Quality Assurance and Elements of Outcomes-Based Education Facility in Higher Education Institutions in the Philippines

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ABSTRACT

This qualitative study seeks to evaluate the numerous elements that will complement designing a classroom facility that complements the outcomes-based education model applied among the higher education institutions in the Philippines. To find the solution to the said question, several interviews were undertaken with various university officials. At those interviews, it was discovered that the central aspect of the inquiry was the interviews done with the university officials. The findings of the study suggested that to optimize the benefits of outcomes-based education as a framework, an OBE facility should include the following elements: preparation in information technology specifications, designed as simulation room for teamwork, 21st century focused classroom, conducive for interactive learning, appropriateness of regular class size and suitable student ration, designed as the smart classroom, conducive to working skills, genuine job learning facility. The research concluded that incorporating outcomes-based instruction into a full structure will more efficiently help increase academic performance. Moreover, it is proposed that all classrooms be fitted out with the study's recommended features.

Keywords: *outcomes-based education, higher education institutions, ICT*

Introduction

Outcome-based education or outcomes-based education, also known as standards-based education, is an educational theory that bases each part of an educational system around goals. By the end of the educational experience, each student should have achieved the goal (Alipio, 2020, Galeon & Palaoag, 2020, Magulod et al, 2021). Each learner should be able to show that they have accomplished the exact objective that has been determined in the curriculum. It was concluded that an OBE graduate shows the attributes of an active, collaborative and resilient person while still being a perceptive thinker (Magulod 2017, Magulod 2019, Zhao, et al, 2020). This perspective explains how the teachers and other higher education players can function together to aim for desired educational outcomes. The curriculum must state the sort of ability the students are required to learn or the talents that the participants would be eligible to utilize after they leave the program.

In Hong Kong, universities identify the students' aspirations and make sure that the students will be willing to contribute to the social and economic growth of the region (Lavanya, Murthy & Kosaraju, 2020). In Malaysia, the government claims that equipping students with transferable skills will train them for potential jobs. Using the criteria provided by the Malaysian Qualifications Agency (MQA), universities test their students and decide their potential to attain the anticipated outcomes (Tok et al, 2020). The OBE framework is defined as a "kit". The paper considers the different infrastructure factors that help achieve the optimal graduation outcomes. Infrastructure relates to the architectural characteristics of the buildings in which OBE learning takes place. Moving away from the conventional model, an OBE learning atmosphere often includes a kind of OBE space. This facility should be able to offer teaching that is interactive, student-centered, and results-oriented. The school complements the students' academic needs by training them to show real-world practice in their desired profession in the workplace.

Around the world, OBE facilities are popular. Classrooms in the universities are equipped with the latest resources to enable students to optimize their academic potentials. The impact of school building architecture features and elements on student learning has been confirmed. Students are adversely affected in schools where defects in an essential function occur. If students attend school

in substandard buildings, they may have a lower-quality learning experience (Canini & Dalis, 2020, Evardo, 2020, Sharma & Dwivedi, 2021). A desirable college environment is student-centered. The design stresses the role of the students as the performers in the classroom to highlight that the students are the ones who are the instructors rather than the instructor in front of them. Students deserve to be in schools that enable them to accomplish their objectives. Around the world, OBE facilities are popular. Classrooms in universities have been built, which provide the requisite tools to assist students in studying more efficiently. The classroom is equipped with tables and chairs that can be relocated, projectors are mounted, and glass boards were put in space's corners. There is space for learning opportunities in community environments. The same downturn is often found in Hong Kong, Japan, and the United States. Even in the Philippines, many universities and colleges have incorporated the OBE method.

Philippine Universities agreed to implement the whole structure of OBE entirely but it did not fully adopt the OBE classroom. Although the colleges attempted to integrate the OBE method into their classroom, the college did not thoroughly accomplish the aim. According to Datta, et al (2021)schools today are based very much on information transmission and not enough on building learning opportunities that facilitate deep learning. This may be a product of the instructor's theoretical models, having grown up and trained to teach in an environment where knowledge transmission was a primary function of the teacher.

Purposes of the Study

This study aims to define the elements required to design outcomes-focused education (OBE) in higher education institutions in the Philippines. This is a move that is essential to applying the OBE method in the Philippines. The theory can never be realized until it is embraced and accompanied by improved teaching policies and techniques.

MATERIALS AND METHODS

The study used a qualitative method, utilizing vocabulary to get a deeper understanding of the subject. Qualitative analysis is a technique that includes the evaluation, documentation, and observation (and data) about what is happening in a given environment. The degree of involvement is strong so that the researcher needs to really pay attention to what is going on. It's less formal than the method so it shapes and elaborates new ideas. The data obtained from primary informants were included in the analysis (KII). Key informant interviews are a methodology whereby the most valuable knowledge from professionals and key staff is gathered in a one-on-one consultation. This respondent are chosen to reveal study details that are outlined in their own procedures and specialties. The study team included seven program leaders, eight staff members, one curriculum and instruction officer, college deans, vice-president, College Affordances, Central Philippines Zone from two universities in Luzon, and four universities the Visayas and four universities in Mindanao. The study of the responses of the main informants is used to establish patterns for the interview design. The primary data obtained from secondary sources are called raw data. Hence, in order to allow a valid analysis, trends must be synthesized. All relevant material was examined extensively and a paper on the results was published. Content applies to what is included in a message and content interpretation is the analysis of what is included in a message.

Results and Discussion

The student for this educational facility has to be honed into a learning institution that purports education of a person, the cooperation of a contributor, adaptation of a problem solver, and understanding of a thinker. Out of the content we uncovered, the following themes were developed from the analysis to direct the construction of a modern Out of Body Activity facility.

Readiness in Information Technology Specifications

Based on the in-depth interview findings, an OBE

classroom requires to be transformed to be IT equipped. It should involve projectors, laptops, WIFI, and even other information technology. The school will leverage new technologies to support students by offering more learning experiences. Many educators are using the World Wide Web as an educational platform. Many traditional classes at school consist of students with different skills and prior experience, which instructors may use to their benefit. This clearly implies the OBE teaching tool increases the versatility of the classroom. To be learned, teaching-learning is no longer absolute and can be decentralised. This aligns with the notion that it should give students a virtual mentor so they can access the content whenever and wherever. This academic reward approach gives students who are skipping lessons the ability to obtain learning resources away from school and also permits accommodations in classes while schedules are complete. According to Guo, et al (2020) usage of camera as a technical instrument has encouraged students' watching and making meaningful impacts on students' speaking activities. Attention has been called to the possible benefits that technology may provide for face-to-face classes. The position of the teacher is redefining from the one who teaches foundational material to that of a facilitator for more constructive learning.

Putting up a simulation space for collaboration.

Interview data showed that school OBE software must be structured to simulate the teamwork of students in all their learning activities. This case would illustrate that a problem was solved through actual solutions among students. Providing students with chances to fully engage in exercises is a beneficial aspect of this training curriculum. Simulation may be extended to multiple places and trainees in several different fields. A strategy that includes the substitution of reality with augmented reality. Simulation-based teaching methods, resources, and tactics may be implemented in designing educational strategies and tailored collaboration competencies (Zhao, et

al, 2020). Education using simulation as a teaching strategy resulted to improve students' attitudes toward learning (Wang et al, 2020). Teamwork training conducted in the simulated environment may offer an additive benefit to the traditional didactic instruction, enhance performance, and possibly also help reduce errors. Collaborative modeling is an important technique that can be beneficial for educating doctors as well as teachers to enhance communication (Bandono et al, 2020). Academic success is an indicator of learning since it is data generated by the teaching-learning method. Students are granted specific goals in group work and are allowed to assist in achieving the group's performance. In this sense, respect and teamwork are very critical elements of harmony, communication, and team spirit (Katoue & Schwinghammer, 2020).

21st Century Classroom.

The research also indicates that the facility is ready as an up-to-date educational institution. The architecture of the classroom is a consideration that influences student participation. In modern classrooms tables and chairs are typically not set, but often can be rearranged (Chiou, et al, 2020, Deanon, et al, 2021, Rahmawati, et al, 2020). The educational framework must help teachers involve pupils, inspire them to cooperate, and incorporate technology. To ensure the learners' best learning experience, the architecture should first concentrate on the physical spaces. Any part of an organization should promote engagement and teaching. The physical room involves the architecture and lighting of the office and workplace, the location of machines and appliances, and the organization of bulletin boards and partitions. The guiding principle behind 21st-century classrooms is versatility. Teachers will better adapt to various students' needs because of the creative space. It is advised to use portable furniture to optimize usable classroom space. Examples of workspace solutions involve pads, hoops, stands, and tables of any shape or type. This note from Universal suggests that natural and incandescent light-emitting systems are being

introduced instead of brightness illuminating lamps and other ultraviolet lights. Not only is research more relaxed, but many academics reveal that learning improves between 7% and 26%. This would make learners more imaginative and inventive. According to Kalogiannakis & Papadakis (2020) classrooms should be built light, airy, and inviting. Each school would have various setups and settings for the classrooms. There may be rows of chairs, cushions, or benches set up. Each classroom will be built for the particular purpose of achieving learning objectives. Schools would first set classes that are to instill a vibrant atmosphere for studying. The university will provide students with attractive and comfortable campuses that make them feel happy about school.

Facilitate Smart-Based Instruction

Getting a classroom atmosphere conducive to learning by technologies is the most valuable thing an instructor can do. This is one principal analysis result in the article. By integrating intelligent technologies in schools and universities, students' curiosity in their studies also increased (Cebrián, Palau, & Mogas, 2020, Selim, et al, 2020, Revathi, Suganya& NR, 2020). Today's learners require a learning atmosphere that is not as outdated as conventional schools but built primarily to promote thought. They pursue learning opportunities that maintain challenging expectations. They want to be part of an impactful educational atmosphere where participants can be adaptive and interactive with classmates and educators. They want to be involved and immersed players in the education path. Aspects of contemporary classrooms require technological convergence. It entails bringing technology into the curriculum, including encouraging students to play with different speech mediums, such as researching, practicing, and creating in online environments. Class size and the student to instructor ratio are a concern in the classroom. The primary informant interview discussed the effect of class size on student learning. Both school events must be proper in scope and reach. A small

class size or low student-teacher ratio doesn't inherently ensure performance in a program. It is considered an essential component of children's physical growth, mental development, and social development. Students are sometimes viewed as providing better learning experiences in tiny classrooms and complete classes than in bigger ones. They strengthen the academic atmosphere as well as boost working standards for teachers and staff. Both these aspects decide the national composition of the teachers' job force. To profit the most from decreased class sizes and student-teacher ratios, teachers need to change their instructional practices and raise pupil-teacher contact levels. Numerous findings indicate that a reduction in class size and the teacher-to-student ratio increases the learning experience (Bai & Zhang, 2020, Han & Li, 2021, Hongxing & Jingjing, 2020). Small-sized communities discourage the chances of harmful social experiences. Small communities are an excellent way to encouraging youngsters. They endorse classroom routines, such as sitting in a circle and lining up at the entrance, to assist children feel included and emotionally grounded. According to Earthman, school overpopulation allows it more challenging for students to focus and understand. Analysis reveals that declining class size corresponds to higher student achievement.

Towards Smart Classroom

Classrooms ought to be professionally fitted and autonomous. Smart class is a tool that helps students to learn stuff effectively. There are classes in which students come together to create, exploit, and negotiate context across a canvas. The class atmosphere becomes "immersive" — learning occurs everywhere. The virtual surfaces become mutual neural spaces where students explore meaning and purpose. You may communicate with each other in an atmosphere where communication of context has elevated to sharing information. These upgrades rendered the school system more engaging and simpler to read. Students, nowadays, are involved in smartphones, computers, and other multimedia instruments to

promote and save their learning time (Ashwin & Guddeti, 2020, Najafi, et al, 2021, ShenHeng, & Qian, 2020, Zhu, et al, 2020). Classrooms ought to be professionally fitted and autonomous. The smart class is a tool which helps students to learn stuff effectively. There are classes in which students come together to create, exploit, and negotiate context across a canvas. The class atmosphere becomes "immersive" — learning occurs everywhere. The virtual surfaces become mutual neural spaces where students explore meaning and purpose. You may communicate with each other in an atmosphere where communication of context has elevated to sharing information. These upgrades rendered the school system more engaging and more straightforward to read. Students, nowadays are involved in smartphones, computers, and other multimedia instruments to promote and save their learning time. This will allow teachers to make dull lessons enjoyable and exciting. It's more about exchanging knowledge but about the method of making the web presentations less boring.

Using smart classroom technologies and digital whiteboards in primary schools, schooling can also be rendered more interactive. This makes learning more fun, unforgettable, and straightforward. It emphasizes long-term memorization as well as offers person the opportunity to read. This will allow teachers to make dull lessons enjoyable and exciting. It's more about exchanging knowledge but about the method of making the web presentations less boring. Using smart classroom technologies and digital whiteboards in primary schools, schooling can also be rendered more interactive. This makes learning more fun, unforgettable, and straightforward. It emphasizes long-term memorization as well as offers a person the opportunity to read.

Supportive for good results.
Students must be capable of completing the course upon graduation. This applies to the desire of the students to become stronger and capable on

assignments and ventures. The interviewees suggested that these skills cannot be developed without help from a suitable location where students can access them. The OBE classroom has to be structured in such a manner that the necessary output of behavior capabilities is made. The classroom ought to be themed-focused and have an immersive style (Mellroth, 2020, Mellroth, 2020, Pressley, et al, 2020).

Conclusion and Recommendation

This research aims to classify the markers of an out-of-body climate. The key characteristics of the OBE are defined as areas where outcomes-based education practices will take place. The elements may be utilized as the characteristics or qualities of an OBE facility or classroom. The study concluded that the following requirements should be observed in designing classrooms in an OBE scenario, namely: IT capability, built as a simulation room for teamwork, inauthentic challenge learning facility, and acceptable regular class size and student size ratio are required. These things became the theme of primary informant interviews of participants from Luzon, Visayas, and Mindanao. It is proposed that all learning spaces in higher education institutions should be renovated and configured with portable furnishings. Outcomes-based education is a framework that can cover and resolve training, learning, curriculum, preparation, testing, and pupil needs all in one.

References

[1] Alipio, M. (2020). Predicting academic performance of college freshmen in the philippines using psychological variables and expectancy-value beliefs to outcomes-based education: a path analysis.

[2] Magulod, G. C., Capulso, L. B., Dasig, J. P., Baluyot, M. B. B., Nisperos, J. N. S., Reyes-Chua, E., ... & Chupradit, S. (2021). Attainment of the Immediate Program Graduate Attributes and Learning Outcomes of Teacher Candidates towards Global Competence

Initiatives. *International Journal of Learning, Teaching and Educational Research*, *19*(12).

[3] Magulod Jr, G. C. (2017). Extent of Attainment of the Intended Program Attributes, Retrospection and Satisfaction of BS Industrial Technology Graduating Students from One Campus of a State University in Region 2, Philippines. *Asia Pacific Journal of Multidisciplinary Research*, *5*(4), 107-117.

[4] Magulod Jr, G. C. (2019). Learning Styles, Study Habits and Academic Performance of Filipino University Students in Applied Science Courses: Implications for Instruction. *Journal of technology and science education*, *9*(2), 184-198.

[5] Lavanya, C., Murthy, J. N., & Kosaraju, S. (2020). Assessment practices in outcome-based education: Evaluation drives education. In *Methodologies and Outcomes of Engineering and Technological Pedagogy* (pp. 50-61). IGI Global.

[6] Ashwin, T. S., & Guddeti, R. M. R. (2020). Affective database for e-learning and classroom environments using Indian students' faces, hand gestures and body postures. *Future Generation Computer Systems*, *108*, 334-348.

[7] Zhu, Z. M., Xu, F. Q., & Gao, X. (2020). Research on school intelligent classroom management system based on internet of things. *Procedia Computer Science*, *166*, 144-149.

[8] Shen, Y., Heng, R., & Qian, D. (2020). Smart classroom learning atmosphere monitoring based on FPGA and Convolutional Neural Network. *Microprocessors and Microsystems*, 103488.

[9] Najafi, B., Depalo, M., Rinaldi, F., & Arghandeh, R. (2021). Building characterization through smart meter data analytics: Determination of the most influential temporal and importance-in-prediction based features. *Energy and Buildings*, *234*, 110671.

[10] Mellroth, E. (2020). Teachers' views on teaching highly able pupils in a heterogeneous mathematics classroom. *Scandinavian Journal of Educational Research*, 1-19.

[11] Mellroth, E. (2020). Teachers' views on teaching highly able pupils in a heterogeneous mathematics classroom. *Scandinavian Journal of Educational Research*, 1-19.

[12] Pressley, T., Croyle, H., & Edgar, M. (2020). Different approaches to classroom environments based on teacher experience and effectiveness. *Psychology in the Schools*, *57*(4), 606-626.

[13] Cebrián, G., Palau, R., & Mogas, J. (2020). The smart classroom as a means to the development of ESD methodologies. *Sustainability*, *12*(7), 3010.

[14] Selim, H. M., Eid, R., & Agag, G. (2020). Understanding the role of technological factors and external pressures in smart classroom adoption. *Education+ Training*.

[15] Revathi, R., Suganya, M., & NR, G. M. (2020). IoT based Cloud Integrated Smart Classroom for smart and a sustainable Campus. *Procedia Computer Science*, *172*, 77-81.

[16] Bai, H., & Zhang, Q. (2020). English smart classroom teaching system based on 5 network and internet of things. *Microprocessors and Microsystems*, 103421.

[17] Hongxing, S., & Jingjing, S. (2020). On the Construction of Smart Classroom in Shanghai JiaoTong University. *Higher Education Research*, *5*(4), 137.

[18] Han, D., & Li, G. (2021). Development of smart english classroom system based on FPGA software and hardware co-simulation test. *Microprocessors and Microsystems*, *81*, 103774.

[19] Chiou, Y. S., Saputro, S., & Sari, D. P. (2020). Visual Comfort in Modern

University Classrooms. *Sustainability*, *12*(9), 3930.

[20] Deanon, T. R. H., Culp, E. E., Lager, D. C., & Diamond, Z. P. (2021). The Middle School Modern Classroom: Why a Blended, Self-Paced, Mastery-Based Grading Classroom Is Ideal for Middle School Students. In *Promoting Positive Learning Experiences in Middle School Education* (pp. 25-41). IGI Global.

[21] Rahmawati, Y., Utomo, C., Muhamad Sukri, N. S., Yasinta, R. B., & Al-Aidrous, A. H. M. H. (2020). Environmental Enhancement through High-Rise Building Refurbishment. *Sustainability*, *12*(22), 9350.

[22] Kalogiannakis, M., & Papadakis, S. (2020). The Use of Developmentally Mobile Applications for Preparing Pre-Service Teachers to Promote STEM Activities in Preschool Classrooms. In *Mobile Learning Applications in Early Childhood Education* (pp. 82-100). IGI Global.

[23] Katoue, M. G., & Schwinghammer, T. L. (2020). Competency-based education in pharmacy: A review of its development, applications, and challenges. *Journal of evaluation in clinical practice*, *26*(4), 1114-1123.

[24] Bandono, A., Bastari, A., & Suharyo, O. S. (2020). Effectiveness Naval Collaboration Flexible Learning (NCFL) Model in Increasing Learning Outcomes The Indonesian Naval Technology College. *International Journal of Progressive Sciences and Technologies*, *23*(2), 434-442.

[25] Wang, L., Liu, Y., Wang, Q., Wang, J., & Yang, Z. (2020). PLC Course Teaching Method Based on OBE Teaching Concept. *Advances in Educational Technology and Psychology*, *4*(1), 101-109.

[26] Tok, P. S. K., Liew, S. M., Wong, L. P., Razali, A., Loganathan, T., Chinna, K., ... & Kadir, N. A. (2020). Determinants of unsuccessful treatment outcomes and mortality among tuberculosis patients in Malaysia: A registry-based cohort study. *PloS one*, *15*(4), e0231986.

[27] Sharma, S., & Dwivedi, P. (2021). A Comparative Study of Existing Mechanisms for Implementation of OBE in Various Countries. In *Assessment Tools for Mapping Learning Outcomes With Learning Objectives* (pp. 198-210). IGI Global.

[28] Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. *International Journal of Educational Research*, *102*, 101586.

[29] Canini, N. D., & Dalis, I. M. Extent of Implementation and Influence of Outcomes-Based Education to Civil Engineering Students in Misamis University, Philippines.

[30] Evardo, M. A. (2020). Perspectives and Preparedness on the Outcomes-based Education (OBE) Implication in the Higher Education Institutions of BOHOL. *Journal of World Englishes and Educational Practices*, *2*(2), 46-52

[31] Datta, R., Datta, K., Routh, D., Bhatia, J. K., Yadav, A. K., Singhal, A., & Dalal, S. S. (2021). Development of a portfolio framework for implementation of an outcomes-based healthcare professional education curriculum using a modified e-Delphi method. *Medical Journal Armed Forces India*, *77*, S49-S56.

[32] Zhao, C., Cai, J., & Zhu, R. (2020, January). Construction of Teaching Model of ERP Comprehensive Simulation Experiment Based on OBE and Trihelix Field Model. In *2019 International Conference on Education Science and Economic Development (ICESED 2019)*. Atlantis Press.

[33] Galeon, D. H., & Palaoag, T. D. (2020, April). Design considerations of a

collaborative and knowledge sharing tool for a sustainable outcomes-based education. In *IOP Conference Series: Materials Science and Engineering* (Vol. 803, No. 1, p. 012047). IOP Publishing.

[34] Zhao, L., Zhao, Y., Zhang, Z., Cui, R., & Cui, X. (2020, November). Practice and Thinking of Blending Learning Based on the "Outcomes-Based Education" Concept. In *International Conference on Education Studies: Experience and Innovation (ICESEI 2020)* (pp. 191-197). Atlantis Press.