International Journal of Psychological Science
2025, Vol. 5, No. 1, pp. 8-17
https://doi.org/10.11648/j.ijps.20250501.12

Review Article

Triangulating Effective Teaching: Flipped Learning, Bloom's Taxonomy and Outcome Based Education in Review

Farah Shaikh*

Mehran University Institute of Science Technology and Development, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan

Abstract

Educational paradigms have gradually evolved from traditional knowledge-based instruction to competency-based education, and more recently, to outcome-based education (OBE). This transition indicates a growing emphasis on measurable learning outcomes and the holistic development of learners. The present review blends existing literature to explore this educational shift through a psychological lens, focusing on the integration of Bloom's Taxonomy, student engagement, and flipped learning within the framework of OBE. Bloom's Taxonomy, a widely adopted classification of educational objectives, is studied across its three domains: cognitive, affective, and psychomotor. Each domain holds psychological significance, encompassing intellectual capabilities, emotional responses, and physical skill development—essential aspects of comprehensive learner growth. This review also explores flipped learning as an instructional model that promotes active, learner-centered environments. Grounded in cognitive and behavioral theories, flipped learning is shown to enhance student engagement by fostering autonomy, intrinsic motivation, and deeper cognitive processing. Student engagement itself is conceptualized as a multidimensional construct involving cognitive, emotional, and behavioral components, each contributing to academic achievement and psychological well-being. By aligning these constructs with the goals of OBE, the review highlights how psychological principles can inform educational design and implementation. The article ultimately claims that the integration of Bloom's domains, student engagement strategies, and flipped learning approaches within outcome-based frameworks can significantly influence both educational structures and student outcomes. This synthesis provides insights for psychologists, educators, and policymakers aiming to foster environments that support meaningful learning, personal development, and measurable academic success. The findings underscore the importance of addressing psychological constructs in curriculum planning, instructional delivery, and assessment practices, emphasizing the role of educational psychology in shaping effective, student-centered learning experiences in contemporary educational systems.

Keywords

Flipped Learning, Bloom's Taxonomy, Student Engagement, Outcome-based Education

1. Introduction

The Higher Educational Institute (HEI) is part of a dynamic marketplace where students spend most of their era. The focus of this literature is to create links that how outcome-based education is achieved through flipped learning methods and it

*Corresponding author: farahshaikh@outlook.com (Farah Shaikh)

Received: 4 March 2025; **Accepted:** 11 April 2025; **Published:** 9 May 2025

is also studied that due to flipped classrooms student engagement is increased.

As the educational systems had an incremental change from knowledge-based education to outcome-based education. Multiple researchers had studied flipped learning and student engagement and also connected the effects with qualitative and quantitative research analysis. Student engagement is also connected with the understanding of outcome-based education and researchers have analyzed its effects on the achievements and productivity of students learning. Hence, this systematic literature review connects the flipped learning methodology with student engagement and it will help to generate outcome-based education results.

Understanding Bloom's Taxonomy that is used in flipped learning classrooms to evaluate the outcomes of learning in the different domains of taxonomy like; cognitive domain, affective domain, and psychomotor domain. When these learning domains are achieved effectively it generates student engagement. Student engagement also involves three engagements that increase the students' outcomes when working in certain environments. These engagements are emotional engagement, behavioral engagement, and cognitive engagement. All these engagements help in achieving the domains of bloom's taxonomy and generate outcome-based education which is focusing and organizing everything in the educational system around what is essential for every student to do successfully at the end of their learning experience [47]. This literature review is based on the explanation of flipped learning, Bloom's taxonomy, student engagement, and outcome-based education.

2. Flipped Learning

Flipped classrooms were initiated for the students who missed their classes by Jonathan Bergmann and Aaron Sams [19]. In some literature, flipped learning (FL) is also known as inverted classrooms [27]. FL is referred to as learner-centered pedagogy that promotes pre-class learning content for students that must be viewed, reviewed, or learned before class to promote engagement during class [6, 31]. Teachers should assimilate Flipped learning and use the following four pillars to increase the student's engagement [6].

2.1. Flexible Environment

In the sustenance of group work and individual studies, the teacher needs to create a flexible learning environment, and students can resolve their issues of learning interactively.

2.2. Learning Culture

It generates opportunities for reviewing, learning, socialization, association, and active engagement.

2.3. Intentional Content

Designing the content that helps students learn and acquire materials independently.

2.4. Professional Educator

Consistent guidance by the teachers and timely feedback on their work using dynamic assessment approaches.

Hence, compared to conventional learning where students may not fully engross in new topics, FL promotes students' learning initiative. It also helps them to effectively acquire new knowledge as they perform pre-class learning activities [31]. Although in, Non-flipped learning classroom, commonly known as traditional or conventional classrooms, it is difficult to address every student but in FL settings it helps to address a wide range of learners [22, 27]. Hence, the flipped learning technique is to enhance students learning, development and engagement.

The flipped classroom was initiated in 2007 by two high school chemistry teachers after discovering the benefits of recording capabilities within PowerPoint for students who were not present in the class. The model gained momentum in every subject due to the ability for deeper learning and inquiry [46, 2, 48]. In 2012, an instructional method is used where students take notes on teacher-prepared lectures at home and apply what they learned at home by doing higher-order thinking tasks in class with the teacher's support [46, 10] and it is shown in fig 1. The students are provided with guided time to analyze classroom content and collaborate to experience a deeper understanding of that particular subject as it provides a higher engagement level with the content whereas the traditional lectures cannot provide [25, 43, 17].

The model is used by teachers to transmit the knowledge from teachers to students in two phases i.e. pre-class and in-class. It allows the students to participate in activities that engage higher cognitive thinking levels and allows for more scientific discourse to occur as students must participate in activities that are learner-centered for the construction of knowledge [24]. Bloom's taxonomy further supports the model, in which the lower-level process of remembering and understanding occurs at home while the higher-level process of applying, analyzing, evaluating, and creating is performed during class time with the support of the teacher [49].

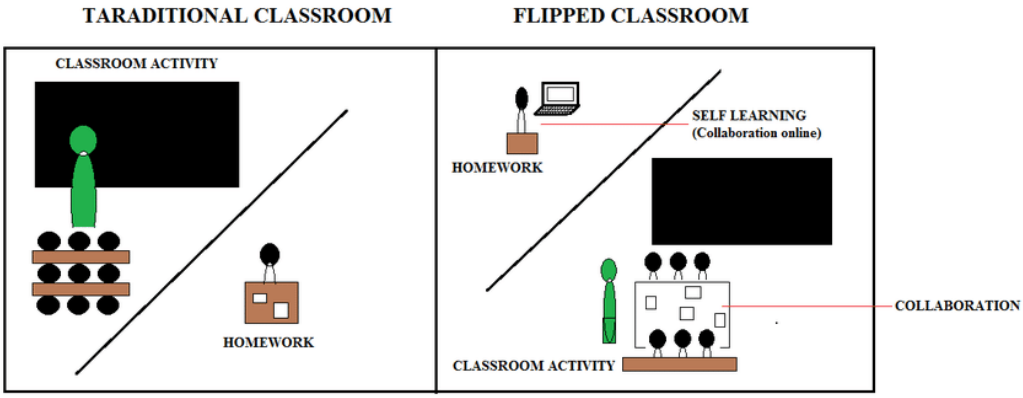

Figure 1. *Traditional Classroom versus Flipped Classroom [38].*

3. Bloom's Taxonomy

The educational objectives taxonomy is known as Bloom's Taxonomy. It is a system for classifying educational goals that are designed to be used in the test items and the formulation of the instructional objective [37]. Additionally, it is a schema that systematically categorized educational objectives [34]. Another researcher says it is constructed as a quantifiable, observable learning behavior that aids in planning and evaluating learning outcomes. This explains that the framework of Bloom's taxonomy is utilized as a planning tool as well as in another educational context to organize information and explain relationships between concepts or objects [44]. Hence bloom's taxonomy is the framework to evaluate the outcomes of learning.

Bloom's taxonomy is classified into three larger domains, namely cognitive, affective, and Psychomotor domains. Bloom's taxonomy is a multi-tiered model of classifying thinking. The cognitive domain has six cognitive levels of complexity, divided into the highest and lowest levels. The lowest three levels are knowledge, comprehension, and application while the highest three levels are: analysis, synthesis, and evaluation [23]. Affective domain deals with emotions, feelings, and attitudes to tasks. This domain is categorized into 5 sub-domains, i.e., receiving, responding, valuing, organization and characterization. While the psychomotor domain is concerned with the physical encoding of information, with movement or activities where the gross and fine muscles are used for expressing or interpreting information or concepts. The sub-domains are reflex movement, basic fundamental movement, perceptual abilities, physical activities, skilled movements, and non-discursive communication [16]. The three domains are described in detail below:

3.1. Cognitive Domain

It contains learning skills primarily related to mental thinking processes as it includes a hierarchy of skills involving processing information, constructing understanding, applying knowledge, solving problems, and conducting research [16]. The cognitive domain is divided into six categories according to its classification system of bloom. Each level describes the particular cognitive, or thinking, process that students must apply, ranging from simple to complex [44].

During the 1990s, a former student of Bloom's namely Lorin Anderson led a new assembly that updates the taxonomy, and six major categories were changed from noun to verb forms and were named remembering, understanding, applying, analyzing, evaluating, and creating [33, 23].

These terms are defined [33, 23]:

3.1.1. Remember

Retrieving, recalling, and recognizing the relevant knowledge from long-term memory. Verbs: Define, describe, list, memorize, recall, recognize, repeat, reproduce, state.

3.1.2. Understand

Defining the sense of instructional messages including oral, written, and graphic communication through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining. Verbs: Classify, discuss, identify, interpret, locate, paraphrase, report, summarize.

3.1.3. Apply

Executing or implementing the procedure in a given situation. Verbs: chose, demonstrate, dramatize, employ, illustrate, interpret, operate, use.

3.1.4. Analyze

Material is broken into essential parts and detects how the parts relate to one another and an overall structure or purpose through differentiating, organizing, and attributing. Verbs: Attribute, compare, deconstruct, integrate, organize, outline, and structure.

3.1.5. Evaluate

Checking, critiquing, and making judgments based on criteria and standards. Verbs: Argue, check, critique, defend, experiment, judge, select, support, test, value.

3.1.6. Create

Through generating, planning, and producing elements are put together to form a novel, coherent whole or make an original product. Verbs: Assemble, construct, design, develop, formulate, invent, produce, write.

The revised version of Bloom's Taxonomy is divided in a way that depicts the concept of Flipped learning in the classroom. These divisions are that the lowest levels of the cognitive domain are practiced outside the classroom i.e., remembering and understanding. While the highest forms of cognitive work include applying, analyzing, evaluating, and creating [49].

The level of students learning in the flipped learning according to the revised Bloom's Taxonomy is shown in figure 3 below.

The literature shows that flipped learning is adopted by Bloom's Taxonomy and it is also observed that these studies have a great impact on students' engagement and their sense of belonging towards the educational institute.

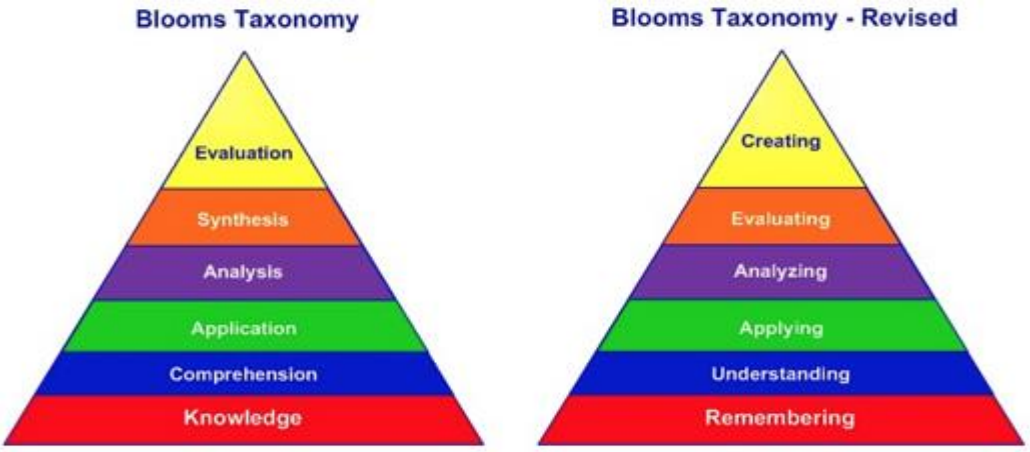

Figure 2. *Bloom's Taxonomy and Bloom's Taxonomy-Revised [23].*

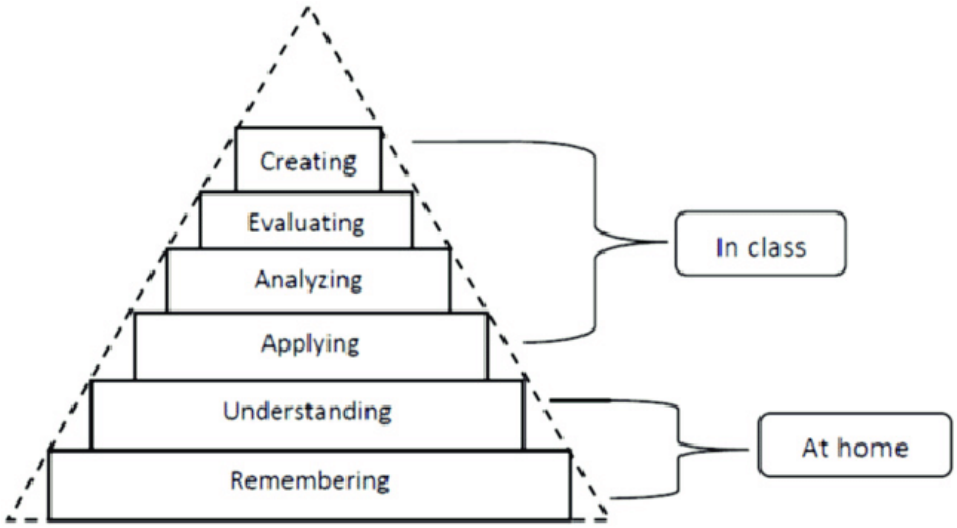

Figure 3. *Revised Bloom Taxonomy in flipped learning classroom [49].*

3.2. Affective Domain

Mostly learning is generalized as an intellectual or mental function but it's not just a mental (cognitive) function. It also makes individuals learn attitudes, behaviors, and physical skills. Hence the affective domain of Bloom's Taxonomy deals with feelings, emotions, motivations, and attitudes [16]. The affective domain is categorized into five sub-domains, i.e., receiving, responding, valuing, organization, and characteri-

zation. These terms are defined below [15, 44]:

3.2.1. Receiving

It is the awareness of feelings, emotions, and ability that is utilized from the attention in the environment. Verbs: Acknowledge, Ask, Follow, Give, Listen.

3.2.2. Responding

The active participation and displaying of new behavior as a result of experience or response to experience. Verbs: Answer, assist, aid, comply, conform, discuss, perform, question, tell.

3.2.3. Valuing

It is the ability to perceive the worth of something and displays definite involvement or commitment towards it. Verbs: Appreciate, cherish, treasure, demonstrate, initiate, invite, join, justify, share.

3.2.4. Organization

The ability to prioritize one value over another and integrate it. Verbs: compare, relate, synthesize, prioritize.

3.2.5. Characterization

The ability to consistently act according to the value and let then firmly control the behavior and experiences. Verbs: Act, discriminate, display, influence, modify, question, revise, show, verify.

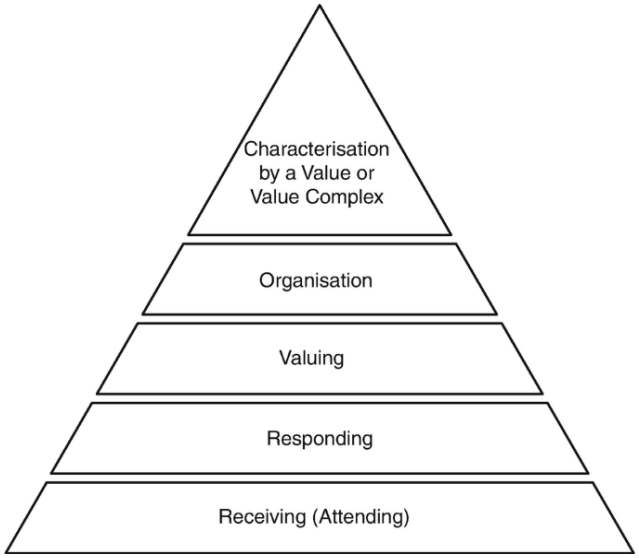

Figure 4. *Affective domain [3].*

The affective domain has a hierarchical structure as it is arranged from a simpler feeling to a more complex one. This structure is based on the principle of internalization and it refers to the process where effects towards things go from general awareness level to internalization and it generally guides and control behavior [16]. Hence, the affective domain deals with more complexity, and an individual becomes more involved, committed, and motivated toward achieving their goal.

3.3. Psychomotor Domain

The third domain of Bloom's taxonomy is the psychomotor domain and it is concerned with the physical encoding of information, with the movement or with the activities where the gross and fine muscles are used to express and interpret information or concepts [16]. This domain is further categorized into seven sub-domain that are defined below [16, 3, 44]:

3.3.1. Perception

The ability to practice sensory information for motor activity. Verbs: choose, describe, detect, differentiate, distinguish, identify, relate, select.

3.3.2. Set

The individual has the readiness to act including mental, physical, and emotional sets. Verbs: Act, begin, display, explain, move, proceed, show, state, volunteer.

3.3.3. Guided Response

The ability to imitate behavior or learning of complex skills utilizing trial and error. Verbs: copy, trace, follow react to, reproduce, respond.

3.3.4. Mechanism

The capability to convert learned responses into habitual actions with confidence and proficiency. Verbs: Assemble, build, calibrate, display, manipulate, measure, mix, organize, and use.

3.3.5. Complex Overt Response

The competence of performing complex patterns of actions. Verbs: assemble, build, calibrate, display, manipulate, measure, mix, organize, use (similar to mechanism but with better performance).

3.3.6. Adaption

The ability to modify learned skills to fit special requirements. Verbs: Adapt, alter, change, rearrange, reorganize, revise, vary.

3.3.7. Originator

Creating new movement patterns for a specific situation or to fit in a particular situation. Verbs: arrange, build, combine, compose, construct, design, initiate, make, respond.

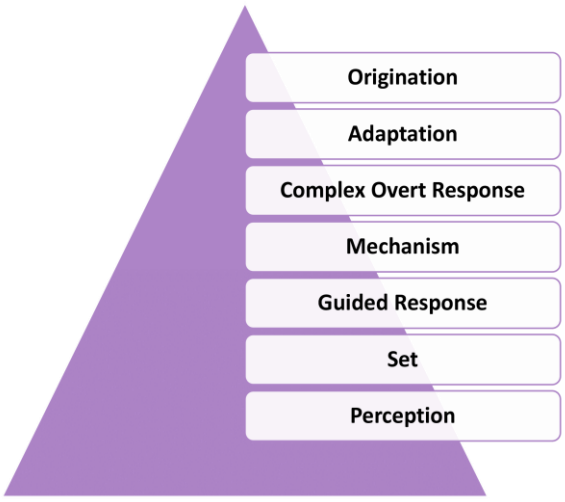

Figure 5. *Psychomotor domain [5].*

Why the Bloom's Taxonomy used?

The multi-layered answers are given by authors, learning goals are important to establish the flip or not to flip the learning so that teachers and students alike understand the purpose of interchange, teachers are benefitted by using frameworks to organize objectives because organizing helps to clarify objectives for teachers and as well as students and it also helps teachers in organizing a set of objective e.g., plan and deliver appropriate instruction, design valid assessment tasks and strategies and ensure that instruction and assessment are aligned with the objectives [18]. Hence, for aligning the classroom it is essential to design objectives and for designing objectives it is essential to have patterns bloom's Taxonomy is providing a proper framework that helps both students and teachers to work effectively and efficiently.

4. Student Engagement

Engagement is considered an essential contributor to learning and academic success, and the increasing research has linked student engagement to higher achievements, grades, and school completion rates [14, 42].

The student engagement concept emerged with the notion of "time on task" [20] and focus on the quality of efforts [30]. Lately, cognitive psychologists enhanced the concept as a meta-construct that is associated with students' academic achievements and positive behavior [36]. Researchers defined student engagement in multiple ways. The table below shows several definitions.

Table 1. *Multiple Definitions of Students Engagement.*

STUDENT ENGAGEMENT	RESEARCHERS
It is termed as students' interest and enjoyment	[40]
It is referred to as the willingness of students to participate in routine school activities, attend class, and do school work, and the tendency to stay on the mission	[7]
It is equated with students' motivation in terms of goals and values	[1]
It is the idea of active involvement, commitment, and concentrated attention.	[28]
It is the time and energy that students purposefully dedicate to learning activities	[21]
It is central to the teaching and learning process, and the pedagogical decisions made by teachers might be critical for students' engagement experiences	[41]

Engagement is defined as a meta-construct and refers to the active involvement in the learning activity [8] that includes closely interrelated engagements known as behavioral, cognitive, and emotional engagement [14, 9, 29, 6]. The above conceptualization of behavioral engagement involves exertion, energy, and involvement in academic, social, and as well as extracurricular activities, additionally, it is the serious achievement of constructive academic outcomes and prevents dropout. While, disruptive behaviors are an indicator of behavior disengagement [14, 9, 29, 6]. Cognitive engagement is categorized as 'investment', it means deliberation and enthusiasm to comprehend complicated concepts and became dominant in challenging skills [14, 39, 9, 29, 6] Emotional engagement involves student's positive and negative reactions and their state of mind of belonging or worth to their educational institute [14, 39, 9, 35, 29, 6]. It is also being observed that students' emotional engagement increases with the instructor's cognitive engagement and decreases with behavioral engagement while students' behavioral engagement decreases with the instructor's emotional engagement [32].

Multiple authors have conceptualized student engagement as three dimensional framework i.e. behavioral engagement, emotional engagement, and cognitive engagement [14, 42].

Therefore, the study is focused on the three dimensions of engagement:

4.1. Behavioral Engagement (BE)

It emphasizes the actual behavior of student's efforts and involvement for instance active participation with group members and within the class, seeking help from instructors for given tasks and learning activities [14, 31]. Therefore, BE is observed in both non-flipped learning and flipped learning.

4.2. Emotional Engagement (EE)

It is a general positive sentimental reaction to the class and it concerns questions regarding students feeling of belonging or significance to their educational institute [14, 39, 35, 31, 29] The EE is the feeling that the educational institute is the place where they can grow and enhance their learning and development.

4.3. Cognitive Engagement (CE)

It refers to the investment in one's activities and integrates the internal psychological abilities of the pupils or their invisible qualities that promote learning, understanding, and grasping knowledge and skills explicitly taught in school [14, 9, 40, 29] Hence, CE is focused between the student and learner and engagement towards learning.

5. Outcome-based Education (OBE)

Traditional curricula that provide knowledge-based education fails to meet students' expectation for relevant skills that are valuable to real companies and employers are demanding employees' skills to perform real-world tasks. Therefore, there is a shift in curricula from knowledge-based education to outcome-based education [47]. Since the OBE concept is the basis of the global educational standards, designed by AACSB (Association to advance collegiate Schools of Business), which are adopted by NBEAC (National Business Education Accreditation Council) of Pakistan [4].

The outcome means the expected result of action while Outcome-based education is defined as clearly focusing and organizing everything in the educational system around what is essential for every student to do successfully at the end of their learning experience [47]. It is high lightened that OBE emphasizes setting clear outcomes for the separated session in specific classes and specific disciplines by which students' performance can be measured [26, 11]. The outcome-based education is being recommended by Higher education institutes to generate higher engagement and the ease to apply the learned knowledge in organizations.

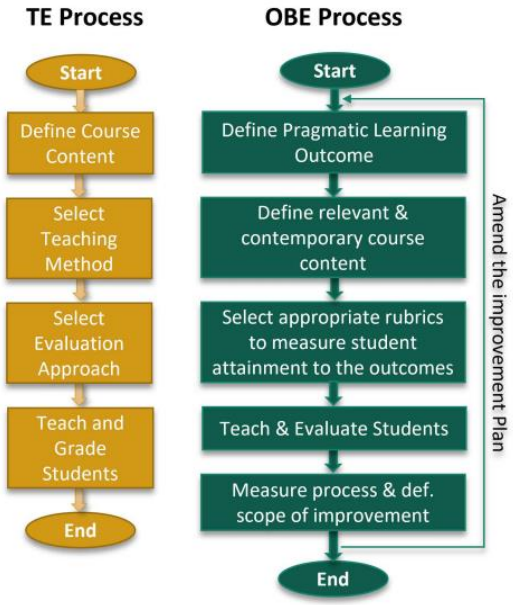

Figure 6. *Comparison of TE and OBE [45].*

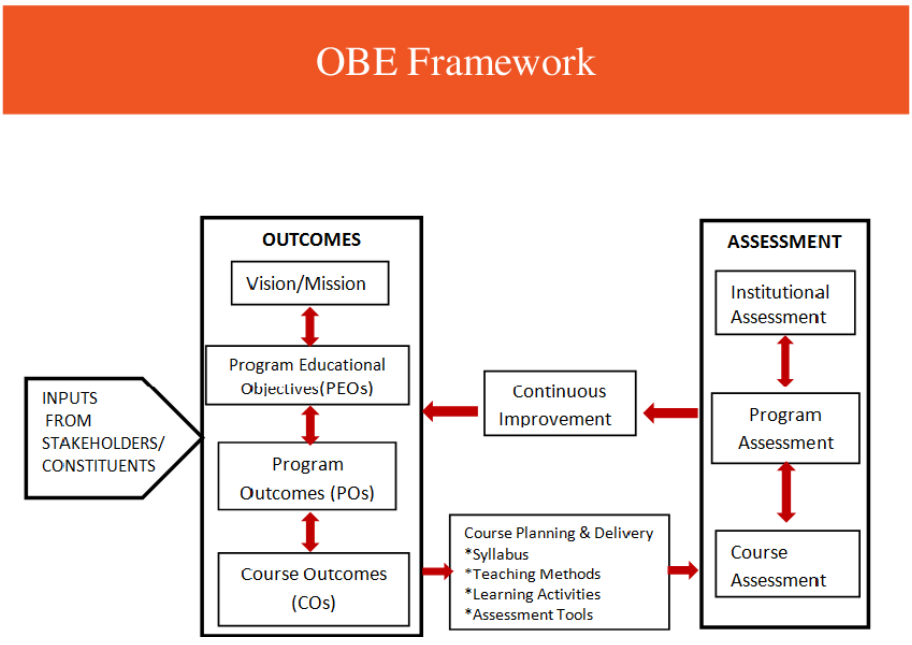

Figure 7. *OBE framework [12, 13].*

The OBE is a combination of three types of competencies i.e., a) practical: knowing how to do things, and the ability to make decisions, b) fundamental: understanding what you are doing and why, and c) reflective: learning and adapting through self-reflection, application of knowledge with appropriateness [45]. It is a paradigm shift in academic processes and practices. As Traditional Education (TE) is an input-based education system where the learning is content-based, assessment is exclusively based on conventional examinations, and any possible results are accepted. Hence the sole motive in this type of learning is to get good results and attain a high CGPA at the end of the program. While OBE measures the strengths and weaknesses of the students with evidence and also improves their learning. Therefore, the comparative perspective between the two educational paradigms is shown in figure 6.

6. Conclusion

It is concluded that flipped learning is an effective method through which the student's engagement in the classroom is increased. As it is based on the four pillars of flip which gives an understanding that to enhance engagement and student achievements it is one of the most effective methods to design a classroom. Bloom's taxonomy helps the teachers to know that the students in the classroom are acquiring all the knowledge that is delivered through different methodologies through which the students are being taught. It is also analyzed that through different methods, the students are confirming that all the domains of Bloom's taxonomy are achieved. With the absorption of new knowledge and skills through flipped methodology, it is also observed that students' engagement is increased than prior methods and it helps in achieving outcome-based education.

Hence it is identified through literature analysis that different methods of classroom teaching should be designed to generate a connection between outcome-based education and Bloom's Taxonomy to increase the student's engagement in the classroom. As in this study, the flipped method is discussed for connecting both Bloom's taxonomy and Outcome-based education.

Abbreviations

AACSB	Association to Advance Collegiate Schools of Business
BE	Behavioral Engagement
CE	Cognitive Engagement
EE	Emotional Engagement
FL	Flipped Learning
HEI	Higher Educational Institute
NBEAC	National Business Education Accreditation Council
OBE	Outcome-based Education
TE	Traditional Education

Author Contributions

Farah Shaikh is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

References

[1] Ainley, M. (2004) 'What do we know about student motivation and engagement', in *annual meeting of the Australian Association for Research in Education, Melbourne*.

[2] Bates, J. E., Almekdash, H. and Gilchrest-dunnam, M. J. (2017) 'The Flipped College Classroom', *The Flipped College Classroom*, pp. 3-10. https://doi.org/10.1007/978-3-319-41855-1

[3] Burke, D. (2020) 'Learning', in *How Doctors Think and Learn*. Cham: Springer International Publishing, pp. 15-27. https://doi.org/10.1007/978-3-030-46279-6_3

[4] Business, N. and Accreditation, E. (no date) 'Nbeac Standards National Business Education Accreditation Council'.

[5] Center, literacy A. (2021) 'blooms @ www.lacnyc.org'. Available at: https://www.lacnyc.org/blooms.html

[6] Cevikbas, M. and Kaiser, G. (2021) 'Student Engagement in a Flipped Secondary Mathematics Classroom', *International Journal of Science and Mathematics Education* [Preprint], (0123456789). https://doi.org/10.1007/s10763-021-10213-x

[7] Chapman, E. (2003) 'Assessing student engagement rates, ERIC Clearinghouse on Assessment and Evaluation', *ERIC identifier: ED482269* [Preprint].

[8] Christenson, S. L., Wylie, C. and Reschly, A. L. (2012) *Handbook of Research on Student Engagement, Handbook of Research on Student Engagement*. https://doi.org/10.1007/978-1-4614-2018-7

[9] Cooper, K. S. (2014) 'Eliciting Engagement in the High School Classroom: A Mixed-Methods Examination of Teaching Practices', *American Educational Research Journal*, 51(2), pp. 363-402. https://doi.org/10.3102/0002831213507973

[10] Demirel, E. E. (2016) 'Basics and Key Principles of Flipped Learning: Classes Upside Down', *International Journal of Languages, Literature and Linguistics*, 2(3), pp. 109-112. https://doi.org/10.18178/ijlll.2016.2.3.77

[11] Education (2018) 'Importance of Outcome Based Education (OBE) to Advance Educational Quality and enhance Global Mobility', in.

[12] Education, I. O. F. O. (2021) 'I j q e', (2), pp. 27-47.

[13] Education, O. B. (2013) 'Introduction to OBE (Outcome Based Education)', (August), pp. 1-2.

[14] Fredricks, J. A., Blumenfeld, P. C. and Paris, A. H. (2004) 'School engagement: Potential of the concept, state of the evidence', *Review of Educational Research*, 74(1), pp. 59-109. https://doi.org/10.3102/00346543074001059

[15] Han, P. P. K. J. (2021) 'Types of Uncertainty'. Available at: https://exploringyourmind.com/the-three-types-of-uncertainty-in-life/

[16] Hoque, M. E. (2016) 'Three Domains of Learning: Cognitive, Affective and Psychomotor', *The Journal of EFL Education and Research*, 2(January 2017), pp. 2520-5897. Available at: www.edrc-jefler.org

[17] Inan, N. K., Balakrishnan, K. and Refeque, M. (2019) 'Flipping perceptions, engagements and realities: A case study', *Turkish Online Journal of Distance Education*, 20(1), pp. 208-222. https://doi.org/10.17718/tojde.522717

[18] Information, B. (1956) 'Bloom ' s Taxonomy Background Information'.

[19] Jamaludin, R. and Osman, S. Z. M. (2014) 'The Use of a Flipped Classroom to Enhance Engagement and Promote Active Learning', *Journal of Education and Practice*, 5(2), pp. 124-131. Available at: http://iiste.org/Journals/index.php/JEP/article/view/10648

[20] Komoski, P. K. (1970) 'Educational Evaluation: New Roles, New Means, the Sixty-Eighth Yearbook of the National Society for the Study of Education, Part II'. JSTOR.

[21] Kuh, G. D. (2003) 'What we're learning about student engagement from NSSE: Benchmarks for effective educational practices', *Change: The magazine of higher learning*, 35(2), pp. 24-32.

[22] Lage, M. J., Platt, G. J. and Treglia, M. (2000) 'Inverting the classroom: A gateway to creating an inclusive learning environment', *Journal of Economic Education*, 31(1), pp. 30-43. https://doi.org/10.1080/00220480009596759

[23] Lasley, T. J. (2013) 'Bloom's Taxonomy', *Encyclopedia of Educational Reform and Dissent* [Preprint]. https://doi.org/10.4135/9781412957403.n51

[24] Lee, J., Park, T. and Davis, R. O. (2022) 'What affects learner engagement in flipped learning and what predicts its outcomes?', *British Journal of Educational Technology*, 53(2), pp. 211-228. https://doi.org/10.1111/bjet.12717

[25] Leo, J. and Puzio, K. (2016) 'Flipped Instruction in a High School Science Classroom', *Journal of Science Education and Technology*, 25(5), pp. 775-781. https://doi.org/10.1007/s10956-016-9634-4

[26] Malan, S. P. T. (2000) 'The'new paradigm'of outcomes-based education in perspective', *Journal of Family Ecology and Consumer Sciences= Tydskrif vir Gesinsekologie en Verbruikerswetenskappe*, 28(1), pp. 22-28.

[27] Malik, Z. A., Khan, S. S. and Maqsood, M.- (2018) 'Exploring the Relationship Between Student Engagement and New Pedagogical Approaches', *Journal of Educational Technology Systems*, 47(2), pp. 170-192. https://doi.org/10.1177/0047239518788281

[28] Newmann, F. M. (1992) *Student engagement and achievement in American secondary schools*. ERIC.

[29] Nguyen, T. D., Cannata, M. and Miller, J. (2018) 'Understanding student behavioral engagement: Importance of student interaction with peers and teachers', *Journal of Educational Research*, 111(2), pp. 163-174. https://doi.org/10.1080/00220671.2016.1220359

[30] Pace, C. R. (1984) 'Measuring the Quality of College Student Experiences. An Account of the Development and Use of the College Student Experiences Questionnaire.'

[31] Park, S. and Kim, N. H. (2021) 'University students' self-regulation, engagement and performance in flipped learning', *European Journal of Training and Development* [Preprint]. https://doi.org/10.1108/EJTD-08-2020-0129

[32] Pilotti, M. *et al.* (2017) 'Factors Related to Cognitive, Emotional, and Behavioral Engagement in the Online Asynchronous Classroom.', *International Journal of Teaching and Learning in Higher Education*, 29(1), pp. 145-153.

[33] Practice, T. and Bloom, R. (2008) 'A Revision of Bloom ' s Taxonomy: An Overview David R. Krathwohl', *ReVision*, 41(4), pp. 212-218. https://doi.org/10.1207/s15430421tip4104

[34] Ramsden, P. (2003) *Learning to teach in higher education*. Routledge.

[35] Renninger, K. A. and Bachrach, J. E. (2015) 'Studying Triggers for Interest and Engagement Using Observational Methods', *Educational Psychologist*, 50(1), pp. 58-69. https://doi.org/10.1080/00461520.2014.999920

[36] Salas-Pilco, S. Z., Yang, Y. and Zhang, Z. (2022) 'Student engagement in online learning in Latin American higher education during the COVID-19 pandemic: A systematic review', *British Journal of Educational Technology*, 53(3), pp. 593-619. https://doi.org/10.1111/bjet.13190

[37] Salkind, N. J. (2008) *Encyclopedia of educational psychology*. SAGE publications.

[38] Sam, D. P. (2016) 'Natural Approach of Teaching English Language on a Flipped Classroom Platform to Tertiary Level Engineering Learners', *International Journal of Educational Sciences*, 14(1-2), pp. 13-18. https://doi.org/10.1080/09751122.2016.11890474

[39] Shernoff, D. J. (2013) *Optimal Learning Environments to Promote Student Engagement*. https://doi.org/10.1007/978-1-4614-7089-2

[40] Shernoff, D. J. *et al.* (2014) 'Student engagement in high school classrooms from the perspective of flow theory', in *Applications of flow in human development and education*. Springer, pp. 475-494.

[41] Skinner, E. A. and Belmont, M. J. (1993) 'Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year.', *Journal of educational psychology*, 85(4), p. 571.

[42] Sneck, S. *et al.* (2022) 'More active lessons: teachers' perceptions of student engagement during physically active maths lessons in Finland', *Education Inquiry*, 00(00), pp. 1-22. https://doi.org/10.1080/20004508.2022.2058166

[43] Steen-Utheim, A. T. and Foldnes, N. (2018) 'A qualitative investigation of student engagement in a flipped classroom', *Teaching in Higher Education*, 23(3), pp. 307-324. https://doi.org/10.1080/13562517.2017.1379481

[44] Susanti, R. and Mahaputri, D. S. (2022) 'Roza Susanti 1, Dwi Settya Mahaputri 2*1 2*, 7(2), pp. 1-15.

[45] Syeed, M. M. *et al.* (2022) 'Outcome Based Education (OBE): Defining the Process and Practice for Engineering Education', *IEEE Access*, 10(November), pp. 1-1. https://doi.org/10.1109/access.2022.3219477

[46] Webster, J. S., Bergmann, J. and Sams, A. (2014) '82 © 2014', pp. 82-83.

[47] Wesarat, P. *et al.* (2022) 'Developing Expected Learning Outomes for the Bachelor of Business Administration Program, Faculty of Humanities and Social Sciences, Prince of Songkla University', *Proceedings of the Annual Civic Education Conference (ACEC 2021)*, 636(Acec 2021), pp. 289-295. https://doi.org/10.2991/assehr.k.220108.053

[48] Wilson, H. M. (2021) 'DigitalCommons @ Kennesaw State University Student Engagement in the Honors Biology Flipped Learning Environment'.

[49] Zainuddin, Z. and Halili, S. H. (2016) 'Flipped classroom research and trends from different fields of study', *International Review of Research in Open and Distance Learning*, 17(3), pp. 313-340. https://doi.org/10.19173/irrodl.v17i3.2274