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Outcome-Based Education: An Educational Strategy

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ABSTRACT:

The move to OBE (outcome-based education) has been discussed as one of the most important trends in higher education in the present era. This paper defines outcomes and outcome-based education, describes the development of outcome-based education, identifies several different ways that outcomes have been presented, and discusses the advantages and disadvantages of the outcome-based educational approach. The implementation of outcome-based education in higher educational institutions is described as a case study for curriculum planners in the higher educational institutions. The lessons learned from many of the experiences and steps practised as a part of an automation project at higher educational institutions.

DEFINITION

Outcomes

The definition highlights that an outcome is the ultimate manifestation of learning, emphasising the observable skills or knowledge a student should possess by the conclusion of a course

OBE (Outcome Based Education)

The essence of Outcome-Based Education (OBE) is captured in the notion that, as articulated by Harden and colleagues, "product defines process." In OBE, the focus is on results, and it stands in contrast to input-based education where the emphasis lies on the educational process, and the outcome is accepted regardless. The distinction between outcome-based education and merely generating outcomes within an existing curriculum is emphasised. As Spady asserts, being "outcome-based" is not about overlaying outcomes onto a curriculum; instead, it signifies a transformative approach to education, fundamentally altering how education is conducted. OBE, therefore, represents a shift towards a results-oriented paradigm in education.

DEVELOPMENT OF OUTCOME-BASED EDUCATION (OBE)

The development of Outcome-Based Education (OBE) in the United States, particularly in pre-university education, was driven by the need for reform highlighted in the Coleman report of 1966. This report exposed issues in the educational system, attributing results primarily to socioeconomic and ethnic backgrounds. In response, a call for reform emphasised clarity of focus, expanded opportunity, and high expectations.

Educators, drawing from the works of Carroll and Bloom, sought a shift from fixed time-based learning to uniform minimum standards achievable by all students. Carroll argued against fixing study time, proposing a standard that all students could attain. Bloom expanded this concept into mastery learning, where fixed performance levels were expected, and time became the variable. These ideas laid the foundation for Outcome-Based Education.

In 1992, the State Board of Education in Pennsylvania replaced the traditional school calendar with performance capabilities. Glendale, Arizona, extended the school day independently to enhance resource utilisation. Aurora public schools in Colorado identified role-based exit outcomes in 1990, emphasising qualities like self-directed learning, collaboration, critical thinking, community contribution, and quality production.

To address Indian aspects, it would be essential to explore how Outcome-Based Education principles have influenced or could be adapted to the Indian education system. This might involve considering cultural nuances, regional needs, and the specific challenges faced by Indian educational institutions. Additionally, examining any ongoing initiatives or reforms in India related to outcome-based approaches would provide valuable insights into the local context.

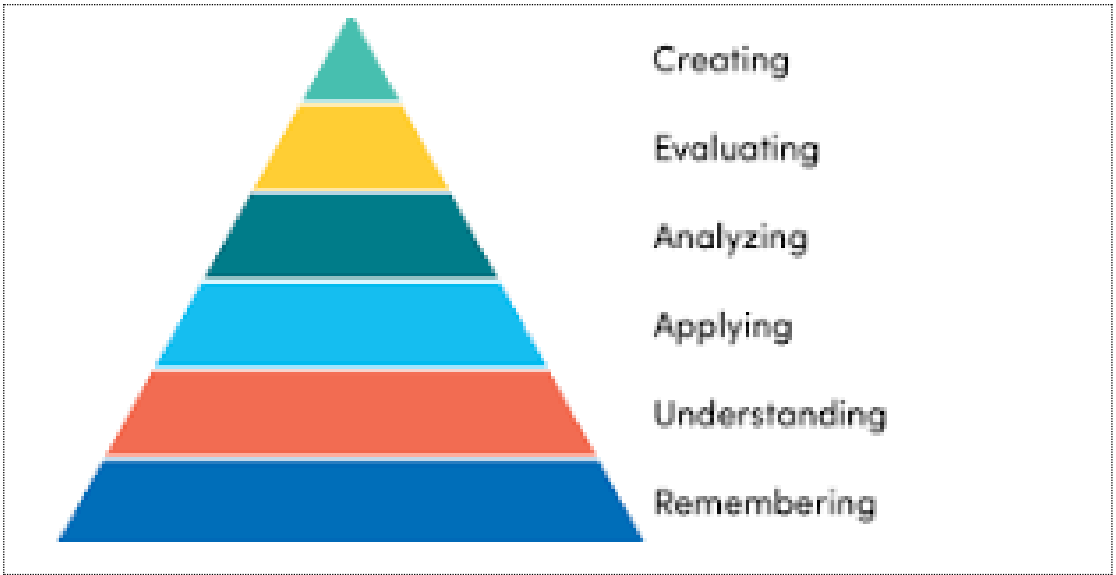
Bloom's Taxonomy

The "cognitive pyramid" is not a standardised or widely recognized term in the field of education or psychology. However, it's possible that the term is being used to refer to a conceptual representation of cognitive processes based on levels of complexity or hierarchy. If you are referring to a pyramid-like structure that represents cognitive functions, it might be associated with models like Bloom's Taxonomy. Bloom's Taxonomy, a well-known framework in education, categorises cognitive skills into a hierarchical structure, often represented as a pyramid. The levels in the pyramid, are:

1. Creating: (Generate, Develop, Synthesize, Design and implement)
2. Evaluating: (Assess, Make judgments, Evaluate, Formulate critiques)

3. Analysing: (Break down, Identify, Analyze, Examine)
4. Applying: (Apply, Use, Implement, Demonstrate application)
5. Understanding: able to Explain, Summarise, Interpret, Demonstrate comprehension)
6. Remembering: (able to Recall, List, Recognize, Memorise)

The terms in the brackets represent action verbs associated with each level of Bloom's Taxonomy



Pic 1: Bloom's Taxonomy | Cognitive Pyramid

PRESENTATION OF OUTCOME-BASED EDUCATION (OBE)

The presentation of outcomes in the context of Outcome-Based Education (OBE) refers to how the achieved results or learning accomplishments are communicated, documented, and shared. It involves the effective communication of what students are expected to know and be able to do at the end of an educational program or course. Here are key aspects to consider in the presentation of outcomes:

Clarity and Transparency:

- Clearly articulate the intended learning outcomes in a course that is easily understandable by the various stakeholders, including students, teachers, parents, and employers.

Alignment with Educational Goals:

- Ensure that the presented outcomes align with the broader educational goals and mission of the institution. This alignment provides a cohesive framework for understanding the educational journey.

Measurable and Observable:

- Clearly state outcomes in a way that allows for measurable and observable assessment. This involves using specific action verbs and criteria that can be assessed to determine the level of achievement.

Use of Visual Aids:

- Utilise visual aids such as charts, graphs, or diagrams to represent the hierarchical structure of outcomes, their relationships, and the progression of skills. Visual representations can enhance understanding.

Incorporate Real-World Relevance:

- Connect outcomes to real-world applications or scenarios. Demonstrating the practical relevance of the outcomes can motivate learners and help them see the value in acquiring specific skills or knowledge.

Differentiation of Levels:

- If there are multiple levels of outcomes (e.g., program-level outcomes, course-level outcomes), clearly differentiate and present each level. This helps stakeholders understand the hierarchical nature of the outcomes.

Interactive Presentations:

- Consider using interactive methods, such as workshops or presentations with discussions, to engage stakeholders in understanding and interpreting the outcomes. This can facilitate a more dynamic and participatory process.

Technological Tools:

- Explore the use of technological tools for presenting outcomes, such as online platforms, multimedia presentations, or e-portfolios. These tools can enhance accessibility and engagement.

Feedback Mechanisms:

- Establish feedback mechanisms to gather input from stakeholders on the presented outcomes. Feedback can provide valuable insights for continuous improvement and refinement of the outcome statements.

Documentation:

- Create comprehensive documentation that outlines the outcomes, assessment methods, and criteria for success. This documentation serves as a reference for all stakeholders and ensures consistency in understanding.

Cultural Sensitivity:

- Be mindful of cultural sensitivities and nuances in the presentation of outcomes, especially in diverse educational settings. Ensure that the language and context are inclusive and respectful.

Adaptability:

- Recognize that the presentation of outcomes may need to be adaptable based on the audience. Tailor the presentation approach for students, parents, faculty, and other stakeholders.

Effectively presenting outcomes in an Outcome-Based Education framework is a crucial element in fostering a shared understanding of educational objectives and promoting a culture of continuous improvement.

ADVANTAGES OF OUTCOME-BASED EDUCATION (OBE)

Outcome-Based Education (OBE) offers several advantages, contributing to a more effective and student-centred educational experience. Here are some key advantages of OBE:

Clarity of Expectations

- OBE provides clear and measurable learning outcomes, outlining what students are expected to know and be able to do. This clarity helps both educators and students understand the goals of the educational program.

Focus on Results

- The primary focus of OBE is on outcomes or results rather than just the delivery of content. This shift in focus encourages a results-oriented approach, emphasising the application of knowledge and skills.

Alignment with Educational Goals

- OBE ensures that educational objectives and outcomes align with the broader goals and mission of the institution. This alignment helps maintain consistency and coherence in the educational experience.

Customization and Flexibility

- OBE allows for customization of learning experiences to meet individual student needs. Educators can adapt teaching methods, materials, and assessments to facilitate better understanding and achievement of outcomes.

Measurable Assessment

- Learning outcomes in OBE are designed to be measurable, allowing for clear assessment of student performance. This facilitates the identification of strengths and areas needing improvement, enabling targeted interventions.

Continuous Improvement

- OBE encourages a culture of continuous improvement. Regular assessment and feedback loops enable educators to refine and enhance teaching methods, content, and assessments to better support student learning.

Student-Centred Approach

- OBE places a strong emphasis on student learning and development. It empowers students to take an active role in their education, fostering a sense of ownership and responsibility for their learning outcomes.

Real-World Application

- By focusing on practical, real-world application of knowledge and skills, OBE prepares students for professional and life challenges. This can enhance their ability to apply theoretical knowledge in practical settings.

Enhanced Accountability

- OBE introduces a higher level of accountability for both educators and students. Educators are accountable for delivering effective instruction, while students are accountable for achieving specified outcomes.

Improved Communication

- Clearly defined outcomes in OBE facilitate improved communication between educators, students, parents, and other stakeholders. Everyone involved in the educational process can easily understand and discuss the goals and expectations.

Global Relevance

- OBE can enhance the global relevance of education by focusing on competencies and skills that are applicable in various cultural and professional contexts. This prepares students for a globalised and interconnected world.

Efficient Resource Utilisation

- OBE encourages the optimization of resources, as educators can tailor instructional strategies and resources based on the specific needs of students and the desired outcomes.

While OBE has these advantages, successful implementation requires careful planning, ongoing assessment, and a commitment to continuous improvement. Additionally, it is essential to consider the context and cultural aspects of the educational environment.

DISADVANTAGES OF OUTCOME-BASED EDUCATION (OBE)

While Outcome-Based Education (OBE) has its advantages, it also faces some potential disadvantages, including

Rigidity and Standardization

- Outcome-Based Education (OBE) can face criticism for its potential to introduce rigid assessment methods and standardised testing, limiting the flexibility to evaluate diverse learning styles and outcomes.

Implementation Challenges

- The implementation of OBE can be time-consuming and resource-intensive, requiring significant adjustments to teaching methodologies and potential resistance from educators accustomed to traditional approaches.

Potential Overemphasis on Assessment

- OBE's emphasis on measurable outcomes may lead to a disproportionate focus on assessment metrics, potentially encouraging "teaching to the test" and diverting attention from the overall educational experience and creativity.

CASE STUDIES FOR IMPLEMENTING OUTCOME BASED EDUCATION (OBE) IN HIGHER EDUCATIONAL INSTITUTION USING HYBRID METHOD

Case studies are conducted using the experiences documented by the journal author. They involve an in-depth analysis of real-world situations, aiming to draw practical lessons and insights from the author's experiences documented in the case study. This approach contrasts with fetching original program code or course materials, as the emphasis is on understanding the complexities of specific scenarios and deriving valuable knowledge from the author's firsthand experiences

Stakeholders of Higher Educational Institution

- Students
- Parents and Families
- Faculties and staff
- Administrators and Leaders
- Alumnus
- Employers and industry partners
- Government and Regulatory Bodies
- Community and Local Residents
- Donors and Philanthropists
- International Partners

Programmes and its Outcomes

Sample Programme: Bachelor of Business Administration (BBA) in Hotel Management

PO1. Operational Proficiency

- Outcome: Graduates will demonstrate comprehensive knowledge and proficiency in managing various hotel operations, including front office, housekeeping, food and beverage services, and event planning.

PO2. Strategic Management Skills

- Outcome: Graduates will develop strategic management skills, enabling them to contribute to the effective planning, organisation, and decision-making processes within the hospitality industry.

PO3. Customer Experience Management

- Outcome: Graduates will excel in providing outstanding customer experiences by understanding guest needs, managing service quality, and ensuring customer satisfaction.

PO4. Leadership and Team Collaboration

- Outcome: Graduates will exhibit strong leadership and team collaboration skills, effectively managing and motivating diverse teams in the dynamic hospitality environment.

PO5. Global Perspective and Cultural Competence

- Outcome: Graduates will demonstrate a global perspective and cultural competence, understanding and respecting diverse cultures to enhance international guest relations and global business operations.

PO6. Ethical and Sustainable Practices

- Outcome: Graduates will adhere to ethical business practices, incorporating sustainability principles into hotel management, and promoting social and environmental responsibility.

These program outcomes collectively prepare students for successful careers in hotel management, equipping them with the knowledge, skills, and values necessary for leadership roles in the dynamic and globalised hospitality industry.

List of Courses BBA in Hotel Management program under each semester:

Semester 1:

1. Introduction to Hospitality Management - Theory
2. Principles of Hotel Operations - Theory
3. Business Communication - Theory
4. Introduction to Culinary Arts - Practical

Semester 2:

5. Front Office Management - Theory
6. **Food and Beverage Management - Theory**
7. Principles of Marketing in Hospitality - Theory
8. Hospitality Law and Ethics - Theory

Semester 3:

9. Accounting for Hospitality Management - Theory
10. Housekeeping Management - Theory
11. Introduction to Event Management - Theory
12. Culinary Techniques - Practical

Semester 4:

13. Human Resource Management in Hospitality - Theory
14. Revenue Management - Theory
15. Business Statistics for Hospitality - Theory
16. International Cuisine - Practical

Semester 5:

17. Strategic Management in Hospitality - Theory
18. Customer Relationship Management - Theory
19. E-Business in Hospitality - Theory
20. Advanced Culinary Arts - Practical

Semester 6:

21. Sustainable Practices in Hospitality - Theory/Practical
22. Leadership and Team Building - Theory/Practical

23. Internship/Industry Placement - Practical
24. Research Project in Hotel Management - Theory/Practical

Please note that the categorization of courses as practical or theory may vary based on the specific structure and approach of the program and the institution offering it. Some courses, especially those with a practical component, may include both theoretical and hands-on elements.

Selected Course Title: Food and Beverage Management (Term 2) for OBE implementation

Course Description:

This course focuses on the art and science of Food and Beverage Management within the context of hotel and hospitality operations. Students will delve into the fundamentals of baking, with a special emphasis on classic vanilla cake preparation. Topics covered include ingredient selection, mixing techniques, baking principles, decorating, and presentation. The course will also address the business aspect of pastry and baking, covering cost management, menu planning, and customer satisfaction.

Course Outcomes:

CO1. Master the techniques of classic vanilla cake preparation, including batter mixing, baking, and frosting.
CO2. Understand the science behind baking, including the role of ingredients and the impact of various factors on the final product.
CO3. Develop creative skills in cake decorating and presentation to meet aesthetic and culinary standards.
CO4. Explore the business side of pastry management, including cost control, pricing strategies, and menu planning.
CO5. Emphasise the importance of customer satisfaction and effective communication in a pastry and baking setting within a hotel environment.

This course provides a hands-on approach to learning the intricacies of classic vanilla cake preparation while also incorporating essential managerial and business aspects relevant to the broader BBA Hotel Management program.

CO-PO (Course Outcomes - Program Outcomes) Mapping Matrix;

The CO-PO (Course Outcomes - Program Outcomes) Mapping Matrix is a tool used in educational assessment to establish the relationship between specific learning outcomes at the course level (COs) and the broader program-level outcomes (POs).

*	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	0	1	0	0	0
CO2	3	1	0	0	0	0
CO3	2	0	1	0	0	0
CO4	0	2	0	3	1	3
CO5	0	0	3	3	0	3

Table 1: CO-PO Mapping Matrix

Here, each cell represents the level of alignment between the Course Outcomes (CO) and Program Outcomes (PO), where: 0: Nil Alignment, 1: Low Alignment, 2: Medium Alignment, 3: High Alignment

For example, CO1 is highly aligned with PO1, has low alignment with PO3, and nil alignment with other POs. Adjustments can be made based on the specific emphasis and coverage of each course outcome in relation to the program outcomes.

MEASURING COURSE OUTCOMES

Measuring course outcomes involves assessing the extent to which students have achieved the intended learning objectives and competencies defined for a particular course. Here are common methods used to measure course outcomes:

1. Examinations and Tests:

Formative Assessments: Regular quizzes and tests throughout the course to gauge ongoing understanding.
Summative Assessments: Final exams that comprehensively cover the course material.
Eg: CIA 1, CIA 2, ESA 1, ESA 2, etc

2. Assignments and Projects:

Completion of assignments and projects that require application of knowledge and skills acquired during the course.

3. Class Participation:

Active engagement in class discussions, presentations, and activities that demonstrate understanding and application of concepts.

4. Laboratory and Practical Assessments:

Evaluation of practical skills and application through laboratory work, experiments, or hands-on activities.

5. Portfolios:

Compilation of student work, reflections, and achievements throughout the course as evidence of learning and growth.

6. Peer and Self-Assessment:

Involving students in evaluating their own work or the work of their peers, fostering reflective learning.

7. Surveys and Feedback:

Collecting feedback from students through surveys to understand their perception of the course and its impact on their learning.

8. Case Studies and Simulations:

Analysing real-world scenarios or engaging in simulations to assess problem-solving and decision-making skills.

9. Performance-Based Assessments:

Evaluating student performance in specific tasks or simulations that mirror real-world situations relevant to the course.

10. Capstone Projects:

Culminating projects that require students to integrate knowledge and skills acquired throughout the course to solve a complex problem.

11. Rubric and Grading Criteria:

Clearly defined Rubric and grading criteria for assignments and assessments, providing transparency in evaluation.

Eg: Assignments

12. External Evaluations:

Involving external experts or industry professionals to assess and validate the practical relevance and applicability of course outcomes.

Measuring course outcomes should be aligned with the goals and objectives of the course, and a combination of these assessment methods may be employed to provide a comprehensive understanding of student achievement.

MEASURING COURSE OUTCOMES USING AN ASSESSMENT (HYBRID MODEL):

Course attainment refers to the overall achievement of learning goals and objectives by students within a specific course. Measuring course attainment involves assessing the collective performance of students to determine the extent to which they have acquired the intended knowledge, skills, and competencies outlined in the course curriculum. Here, present how to measure the course attainment of an assessment or a test.

Material 1: Sample Question Paper of Internal Examination - 1

Course: Pastry and Baking Management

Total Marks: 40

Section A: Knowledge and Understanding (Easy - 16 Marks)

1. [2 Marks]

Objective: Recall the primary ingredient used in a classic vanilla cake.

Bloom's Level: Remembering

CO2 - Understand the science behind baking.

2. [2 Marks]

Objective: List two essential steps in cake frosting.

Bloom's Level: Remembering

CO1 - Master the techniques of classic vanilla cake preparation.

3. [4 Marks]

Objective: Explain the role of leavening agents in cake batter.

Bloom's Level: Understanding

CO2 - Understand the science behind baking.

4. [4 Marks]

Objective: Identify two factors that contribute to the texture of a well-baked cake.

Bloom's Level: Understanding

CO2 - Understand the science behind baking.

5. [4 Marks]

Objective: Define the term "mise en place" in the context of baking.

Bloom's Level: Remembering

CO3 - Develop creative skills in cake decorating and presentation.

Section B: Application and Analysis (Moderate - 12 Marks)

6. [3 Marks]

Objective: Given a scenario, propose two cost control measures in a pastry kitchen.

Bloom's Level: Applying

CO4 - Explore the business side of pastry management.

7. [3 Marks]

Objective: Analyse the impact of customer satisfaction on the success of a pastry and baking setting within a hotel environment.

Bloom's Level: Analysing

CO5 - Emphasise the importance of customer satisfaction.

8. [6 Marks]

Objective: Design a menu for a special pastry event, considering cost-effectiveness and aesthetic appeal.

Bloom's Level: Creating

CO3 - Develop creative skills in cake decorating and presentation.

Section C: Synthesis and Evaluation (Difficult - 12 Marks)

9. [4 Marks]

Objective: Develop a comprehensive plan for introducing sustainable practices in a pastry kitchen.

Bloom's Level: Creating

CO6 - Adhere to ethical and sustainable practices.

10. [4 Marks]

Objective: Evaluate the effectiveness of a menu pricing strategy for a high-end pastry shop.

Bloom's Level: Evaluating

CO4 - Explore the business side of pastry management.

11. [4 Marks]

Objective: Synthesise information on global baking trends and their potential impact on local pastry businesses.

Bloom's Level: Synthesising

CO5 - Demonstrate a global perspective and cultural competence.

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This sample question paper provides a variety of questions aligned with different levels of Bloom's Taxonomy and the specified course outcomes. The distribution ensures a balance of easy, moderate, and difficult questions, contributing to a total of 40 marks.

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Material 2: Facesheet of each student prepared based on the assessment

Name of the Examination : 'CIA 1' Examination (November 2023)
Course Name : Pastry and Baking Management
Name of the Student : Akshay KK
Register Number : CQW23BBA0034

Question No.	**CO**	**Cognitive Level**	**Max Mark**	**Secured Mark**	**Remarks**
1	CO2	Remembering	2		
2	CO1	Remembering	2		
3	CO2	Understanding	4		
4	CO2	Understanding	4		
5	CO3	Remembering	4		
6	CO4	Applying	3		
7	CO5	Analysing	3		
8	CO3	Creating	6		
9	CO6	Creating	4		
10	CO4	Evaluating	4		
11	CO5	Synthesising	4		
Total Marks			**40**		

Table 2: Facesheet used for mark entry of an assessment

Material 3: Benchmarks

Targeted Percentage (Competence Threshold)

Academic Year	Targeted Percentage (Competence Threshold)
2023-24	50%
2022-23	40%

Table 3: Benchmark data based on academic year

Targeted Achievement Levels and Attainment Mapping

Expectation Level	Class Strength	Targeted Achievement (%)	Targeted Strength	Attainment
1	30	40%	40% of 30 students=12	1 out of 3
2	30	50%	50% of 30 students=15	2 out of 3
3	30	60%	60% of 30 students=18	3 out of 3

Table 4: Targeted strength of a class of students data

Material 4: Mark Entry Sheet analysis

Tabulation analysis sheet based on Course Outcomes

CO	**Max Marks**	**Targeted Marks (At 50% CT)**	**No. of students above Targeted Marks**	**Attainment Scored**
CO1	2	1	16	2
CO2	10	5	20	3
CO3	10	5	10	0
CO4	7	3.5	12	1
CO5	7	3.5	17	2
CO6	4	2	22	3

Table 5: CO Based Mark analysis sheet

Material 5: Attainment Sheet analysis

Attainment analysis sheet based on Course Outcomes for all assessments

CO	**Attainment On CIA - 1**	**Attainment On CIA - 2**	**Attainment On CIA - 3**	**Average of Attainments**
CO1	2	3	1	**2.00**
CO2	3	2	1	**2.00**
CO3	0	3	2	**1.67**
CO4	1	2	3	**2.00**
CO5	2	0	3	**1.67**
CO6	3	1	2	**2.00**
Average Course Attainment				**1.89**

Table 6: CO Based attainment analysis sheet of a group of assessments

Material 6: Attainments of Assessment Sheet analysis

Attainment of Attainment analysis sheet based on attainments for all type of assessments

Assessment Group	**Attainment Scored**	**Weightage (%)**	**Weighted Attainment**
CIA	1.89	20%	0.38
Externals	2.43	60%	1.46
Surveys	2.90	20%	0.58
Weighted Course Attainment			**2.42**

Table 7: CO Based weighted attainment analysis

MEASURING PROGRAMME OUTCOMES

Measuring program outcomes involves evaluating the overall achievement of learning objectives and competencies at the program level. This assessment goes beyond individual courses and looks at the collective impact of the entire program on student learning and development

*	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	0	1	0	0	0
CO2	3	1	0	0	0	0
CO3	2	0	1	0	0	0
CO4	0	2	0	3	1	3
CO5	0	0	3	3	0	3
Average	1.6	0.6	1	1.2	0.2	1.2
PO Attainment	**1.29**	**0.48**	**0.81**	**0.97**	**0.16**	**0.97**

Table 8: PO Attainment Data

Calculation involves a multi-step process. Let's break it down:

Calculation of Level Weighted Average:

Calculate the weighted average of the levels using the formula:

Weighted Average = Sum of Cardinality Level / Number of Cardinality.

PO Attainment Calculation:

Multiply the Level Weighted Average by the Course Attainment.

In summary, Programme Attainment is often assessed through a combination of quantitative and qualitative measures, and a single value might not encapsulate the full picture of educational outcomes and program effectiveness

MEASURING STUDENT OUTCOMES ON ASSIGNMENTS USING RUBRIC

After conducting the assessment, you can measure the cognitive outcomes by reviewing students' performance in these specific areas. Analyse the results, identify trends, and provide feedback to students to support their ongoing development in the cognitive domain.

Rubric is a systematic and standardised set of guidelines or criteria used to assess and evaluate students' work, performance, or achievements. It provides a clear and transparent framework for grading assignments, projects, or assessments. Rubric typically includes detailed descriptions of different levels of performance for each criterion, allowing instructors to communicate expectations and providing students with a roadmap for success. The use of Rubric helps ensure consistency in grading and provides constructive feedback to students on their strengths and areas for improvement.

Creating a Rubric for an assignment involves defining clear criteria and levels of performance that help assess students' work. To measure the strength of students' performance on each criterion, you can assign a numerical value or qualitative description to different levels of achievement. Here's a step-by-step guide:

Step 1: Define Criteria

Clearly articulate the criteria that will be assessed. Each criterion should represent a specific aspect of the assignment. For example:

Criterion 1: Content Knowledge

Criterion 2: Organization and Structure

Criterion 3: Writing Style and Clarity

Step 2: Define Levels of Performance

For each criterion, specify different levels of performance. These can be described using qualitative terms or numerical values. For example:

Level-4 (Excellent): Exceptional understanding of content, well-organised, and articulate.

Level-3 (Good): Solid understanding, organised, and clear communication.

Level-2 (Satisfactory): Basic understanding, somewhat organised, and clear communication.

Level-1 (Needs Improvement): Limited understanding, disorganised, & unclear communication.

Step 3: Create a Rubric Matrix

Organise the criteria and levels into a matrix format. Here's a simplified example for one criterion:

Criteria 1 - Content Knowledge

Levels	**Description**
4 (Excellent)	Exceptional understanding of content, well-organised
3 (Good)	Solid understanding, organised
2 (Satisfactory)	Basic understanding, somewhat organised
1 (Needs Improvement)	Limited understanding, disorganised
0 (NA)	Not Completed (Not written)

Table 9: Rubric Criteria (RC) - Criteria 1

The same table can be replicated for other criterias. Follow the grading for each criteria for each student.

Step 4: Assign Points or Weightings

Determine the points or weightings for each level. For example, you might assign a score out of 5 for each level, with higher scores for stronger performances.

Step 5: Evaluate Student Work

When assessing student work, review each criterion and assign the appropriate level based on the quality of the work. Aggregate the scores across all criteria to calculate the overall grade for the assignment.

Step 6: Provide Feedback

Use the Rubric to provide specific feedback to students. Highlight their strengths and areas for improvement based on the criteria and levels.

By following these steps, you can create a robust Rubric that effectively measures the strength of students' performance on different criteria in their assignments.

COMPELLING AGENCIES TO IMPLEMENT OBE

Here is a list of key organisations and agencies that play significant roles in promoting and overseeing educational standards, quality assurance, and assessment practices, contributing to the advancement of outcome-based education:

NAAC (National Assessment and Accreditation Council) - India
AAC&U (Association of American Colleges and Universities) - United States
QAA (Quality Assurance Agency for Higher Education) - United Kingdom
CHEA (Council for Higher Education Accreditation) - United States
UNESCO (United Nations Educational, Scientific and Cultural Organization)
INQAAHE (International Network for Quality Assurance Agencies in Higher Education)
ACCJC (Accrediting Commission for Community and Junior Colleges) - United States
HEQC (Higher Education Quality Committee) - South Africa
World Bank - Education Division
ABET (Accreditation Board for Engineering and Technology) - United States
NIRF (National Institutional Ranking Framework) - India

NCTE (National Council for Teacher Education) - India
UGC (University Grants Commission) - India
WA (WASHINGTON ACCORD) - United States

These organisations, whether at the national or international level, contribute significantly to the development, implementation, and oversight of outcome-based education practices and standards.

SUMMARY:

Outcome-based education has much to offer higher educational institutions. The approach is based on sound educational principles and provides a robust framework for students to acquire the necessary fitness to practise. The hybrid model of outcome-based education provides a template that can be used by a range of professions at the undergraduate, postgraduate, and continuing-education levels. Institutionalisation of the approach requires fundamental restructuring of the school and an intensive planning process, with taxing activities on many fronts. In my visits to various educational institutions over the last five years, I've observed that many educators keenly align their outcomes with a focused window into the world of education.

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5. EMBASE Pro Suit Website and the document, Standard operating Protocols on OBE.

ABBREVIATIONS

In the context of Outcome-Based Education (OBE), several abbreviations are commonly used to refer to key concepts and elements associated with this educational approach. Here are some common abbreviations related to Outcome-Based Education:

1. OBE: Outcome-Based Education
2. CO: Course Outcome also Known as CO: Course Outcome
3. PO: Program Outcome
4. PSO: Program Specific Outcome
5. PEO: Program Educational Objective
6. LO: Learning Objectives
7. SO: Student Outcome
8. NAAC: National Assessment and Accreditation Council
9. AAC&U: Association of American Colleges and Universities - United States
10. QAA: Quality Assurance Agency for Higher Education - UK
11. CHEA: Council for Higher Education Accreditation - United States
12. UNESCO: United Nations Educational, Scientific and Cultural Organization
13. INQAAHE: International Network for Quality Assurance Agencies in Higher Education
14. ACCJC: Accrediting Commission for Community and Junior Colleges) - United States
15. HEQC: Higher Education Quality Committee - South Africa
16. ABET: Accreditation Board for Engineering and Technology - United States
17. NIRF: National Institutional Ranking Framework - India
18. NCTE: National Council for Teacher Education - India
19. UGC: University Grants Commission - India
20. CBT: Competency-Based Training
21. TQM: Total Quality Management
22. EMBASE - Emdot's Brilliant Application Software for Educational institutions

These abbreviations are used in documents, discussions, and literature related to Outcome-Based Education to efficiently refer to specific aspects of the approach and its implementation.

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