

Article

Embracing Outcomes-Based Education for Quality Instruction Assurance

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Abstract: This study examines the implementation of Outcomes-Based Education (OBE) and its relationship with instructors' teaching performance at Cordova Public College. Employing a quantitative descriptive-correlational research design, the study evaluated the status of OBE implementation across key dimensions: formulation and alignment of learning outcomes, curriculum content and structure, teaching-learning processes, and outcome assessment. Instructors' performance was assessed in terms of commitment, subject knowledge, independent learning promotion, and management of learning. Data were gathered using survey questionnaires and analyzed using Spearman correlation. The results revealed that OBE implementation was rated as Extremely High (EH), reflecting effective alignment of outcomes, comprehensive assessments, and well-structured curricula. Instructors' performance was consistently rated as Outstanding (O), showcasing their professionalism, subject mastery, and ability to foster student-centered learning. A strong positive correlation ($r = 0.814$, $p < 0.05$) was found between OBE implementation and instructor performance, indicating a significant relationship. These findings highlight the critical role of effective OBE practices in enhancing teaching quality and provide a foundation for further improvements in institutional practices.

Keywords: Outcomes-Based Education (OBE), instructor performance, learning outcomes, curriculum alignment, teaching-learning process, outcome assessment,

Introduction



Outcomes-Based Education (OBE) is embraced worldwide. OBE is an educational framework that focuses on achieving specific learning outcomes as its core principle, emphasizing what students are expected to know and demonstrate by the end of a learning experience (Katawazai, 2021). The use of outcome - based education has grown in popularity and acceptance across the globe to support educational reform and policy (Japee & Oza, 2021; Akala, 2021). Hence, OBE has been implemented in many countries such as the USA, Canada, Australia, New Zealand, South Africa, Hong Kong and Malaysia. It has

also recently gained much attention in Pakistan to shift from teacher-centered to OBE system (Asim, et.al, 2021). Furthermore, OBE was chosen as the most likely to address the crisis and promised to improve the quality of African education. Similarly, OBE was also introduced in Afghanistan to provide quality services in the field of quality assurance, research, curriculum, and most importantly, changing the traditional system of higher education in all public universities (Katawazai, 2021). Outcome-based education (OBE) was proposed in the 1990s to shift the emphasis of formal education from what students were taught to what they learned. According to Rao, (2020), OBE is a method of education that places emphasis on ends, purpose, accomplishments, and results. This entails developing a clear understanding of the skills that students need to possess before planning the curriculum, instruction, and evaluation to ensure that this learning ultimately takes place.

Several studies have explored the implementation and challenges of OBE in various educational contexts. For instance, Spady (1994) highlighted the theoretical foundations of OBE and the need for a paradigm shift in teaching and assessment methods. Tam (2014) investigated its application in higher education, noting challenges such as resistance to change and the need for faculty training. Similarly, Biggs and Tang (2007) discussed the alignment between intended learning outcomes, teaching strategies, and assessment methods but warned about superficial implementations. A case study by Jadhav and Patankar (2013) emphasized the difficulty of transitioning to OBE due to rigid institutional structures and lack of resources in Indian engineering colleges. Furthermore, Prasad (2020) identified challenges like inadequate stakeholder understanding and the complexities of developing outcome-based curricula.

The OBE is used in the Philippines. Following the release of CMO 46 series of 2012 on the Policy and Standard to Enhance Quality Assurance (QA) in Philippine Higher Education through Outcomes Based and Typology-Based QA, universities were mandated to use an outcomes-based approach to teaching and learning. According to CHED, OBE is an approach that focuses and organizes the educational system around what is essential for all learners to know, value, and be able to do to achieve the desired level of competence. OBE is a student-centered approach of curriculum design and teaching that emphasizes on what learners should know, understand, demonstrate and how to adapt to life beyond formal education (Bautista, 2021). In Outcome-based education, teachers are the facilitators, rather than lecturers. In OBE teachers guide students through learning, hands-on, curricular activities & interactions to guide student engagement with new study material (Ali, 2022).

However, OBE in the Philippines has been a significant focus of educational reforms, particularly after the Commission on Higher Education (CHED) mandated its implementation in tertiary

institutions. Despite its potential to enhance learning quality, studies have documented challenges in its adoption. Garcia and Espinosa (2020) examined OBE in Philippine universities, highlighting issues such as limited faculty readiness, lack of professional development, and resource constraints. Similarly, Zamora et al. (2021) identified challenges like misalignment between learning outcomes and assessment methods, as well as resistance to change among educators. Another study by Salazar et al. (2022) reported that the uneven application of OBE in public versus private institutions stems from disparities in funding and institutional capacity. Francisco and Macatangay (2023) pointed out that faculty workload and insufficient infrastructure hinder OBE implementation. Additionally, Dela Cruz and Mendoza (2024) emphasized the need for stronger collaboration between educators and administrators to address the lack of standardized OBE frameworks across institutions. These studies underline that while OBE offers opportunities for improving education in the Philippines, addressing systemic, institutional, and cultural challenges is essential for its success.

This study addresses critical gaps in the implementation of Outcomes-Based Education (OBE) by examining its status across key dimensions and evaluating instructor performance based on feedback from stakeholders. Specifically, it explores the formulation and alignment of learning outcomes, assessing whether these are clearly defined, measurable, and aligned with program objectives and institutional goals. The study also investigates curriculum content and structure to evaluate if they effectively support learning outcomes and align with the needs of students and industries. Moreover, it assesses the teaching-learning process to determine how instructional strategies foster active, independent learning, and whether they reflect OBE principles. Outcomes assessment is another crucial focus, as it evaluates the effectiveness of tools and strategies used to measure student achievement of desired learning outcomes. Furthermore, the study evaluates instructor performance as perceived by respondents, focusing on their commitment to teaching, subject matter expertise, promotion of independent learning, and management of the learning environment. Addressing these dimensions, the study provides a comprehensive understanding of the challenges and successes in OBE implementation, highlighting areas for improvement and best practices to achieve educational quality.

Methodology

The study utilized a quantitative descriptive-correlational research design to explore the relationship between the status of Outcomes-Based Education (OBE) implementation and the performance of instructors in teaching at Cordova Public College, a third-class municipality in the sixth district of Cebu Province. The quantitative

descriptive method allowed the researcher to describe and interpret the gathered data, while the correlational design analyzed the relationship between the variables. Data were gathered using survey questionnaires distributed to instructors and students, selected through random sampling. The questionnaire for assessing the status of OBE implementation was adapted from Joy Bongabong-Baguio's (2019) study on "Outcomes-Based Education: Teachers' Attitude and Implementation" and modified to fit the local context. A 4-point Likert scale was used to rate OBE implementation, with descriptors ranging from 1 (Very Low) to 4 (Extremely High), capturing the respondents' perceptions of its effectiveness. Meanwhile, the instructors' teaching performance was evaluated using the Faculty Evaluation Instrument (QCE of NBC No. 461), scored on a 5-point Likert scale, with ratings from 1 (Needs Improvement) to 5 (Outstanding). The scoring procedure for OBE implementation interpreted mean scores as follows: 3.26–4.00 (Extremely High), 2.51–3.25 (Moderately High), 1.76–2.50 (Low), and 1.00–1.75 (Very Low). Performance ratings for instructors were categorized as 4.21–5.00 (Outstanding), 3.41–4.20 (Very Satisfactory), 2.61–3.40 (Satisfactory), 1.81–2.60 (Fair), and 1.00–1.80 (Needs Improvement). The data analysis utilized Spearman correlation to determine the significant relationship between OBE implementation and instructor performance. Ethical considerations, such as informed consent and confidentiality, were strictly observed throughout the data gathering process. The interpreted data served as the foundation for developing an enhanced strategic OBE-based program.

Results and Discussion

Table 1. Perceived Status of OBE Implementation in Terms of Formulation of Learning Outcomes

Indicators	Mean	VD
Create the intended learning outcomes of the institution	3.04	MH
Create the program learning outcomes.	2.96	MH
Create the course learning outcomes.	3.20	MH
Create the students' learning outcomes as instructional target.	3.36	EH
Develop the learning outcomes for cognitive level.	3.32	EH
Develop the learning outcomes for psychomotor level.	3.32	EH
Develop the learning outcomes in the effective level domain.	3.32	EH
Construct the graduate outcomes primarily based on vision, mission statement of the school.	3.04	MH
Grand Mean	3.195	MH

Table 1 shows the perceived status of OBE implementation in terms of the formulation of learning outcomes. The results indicate that the overall implementation is Moderately High (MH), with a grand mean of 3.195. Specifically, the creation of intended learning outcomes for the institution, program, and courses received mean scores of 3.04, 2.96, and 3.20, respectively, all falling under the "Moderately High" category. However, the development of learning outcomes for students in

specific domains, such as cognitive, psychomotor, and affective levels, was rated as Extremely High (EH), with identical mean scores of 3.32. Similarly, the creation of students' learning outcomes as instructional targets was also rated Extremely High, with a mean of 3.36. On the other hand, constructing graduate outcomes based on the school's vision and mission was rated Moderately High, with a mean of 3.04. These findings suggest that while the institution is performing well in developing specific and detailed learning outcomes, there is still room for improvement in areas such as aligning program and institutional-level outcomes.

Table 2. Perceived Status of OBE Implementation in Terms of Alignment of Learning Outcomes

Indicators	Mean	VD
Align the program outcomes for the institutional outcomes.	3.52	EH
Align the course learning outcomes to the program outcomes.	3.52	EH
Align the instructional learning outcomes to the course learning outcomes.	3.60	EH
Transform the course to long term outcomes that are related to students' future life roles.	3.56	EH
Grand Mean	3.55	EH

Table 2 presents the perceived status of OBE implementation in terms of the alignment of learning outcomes. The findings show an Extremely High (EH) level of implementation, with a grand mean of 3.55. Specifically, the alignment of program outcomes with institutional outcomes and course learning outcomes with program outcomes both received mean scores of 3.52, indicating an "Extremely High" rating. Similarly, aligning instructional learning outcomes to course learning outcomes received the highest mean score of 3.60, while transforming courses into long-term outcomes related to students' future roles was rated 3.56, also categorized as "Extremely High." These results suggest that the institution has effectively aligned its learning outcomes across different levels, ensuring coherence and consistency in preparing students for their future roles and aligning academic goals with institutional objectives.

Table 3. Perceived Status of OBE Implementation in Terms of Curriculum Content and Structure

Indicators	Mean	VD
Implement the learning plan as a guide to engage with the learners in the teaching – learning process	3.68	EH
Deliver the written curriculum that has been designed in the course syllabi.	3.52	EH
Enhance the course syllabi that show the relationship of program outcomes to institutional outcomes and course outcomes to program outcomes.	3.56	EH
Facilitate the students' learning to enhance knowledge and skills into high level performance.	3.64	EH
Facilitate the curriculum content to attain the learning outcomes.	3.48	EH
Grand Mean	3.58	EH

Table 3 illustrates the perceived status of OBE implementation in terms of curriculum content and structure. The findings reveal an Extremely

High (EH) level of implementation, with a grand mean of 3.58. Among the indicators, the implementation of a learning plan to guide teaching and learning received the highest rating of 3.68, reflecting its strong execution. Facilitating students' learning to enhance knowledge and skills into high-level performance followed closely with a mean of 3.64, also rated as "Extremely High." Enhancing course syllabi to align program and institutional outcomes received a mean score of 3.56, while delivering the written curriculum designed in the course syllabi and facilitating curriculum content to achieve learning outcomes were rated 3.52 and 3.48, respectively. These results demonstrate that the institution is highly effective in structuring and delivering its curriculum, ensuring alignment with OBE principles and fostering students' development in both knowledge and skills.

Table 4. Perceived Status of OBE Implementation in Terms of Teaching Learning Process

Indicators	Mean	VD
Deliver instruction through student – centered approach	3.72	EH
Align the teaching – learning activities and the intended learning outcomes.	3.72	EH
Align the teaching – learning activities and the assessment task.	3.80	EH
Align the teaching methods and strategies with the goals identified in the learning outcomes.	3.64	EH
Identify the teaching and learning activities that facilitate the achievement of course learning outcomes.	3.72	EH
Motivate the students' understanding on the outcomes they are meant to achieve.	3.84	EH
Emphasize the knowledge and content (cognitive domain) in the teaching and learning activities.	3.56	EH
Emphasize students' skills and competencies (psychomotor domain) in the teaching and learning activities	3.56	EH
Emphasize the values and attitudes in the teaching learning activities.	3.88	EH
Facilitate the learning activities for different types of learners in the diverse environment.	3.64	EH
Grand Mean	3.71	EH

Table 4 shows the perceived status of OBE implementation in terms of the teaching-learning process, with an overall Extremely High (EH) rating and a grand mean of 3.71. Among the indicators, emphasizing values and attitudes in teaching-learning activities received the highest mean score of 3.88, reflecting its strong integration. Motivating students to understand the outcomes they are meant to achieve followed closely, with a mean of 3.84, while aligning teaching-learning activities and assessment tasks was rated 3.80. Other aspects, such as delivering instruction through a student-centered approach, aligning teaching-learning activities with intended outcomes, and identifying activities that facilitate course learning outcomes, were all rated 3.72. Meanwhile, emphasizing knowledge and content (cognitive domain) and skills and competencies (psychomotor domain) in activities each scored 3.56, and facilitating activities for diverse learners was rated 3.64. These findings suggest that the institution is highly effective in implementing a

student-centered, outcomes-aligned teaching-learning process, with a strong emphasis on values, motivation, and diverse learner needs.

Table 5. Perceived Status of OBE Implementation in Terms of Outcome Assessment

Indicators	Mean	VD
Use different assessment tools to evaluate students' progress	3.64	EH
Assess students' knowledge.	3.80	EH
Assess students' skills and competencies	3.88	EH
Assess students' values and attitudes.	3.80	EH
Align the teaching methods and assessment methods	3.72	EH
Align the assessment procedure and tools to the learning outcomes.	3.68	EH
Develop rubrics to assess the attainment of the institutional outcomes.	3.44	EH
Develop rubrics to assess the attainment of program outcomes	3.52	EH
Develop rubrics to assess the attainment of course outcomes	3.64	EH
Assess the level of students' performance compared with the intended learning outcomes.	3.68	EH
Grand Mean	3.68	EH

Table 5 presents the perceived status of OBE implementation in terms of outcome assessment, showing an overall Extremely High (EH) rating with a grand mean of 3.68. The highest-rated indicators are assessing students' skills and competencies (3.88) and assessing students' knowledge and values/attitudes, both scoring 3.80, indicating a strong emphasis on holistic student evaluation. Aligning teaching methods with assessment methods received a mean score of 3.72, while aligning assessment procedures and tools with learning outcomes and assessing student performance compared to intended outcomes both scored 3.68. The development of rubrics to assess institutional outcomes (3.44), program outcomes (3.52), and course outcomes (3.64) also demonstrated "Extremely High" implementation. Additionally, the use of diverse assessment tools to evaluate student progress was rated 3.64, highlighting the institution's commitment to varied and comprehensive assessment practices. Overall, these findings suggest that the institution is effectively implementing outcome-based assessment methods, ensuring alignment with learning outcomes and emphasizing a well-rounded evaluation of students' knowledge, skills, and values.

Table 6. Performance of the Instructors in terms of Commitment.

Indicators	Mean	VD
The teachers demonstrate sensitivity to attend and absorb content information.	4.17	O
The teachers integrate sensitivity to their learning objectives with those of the students in a collaborative process.	4.33	O
The teachers make themselves available to students during consultation hours.	4.33	O
The teachers regularly come to class on time, well-groomed and well-prepared.	4.50	O
The teachers keep accurate records of students' performance and prompt submission of the same.	4.58	O
Grand Mean	4.38	O

Table 6 presents the performance of instructors in terms of commitment, which was rated as Outstanding (O) with a grand mean of 4.38. Among the indicators, the highest-rated was the instructors' ability to keep accurate records of students' performance and submit them promptly, with a mean score of 4.58, reflecting exceptional dedication to administrative responsibilities. Regular attendance to class on time, being well-groomed and prepared, followed with a mean of 4.50, indicating strong professionalism. The teachers' availability during consultation hours and their integration of learning objectives with students in a collaborative process were both rated 4.33, showing a high level of student engagement and collaboration. Lastly, demonstrating sensitivity to attend and absorb content information was rated 4.17, also under the "Outstanding" category. These results highlight the instructors' exceptional commitment to their roles, reflecting their reliability, professionalism, and dedication to student success.

Table 7. Performance of the Instructors in terms of Knowledge of Subject

Indicators	Mean	VD
The teachers demonstrate mastery of subject matter (explain subject matter without relying solely on the prescribe textbook).	4.50	O
The teachers demonstrate mastery of subject matter (explain subject matter without relying solely on the prescribe textbook).	4.33	O
The teachers integrate subject to practical circumstances and learning intents or purposes of students.	4.42	O
The teachers explain the relevance of present topics to the previous lessons and relate the subject matter to relevant current issues and or daily like activities	4.33	O
The teachers demonstrate up- to-date knowledge and/or awareness of current trends and issues of the subject.	4.33	O
Grand Mean	4.38	O

Table 7 presents the performance of instructors in terms of their knowledge of the subject, which was rated as Outstanding (O) with a grand mean of 4.38. Among the indicators, the highest-rated was the teachers' ability to demonstrate mastery of the subject matter without solely relying on prescribed textbooks, with a mean score of 4.50, reflecting their depth of knowledge and expertise. The ability to integrate the subject with practical applications and the students' learning purposes was rated 4.42, indicating strong contextualization skills. The relevance of current topics to previous lessons and real-life activities, along with an awareness of current trends and issues, both received a score of 4.33, showcasing the instructors' capacity to make learning relevant and engaging. These results highlight that the instructors possess an exceptional mastery of their subject matter, effectively integrating knowledge with practical and current issues to enrich the students' learning experience.

Table 8. Performance of the Instructors in terms of Independent Learning.

Indicators	Mean	VD
The teachers create teaching strategies that allow students to practice using concepts they need to understand (interactive discussion).	4.50	O
The teachers enhance students' self-esteem and/or give due recognition to students' performance or potentials.	4.25	O
The teachers allow students to create their own course with objectives and realistically defined student professor rules and make them accountable for their performance.	4.33	O
The teachers allow students to think independently and make their own decisions and holding them accountable for their performance based largely on their success in executing decisions.	4.08	VS
The teachers encourage students to learn what is required and help or guide the students how to apply the concepts learned.	4.00	VS
Grand Mean	4.23	O

Table 8 presents the performance of instructors in terms of promoting independent learning, with an overall rating of Outstanding (O) and a grand mean of 4.23. Among the indicators, the highest-rated was the ability of teachers to create teaching strategies that allow students to practice concepts through interactive discussions, scoring 4.50, demonstrating exceptional support for active and engaged learning. Enhancing students' self-esteem and recognizing their performance or potential received a mean of 4.25, reflecting the teachers' ability to foster a positive learning environment. Allowing students to design their own courses with defined objectives and rules, while holding them accountable for their performance, was rated 4.33, showing a strong emphasis on student ownership of learning. However, encouraging students to think independently, make decisions, and take accountability was rated slightly lower at 4.08, categorized as Very Satisfactory (VS), along with guiding students in applying learned concepts (4.00, VS). These findings suggest that while instructors excel in creating engaging and empowering learning experiences, there is room to further strengthen support for independent decision-making and application of concepts.

Table 9. Performance of the Instructors in terms of Management of Learning.

Indicators	Mean	VD
The teachers create opportunities for intensive and/or extensive contribution of students in the class activities, (e.g. break class into dyads, triads, or buzz or task group).	4.50	O
The teachers assume roles as facilitator, resource person, integrator, drawing students to contribute to knowledge and understanding of the concepts at hand.	4.33	O
The teachers design and implement learning conditions and experience that promote healthy exchange and/or confrontations.	4.42	O
The teacher's structure and restructure learning and teaching-learning context to enhance attainment collective learning objectives.	4.17	VS
The teachers use instructional materials (audio, video materials, film showing, computer-aided instructions, etc.) to reinforce learning processes.	4.25	O
Grand Mean	4.33	O

Table 9 presents the performance of instructors in terms of the management of learning, which was rated as Outstanding (O) with a grand mean of 4.33. Among the indicators, the highest-rated was the ability of teachers to create opportunities for students to actively contribute to class activities, such as working in dyads, triads, or task groups, with a mean of 4.50, reflecting exceptional skills in fostering collaboration and participation. Designing and implementing learning experiences that promote healthy exchanges or confrontations was rated 4.42, demonstrating the teachers' effectiveness in encouraging meaningful discussions. Teachers' roles as facilitators, resource persons, and integrators to engage students in contributing to knowledge received a mean of 4.33, highlighting their ability to create a participatory learning environment. The use of instructional materials to reinforce learning processes was rated 4.25, also categorized as "Outstanding." However, structuring and restructuring learning contexts to enhance collective learning objectives was rated slightly lower at 4.17, categorized as Very Satisfactory (VS). Overall, the findings indicate that instructors excel in managing learning processes, particularly in fostering collaboration, engagement, and the use of diverse instructional tools.

Table 10. Relationship between Status of OBE Implementation and Performance of the Instructors

Variables	Value	Strength of Correlation	p-value	Decision	Result
Status of OBE Implementation and Performance Rating of the Instructors	0.814*	Strong Positive	0.00	Reject Ho	Significant

Table 10 shows the relationship between the status of OBE implementation and the performance of instructors. The results indicate a strong positive correlation with a correlation value of 0.814, suggesting a strong connection between the effectiveness of OBE implementation and instructors' teaching performance. The p-value of 0.00 is less than the 0.05 significance level, leading to the rejection of the null hypothesis (Ho). This result is significant, meaning that as the status of OBE implementation improves, the performance of instructors in teaching also tends to improve significantly. These findings highlight the critical role of effective OBE practices in enhancing teaching quality and overall educational outcomes.

Discussion

This study highlights the strong implementation of Outcomes-Based Education (OBE) and its significant positive impact on the performance of instructors. Across key dimensions formulation and alignment of learning outcomes, curriculum content and structure, teaching-

learning processes, and outcome assessment OBE implementation was rated as Extremely High (EH), reflecting the institution's success in aligning outcomes, delivering structured curricula, and applying comprehensive assessments. Similarly, instructors' performance in commitment, knowledge of the subject, independent learning promotion, and management of learning was rated as Outstanding (O). A strong positive correlation ($r = 0.814$, $p < 0.05$) was found between OBE implementation and instructor performance, indicating that the more effectively OBE is implemented, the better the instructors perform. These findings align with recent studies, such as those by Tam (2022) and Garcia and Espinosa (2021), which emphasize that OBE frameworks enhance teaching strategies, improve assessment practices, and foster student-centered learning. Additionally, the alignment of institutional, program, and course outcomes provides clarity and direction for educators, enabling them to create meaningful, real-world learning experiences. The use of diverse instructional materials and collaborative teaching strategies further contributes to enhanced student engagement and learning outcomes. However, challenges such as resource allocation and ongoing faculty development remain critical to sustaining these results, as noted by Francisco and Macatangay (2023). In conclusion, the study underscores the importance of well-implemented OBE frameworks in driving educational success, benefiting both teachers and students, and provides a strong foundation for further enhancing institutional practices to maintain and improve quality education.

Conclusion

This study demonstrates that the effective implementation of Outcomes-Based Education (OBE) significantly enhances the performance of instructors in teaching. The institution's strong performance in key dimensions of OBE formulation and alignment of learning outcomes, curriculum content and structure, teaching-learning processes, and outcome assessment was rated as Extremely High (EH), reflecting its commitment to fostering quality education. Correspondingly, instructors were rated as Outstanding (O) in their commitment, mastery of the subject, promotion of independent learning, and management of learning, indicating their exceptional teaching practices. The significant positive correlation ($r = 0.814$, $p < 0.05$) between OBE implementation and instructor performance highlights how OBE provides clarity, structure, and alignment that empower educators to deliver high-quality, student-centered instruction. These findings are consistent with recent studies that emphasize the transformative impact of OBE on teaching practices and student learning outcomes. However, sustaining this success requires continuous professional development, adequate resources, and institutional support to address challenges and further strengthen

implementation. Ultimately, the study underscores the critical role of OBE in driving educational excellence and shaping instructors' ability to prepare students for real-world applications and lifelong learning.

References

- Ali, S. (2022). Outcomes-Based Education (OBE): A student-centered approach to teaching and learning. *International Journal of Educational Studies*, 8(1), 45-59.
- Asim, M., Saleem, H., & Imran, M. (2021). The shift to outcomes-based education in Pakistan: Challenges and opportunities. *Journal of Educational Reform in Developing Countries*, 15(3), 78-92.
- Akala, B. M. M. (2021). Revisiting education reform in Kenya: A case of Competency Based Curriculum (CBC). *Social Sciences & Humanities Open*, 3(1), 100107.
- Bautista, E. A. (2021). The implementation of OBE in Philippine higher education institutions: Challenges and prospects. *Philippine Journal of Educational Development*, 9(2), 121-134.
- Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university: What the student does*. Open University Press.
- Bongabong-Baguio, J. (2019). Outcomes-Based Education: Teachers' Attitude and Implementation. *Philippine Journal of Education and Development Studies*, 5(1), 35-50.
- CHED. (2012). *CMO 46 series of 2012: Policy and Standard to Enhance Quality Assurance in Philippine Higher Education through Outcomes-Based and Typology-Based QA*. Commission on Higher Education, Philippines.
- Dela Cruz, R., & Mendoza, P. R. (2024). Towards a standardized framework for outcomes-based education in the Philippines. *Philippine Journal of Education and Development*, 10(1), 45-60.
- Francisco, J. C., & Macatangay, L. A. (2023). The role of OBE in enhancing faculty teaching practices: A Philippine perspective. *Asia Pacific Journal of Higher Education*, 11(4), 34-49.
- Garcia, M. A., & Espinosa, M. M. (2020). Faculty performance and outcomes-based education implementation in Philippine higher education. *Philippine Journal of Education*, 94(2), 12-25.

- Jadhav, S., & Patankar, P. (2013). Implementation of outcome-based education in engineering education. *International Journal of Engineering and Technical Research*, 2(12), 161–164.
- Japee, G., & Oza, P. (2021). Curriculum and evaluation in outcome-based education. *Psychology and Education Journal*, 58(2), 5620-5625.
- Katawazai, R. (2021). Implementing outcome-based education and student-centered learning in Afghan public universities: the current practices and challenges. *Heliyon*, 7(5).
- Prasad, R. (2020). Challenges in implementing outcome-based education in India. *Journal of Educational Research*, 10(3), 45–53.
- Rao, S. (2020). Outcomes-Based Education: Shifting the emphasis in teaching and learning. *International Journal of Educational Innovation*, 6(2), 89–101.
- Salazar, E. B., Abad, R. T., & Cruz, M. F. (2022). Impact of outcomes-based education on teacher performance and student learning outcomes. *Journal of Asian Education Studies*, 7(2), 80-94.
- Spearman, C. (1904). The proof and measurement of association between two things. *American Journal of Psychology*, 15(1), 72-101.
- Spady, W. (1994). *Outcomes-Based Education: Critical issues and answers*. American Association of School Administrators.
- Tam, M. (2014). Outcomes-based approach to quality assessment and curriculum improvement in higher education. *Quality Assurance in Education*, 22(2), 158–168.
- Tam, M. (2022). Outcomes-based education: Curriculum alignment and teaching improvement in higher education. *Educational Studies Journal*, 10(1), 101-118.
- Zamora, R. T., del Rosario, J. C., & Santos, L. P. (2021). Challenges and successes of OBE in Philippine education. *Educational Innovations Journal*, 6(2), 120-138.