quite a high interest in business and entrepreneurship nowadays as to secure their economic future due to economic crisis the world is facing. This will also indirectly improve socioeconomic and soft-skills among the students like critical thinking, problem solving, communication, teamwork and self-reliance. Entrepreneurship skills has relevance whether one pursue a career in engineering, science, arts, health, architecture, business or government (Satish, 2014). Indeed, when it comes to succeeding in a complex world, entrepreneurship thinking skill may be as basic as reading and writing skills.

Lastly, for PO9 that focused on developing leadership skills, individual growth and responsibility to community the mean score is 4.0. Student social responsibility is that a student is responsible for his or her actions. It is a commitment everyone has to society, contributing towards social, cultural and ecological causes. In OBE, there is Corporate Social Responsibility (CSR) subject where the students are trained to balance both individual and social responsibilities and at the same time brushing up the leadership skill in managing a community project.

5.2 Qualitative Data

Qualitative data analysis is a process of continual reflection on the collected data in which the researcher asks themselves analytical questions, and records all relevant observations and understandings. Minichiello et al. (1995) stated that "the aim of data analysis is the process of systematically arranging and presenting information in order to search for ideas". This interview was done to confirm that the participants' thought was parallel with the main idea of the OBE itself, so that the research done will be reliable and accurate.

Based on the answers given by the participants, all of the students understood what OBE is and how it is implemented in the education system. In summary, P1 stated that OBE is student-centered and the lecturer acts as facilitator, which these are the main points in OBE that we want to highlight that students are the spotlight of the education system. P2 and P3 stated the real definition of OBE, which OBE is the response of what was learned by the students.

Students' experience of OBE varied according to their previous education center and how prominent was OBE being introduced to them by their educator. P1 clearly noticed OBE since in level of diploma, while P2 and P3 did not aware much of OBE earlier, possibly due to either OBE not being emphasized clearly or they did not give enough attention toward it. Next, based on question 3 in Theme 1, most of the students did agree that OBE contributed positive feedback on their study. But still, as told by P1, it all depended back on the student him- or herself, either to take the advantage given by OBE or just taking it for granted. But not to forget, the lecturer is largely responsible for the overall lesson plans,

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engagement of the students and for providing the study skills necessary to correlate ideas.

OBE system is obviously more diverse that with the traditional education system, so if the student had undergone traditional approach before, they will definitely realize the difference between both of the system. As mentioned by P1 and P2, the traditional approach is analogically a "spoon feeding" approach where everything is provided by the lecturer, whereby in OBE the students need to find their own "spoon" and "feed" themselves while the lecturer will only guide on how to find the "spoon". This is the charm in OBE.

The second set of questions in Theme 2 was aimed to relate OBE with students' academic achievement. The participants gave encouraging feedback on question 1, which stated that OBE give a positive effect on their study and curriculum. OBE did inspire the students to become more independent, to manage time wisely and be more focused in class. As mentioned by P3, OBE is a holistic system that prepares the student completely, not only focusing in one field.

Based on OBE system had been implemented in KPJUC since 2014, the students had undergone this system for about two years. They were asked to give suggestions on how to improve the system. Overall, they are satisfied with the flow of the system but they felt stress on needing more guidance and references. As they were one of the first batch whom undergo this approach, the lecturer also were just getting started to warm up and gear up on how to apply and manage this new approach. Killen (2000) suggests that for successful learning to happen, teachers must use a variety of instructional methods, both direct and "student-centered"; provide a variety of opportunities for students to practice new knowledge; help students bring each learning episode to personal closure to show them where this new knowledge will lead.

Last of all, the participants gave their honest personal insights on OBE and as expected all of them agreed that OBE is the best learning approach throughout their learning experience. As mentioned earlier, the students are the medium of the system. They are the ones who receive the input and give out the output. So, if they give a good feedback, it is proven that OBE is an acceptably good approach.

6. Conclusion

The findings in this study suggest that the respondents have clear perception on Outcomes-Based Education. In general, the students rated a high percentage of good rating in relation of their academic achievement to the program outcomes. All students are aware, agreed and satisfied to the implementation of OBE. The scope and nature of the field data was a bit limited to a comparatively small group of individuals who have considerable experience in this system. Nevertheless, it is recommended that further action be commenced to improve this system. Seminars on OBE need to be provided to increase the knowledge and skills in coping up with their courses. Maybe trainings and orientations with the educators and students are needed to increase the level of awareness regarding OBE.

Acknowledgement

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