



Outcome Based Education in Practice: A Qualitative Case Study of Teaching, Learning and Assessment at UAF



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ABSTRACT

Outcome-Based Education (OBE) has increasingly shaped higher education through its emphasis on explicit learning outcomes, aligned teaching, assessment, and demonstrated competencies. This qualitative case study explored the implementation of OBE at the University of Agriculture, Faisalabad, Pakistan, from the perspectives of postgraduate students and academic staff. Semi-structured interviews were conducted with 30 purposively selected participants, comprising 15 postgraduate students and 15 academic staff. Data were analysed thematically, with Bloom's Revised Taxonomy used as an interpretive lens for examining the cognitive dimensions of learning experiences and assessment. Findings revealed a distinction between formal OBE adoption and substantive classroom enactment. While participants recognized CLOs, PLOs and related documentation, implementation varied across courses and teachers. Application and analysis were more evident in practical, laboratory, field and research activities, whereas evaluation and creation were less consistently embedded. Large classes, workload, resources, assessment culture and faculty preparedness constrained implementation. The study concludes that deeper OBE implementation requires stronger alignment, authentic learning, faculty development and institutional support.

1. Introduction

Outcome Based Education (OBE) is a new approach in education that moves beyond a focus on what content a student should be able to cover and how the content is presented to a focus on what learning goals and outcome the student should be able to achieve and demonstrate at the end of an educational programme or course. Spady (1994) prescribed OBE as an idea of clear outcomes and the manner in which education experiences are organized to provide for their attainment. In higher education, this orientation gives more importance to the learning outcomes, the active involvement of the learners, appropriate assessment and evidence of competence. Learning outcomes are therefore used to help decide what students should learn as well as how teaching and assessment can facilitate the intended learning (Harden, 2002).

However, the implementation of OBE is more than just adding the Course Learning Outcomes (CLOs) and Programme Learning Outcomes (PLOs) to curriculum documents. In order to be effective, there must be coherence between intended outcomes, teaching-learning activities and assessment. This is known as 'constructive alignment' where instruction and evaluation are

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purposefully planned to facilitate students to attain learning outcomes that they are expected to achieve (Biggs, 1996; Biggs & Tang, 2011). Assessment is especially important because it conveys to the students what types of learning are valued. If assessment is predominantly by recall, students may lack motivation to acquire the more complex skills outlined in learning outcomes (Boud & Falchikov, 2007; Carless, 2007).

The way OBE is adopted internationally has also pointed out a gap between formal institutional adoption and real changes to teaching and learning. Outcomes statements, curriculum mapping processes and quality assurance procedures can be developed in the university setting, but they do not always lead to uniform practices in classrooms. Teachers' understandings and practices of educational reform in their specific school and professional environments shape change in education (Fullan, 2007; Spillane et al., 2002). In Pakistan, OBE has become more and more linked to quality assurance, accreditation, and the linking higher education with professional competency. The studies conducted on OBE in Higher Education in Pakistan reported the progress in setting up the OBE structures as well as resource constraints, faculty incompetence, assessment practices and institutional conditions were remaining challenges (Mirza & Javed, 2022; Mahmood et al., 2015; Siddique et al., 2020).

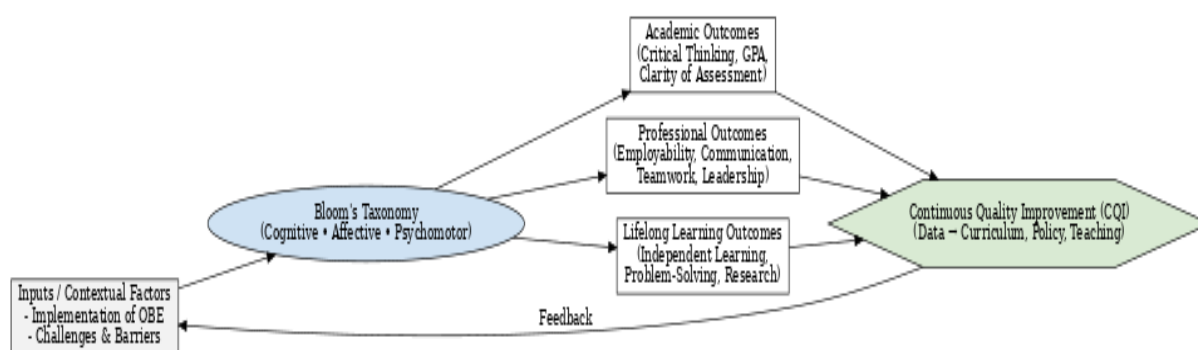
The link between OBE and student's cognitive growth is also crucial. Bloom's Revised Taxonomy is a tool used to consider cognitive processes from remembering and understanding to applying, analysing, evaluating and creating (Anderson & Krathwohl, 2001; Krathwohl, 2002). Not all learning needs to be at the highest cognitive level, rather it's a way of thinking about the complexity of learning activities and learning assessments. Opportunities for active, experiential and authentic learning can enable students to apply knowledge and develop higher order thinking, especially when asked to interpret information, solve problems or create meaningful products (Freeman et al., 2014; Herrington et al., 2010; Prince, 2004).

The following issues are relevant in the context of the University of Agriculture, Faisalabad (UAF), where students are learning in various disciplines of agriculture, scientific, engineering and technological and social science. Many of these fields involve applying knowledge learned from a discipline to a practical problem, interpreting information and evidence, making decisions, and demonstrating proficiency in a field of work that will be practiced. Thus, an analysis of OBE based solely on institutional documents can be an incomplete one in terms of understanding how OBE is implemented. Student and academic staff experiences and interpretations may offer valuable insight into the translation of the formal OBE structures into teaching, learning and assessment.

This exploratory and qualitative study thus investigates the process and outcomes of OBE at UAF from the students' and academic staff's point of view. It explores participants' understanding of what OBE is, how learning outcomes relate to teaching and assessment, how opportunities for cognitive learning relate to opportunities for practical learning, what factors impede or support implementation, the impact of OBE on learning, and the impact on professional readiness, as well as priorities for strengthening implementation. Using Bloom's Revised Taxonomy as an interpretive lens, the cognitive complexity of participants' description of learning experiences is examined. The study therefore transcends the issue of whether or not OBE has been officially embraced and explores the lived and lived out experience of OBE in the learning and teaching context.

1.1 Conceptual Framework

The conceptual framework of this research is based on Bloom's Revised Taxonomy of Educational Objectives, which provides a structured framework for understanding different levels of cognitive learning, ranging from remembering and understanding to applying, analysing, evaluating and creating (Anderson & Krathwohl, 2001; Krathwohl, 2002). The original taxonomy also distinguished among cognitive, affective and psychomotor domains, although the present study specifically employs the revised cognitive taxonomy as an interpretive lens. In the context of Outcome-Based Education (OBE), clearly specified learning outcomes provide a basis for designing teaching-learning activities and assessment that enable students to demonstrate the intended knowledge and competencies. Bloom's Revised Taxonomy therefore provides a useful conceptual lens for examining the cognitive complexity of learning experiences and assessment practices reported by students and academic staff.



2. Review of Literature

The focus on learning outcomes and the competencies that students should be able to demonstrate is a trend that has been discussed extensively as Outcome Based Education (OBE). Spady (1994) conceptualized outcomes as the most important organizing principle of education, and suggested that schools create their education program in response to what learners should be able to do when they have completed their educational experiences. In Higher Education, this attitude has led to a change in focus from inputs and content to evidence of student achievement. Similarly, Harden (2002) focused on the importance of emphasising that learning outcomes refer to what learners are able to do after instruction, which has implications on curriculum design, teaching and assessment.

One of the crucial points in OBE is 'the relationship between intended outcomes and implementation'. CLOs and PLOs are not enough to achieve outcome-based learning. Biggs (1996) put forward the idea of constructive alignment, which views learning outcomes, teaching-learning activities and assessment to be intentionally linked. Biggs and Tang (2011) also noted that good university teaching involves focusing on students' actions during learning rather than just on teacher's planned teaching. Wiggins and McTighe (2005) also recommended that planning starts with the desired learning outcomes and then works back to the types of learning experiences and items that would evidence these outcomes. As seen from this angle, the outcomes are relevant if they have meaning in the sense of influencing actual pedagogical decisions and not merely being a form of documentation of the curriculum.

Assessment is one of the key areas of alignment. Boud and Falchikov (2007) proposed assessment practices that would support students' further learning, as opposed to just "achievement" at the conclusion of a course. In the same vein, Carless (2007) argued that the focus of assessment should shift to learning-oriented assessment, in which assessment tasks and feedback are directly related to learning. Important considerations for feedback are that it can make learners aware of how they are doing against the expected level, and it can give direction for improvement, which is why it is particularly important (Hattie & Timperley, 2007). Hence, an OBE environment must also involve an assessment of outcomes and involve assessment practices that offer students opportunities to demonstrate and strengthen their competencies.

There is also a lot of literature that highlights the importance of using an active and experiential methods to facilitate outcome-oriented learning. Active learning is a process that invites students to participate, think and engage in learning activities rather than passively receiving information (Meyers & Jones, 1993; Prince, 2004). The advantages of a constructivist approach to learning in STEM education have been established by Freeman et al., (2014) and experiential learning focuses on the transformation of learning from experience to knowledge and learning (Kolb, 1984). Authentic learning approaches also are linked to academic activities and realistic problem, context, and tasks (Herrington et al., 2010). These are some that are relevant to OBE because they allow students to show their capability to apply knowledge instead of simply regurgitate it.

In practice, educational reform is not always uniform, however. Yet, the application of these principles does not always occur uniformly. Fullan (2007) said educational change is not just about the introduction of new policies, it's about changing beliefs, practices, organizational arrangements, and professional cultures. Spillane et al., (2002) also found that the implementation of reform is influenced by teacher interpretations of the reform. With an OBE approach, this would mean that institutional policies and documentation could be varied between teachers, courses/disciplines. Faculty knowledge, professional development, workload and institutional support, therefore, can have an impact on how outcome-based principles are enacted in the classroom. Guskey (2002) also emphasized the need for professional development to drive the process of sustaining change in teachers' practice.

There is more relevance in the Pakistani context. OBE has been identified by Mahmood et al., (2015) as an important factor in Pakistan's journey to internationally accepted engineering education standards and the challenges in implementing OBE. Mirza & Javed (2022) explored the OBE practices in a limited environment of Pakistan and highlighted the significance of the institutional conditions in attaining the desired outcomes of OBE. Likewise, in the field of engineering education, Siddique et al., (2020) showed Relevance of real-time and practical applications in implementation of OBE in engineering education. These studies suggest that the effectiveness of OBE is dependent on the institutional and resource environment in which it is applied.

In general, the findings show that meaningful OBE requires the combination of a number of factors, such as explicating outcomes, designing constructive alignment, facilitating active learning and authentic learning, designing appropriate assessment, providing feedback, preparing faculty, and providing supportive institutional conditions. Most of the literature, however, focuses on frameworks, mechanisms for implementation or measurable outcomes. It is still worthwhile to consider the experiences of students and academic staff of moving from formal OBE structures to real practices of teaching, learning and assessment. This dimension is explored in the present qualitative study, which seeks to understand participants' descriptions

of implementing OBE at UAF, focusing on the cognitive demands of OBE learning and conditions that enable/disabled meaningful implementation.

3. Methodology

3.1 Research Design

The study was a qualitative case study design to get insight into the implementation of Outcome Based Education (OBE) at the University of Agriculture, Faisalabad (UAF). A qualitative case study was suitable because the research aimed to give a depth of understanding to the experience, interpretation and enactment of OBE by those who are directly involved in university teaching and learning. Instead of quantifying the degree of OBE implementation statistically, the study concentrated on participants' descriptions of learning outcomes, teaching practices, assessment, cognitive development, institutional hurdles, and learning outcomes.

The context of the case was the institutional setting in UAF and was looked at from the point of view of the post graduate students and the academics. This design enabled the study to reflect the voices of both the learner and the teacher as well as uncover the points of intersection and difference between the two. Special care was taken to understand the gap between the formal implementation of OBE structures and the actual use of them in the teaching and learning process.

Throughout analysis, Bloom's Revised Taxonomy was used as an interpretive lens. The taxonomy was used as a means of thinking about the cognitive demands that emerged from participants' descriptions of learning activities and assessment, from Remember and Understand to Apply, Analyze, Evaluate and Create (Anderson & Krathwohl, 2001; Krathwohl, 2002). It was not used to measure responses or give scores to participants.

3.2 Participants and Sampling

This study involved 30 participants (15 post-graduates and 15 academic staff) of UAF. There were 5 PhD students and 10 MS students in the student group. Staff involved in the study had a range of disciplines and teaching roles to ensure that the study captured experiences from a diverse range of educational contexts in the university.

The participants were purposively selected as people who have direct experience of teaching, learning, assessment and/or curriculum practices in relation to OBE. Purposive sampling was deemed appropriate for this study because it was not necessary to have a statistically representative sample, but rather participants who could offer detailed and relevant accounts of the implementation of OBE. It was possible to include students and academic staff because this allowed for the study to explore OBE through the lens of those who have been a part of the learning process and those who are implementing OBE.

3.3 Data Collection

Semi-structured interviews were used to gather data. One interview guide, centred on key thematic areas relating to the study, was created, covering their understanding of OBE, awareness and use of learning outcomes, teaching-learning practices, assessment and feedback, opportunities for cognitive and practical development, challenges for implementation, perceived benefits of OBE, and recommendations for improvement.

The semi-structured approach ensured that each interview was consistent and gave the interviewees the opportunity to expand on experiences that were more significant to their disciplinary or educational world view. Follow-up questions and probes were used, as necessary, to elicit clarification and to go deeper into new issues. This method allowed the study to reflect participants' own interpretations, instead of limiting responses to predetermined categories.

3.4 Data Analysis

The interview data were analysed thematically following the principles of thematic analysis outlined by Braun and Clarke (2006). The analysis involved familiarisation with the interview material, identification of meaningful segments, initial coding, examination of relationships among codes, the development of more abstract themes, and then reviewing and revising the thematic structure.

The research aims and the issues discussed in the interview guide guided the initial coding process. The analysis also was open enough to enable issues that were not originally in the analysis's framework to arise from participants' accounts. Special focus

is paid to the recurrence of experiences, the differences in perceptions between students and staff, and the differences based on the nature of the teaching and learning activities.

The themes were interpreted in relation to the central theme of the research which was OBE implementation. The learning activities and assessment related accounts were also analysed by Bloom's Revised Taxonomy for the participants. Information acquisition/recall was related to Remember and Understanding/Analysing was related to Apply, Analysing, Evaluate and Creating (Anderson and Krathwohl, 2001; Krathwohl, 2002). Using the taxonomy in an interpretive way proved useful in clarifying the cognitive nature of the learning experiences reported but did not solely categorize qualitative learning experiences numerically.

3.5 Trustworthiness

Trustworthiness of the qualitative results was enhanced through several strategies. Firstly, the study included views from two groups of participants, post-graduate students and academic staff, enabling similarities and differences in their experiences of OBE to be studied. Second, the participants came from a variety of disciplinary and teaching contexts, offering a wider variety of experiences in the institutional case.

Third, the interview guide was structured, meaning the key areas of the interview were covered in a uniform way but allowing respondents to express their experiences in their own words. Patterns were explored during analysis and divergent or contradictory patterns were not neglected as if all participants experienced OBE in the same manner. This was especially relevant for determining the differential implementation across courses and teaching contexts.

Finally, the interpretive use of Bloom's Revised Taxonomy was kept conceptually distinct from the thematic analysis. Themes were identified from the participants' accounts and then the taxonomy was applied to interpret the cognitive aspects of the reported experiences. This helped to ensure that the theoretical framework did not limit the development of findings from the qualitative data.

3.6 Methodological Summary

The methodology aimed to offer a detailed description of OBE lived experience and implementation in the context of UAF. The study explored not only the existence of OBE structures but also how these affect teaching, learning, assessment and cognitive development in practice by using purposive selection of information-rich participants, semi-structured interviews, thematic analysis and application of Bloom's Revised Taxonomy to interpret the findings. The approach thus gave a foundation for the interpretation of OBE as a continuous process of education, with the implementation of which can differ depending on the participants, courses, disciplines and conditions in the institutions.

4. Results and Discussion

The thematic analysis of interviews with 15 postgraduate students and 15 academic staff generated five interrelated themes: (1) moving from formal OBE adoption to meaningful understanding, (2) alignment of learning outcomes, teaching and assessment, (3) movement from knowledge acquisition towards application and higher-order thinking, (4) institutional and pedagogical constraints, and (5) perceived benefits and priorities for strengthening implementation. Across these themes, participants described OBE as an established institutional framework at the University of Agriculture, Faisalabad (UAF), but one whose classroom enactment remained uneven. A central pattern across the accounts was the distinction between the formal presence of OBE structures and their substantive influence on teaching and learning.

4.1 From Formal OBE Adoption to Meaningful Understanding

The participants were overall familiar with the formal aspects of OBE such as Course Learning Outcomes (CLOs), Programme Learning Outcomes (PLOs), assessment mapping and Course documentation. But knowledge of these components did not always result in clear understanding of the educational purpose. This was especially true in student accounts. One postgraduate student said students were aware of learning outcomes in courses but "don't really understand why there must be learning outcomes."

This is an observation that highlights an important distinction between what is called "procedural awareness" and "pedagogical understanding". Students might know CLOs and PLOs but not what these are designed to direct or drive what they will do and how they will be evaluated in the course. However, Harden (2002) stresses that learning outcomes should not be just statements

that are placed in curriculum documents, but should inform what the learner is expected to be able to demonstrate. So from the OBE point of view the meaningfulness of an outcome is driven by whether or not it supports the learning process.

Staff accounts described a similar issue with a different spin. Overall, the academic staff were aware of the institutional requirements of OBE, but their responses showed that the requirements were being met to varying extents in the classroom. This indicates that implementation does not just occur because institutional policy is communicated to teachers. Instead, teachers make sense of and implement educational changes in their own work and discipline fields, in line with what Spillane et al., (2002) found.

This difference between formal adoption and substantive implementation was most apparent in terms of the various kinds of courses. Those who took courses that were more practical, laboratory based, and field-based tended to link them to more easily identifiable opportunities to implement OBE principles. Those who participated in more practical, laboratory, and field-based courses tended to associate them with more readily identified opportunities to "act out" OBE principles. However, in mostly lecture courses implementation was more likely to be focused on delivering content. In this sense, OBE seemed to have taken a place, and in this sense, the pedagogical sense of OBE still relied heavily on individual teachers, courses and learning environments.

The findings indicate that moving beyond getting the students and teachers to be familiar with the OBE terminology and documentation is the next step to take in implementing OBE at UAF. More attention needs to be paid to assisting both groups to understand the significance of outcomes, their connection with learning activities, and how each group can be assessed.

4.2 Alignment of Learning Outcomes, Teaching and Assessment

The second major theme was related to the relationship between learning outcomes and teaching activities and assessment. Participants identified formal structures designed to create this relationship, such as CLO-PLO mapping, course files, assessment plans and rubrics. But these mechanisms were not always manifested as an alignment that was obvious and significant for the students.

One student reported that students knew that learning outcomes were included in course outlines, but they were not "explicitly told how [the learning outcomes] relate to assessment." The following account shows the differences between documented alignment and experienced alignment. The activities done in class and assessment tasks completed by the learner should be clearly linked to what is shared with the learner at the start of the course from the learner's perspective.

The finding is in line with the principle of constructive alignment, put forward by Biggs (1996) and subsequently elaborated by Biggs and Tang (2011). Constructive alignment demands that the alignment between learning outcomes, teaching activities and assessment should be reinforced. This is not to say that mapping documents alone can ensure this alignment, as classroom activities and assessment tasks must align, as well.

Various activities were identified by participants as being more in alignment with OBE, such as laboratory, field visits, research projects, presentations, case studies, and problem-solving activities. The activities valued for requiring students to use knowledge, not just reproduce it. In this way, participants' accounts reinforce the contention that the nature of learning outcomes is not in itself the presentation of knowledge but rather how the students are demanded to use it (Biggs & Tang, 2011).

One of the greatest areas of conflict was assessment. Conventional exams were often seen as being focused on remembering and understanding, even when the CLOs seemed to call for more sophisticated learning. This doesn't mean that remembering and understanding are not appropriate. Instead, one might worry that if assessment is mostly more focused on these processes, students might be more likely to attend to them during learning.

This discovery underscores the need to align assessment needs with the cognitive processes outlined in intended outcomes (Anderson & Krathwohl, 2001; Krathwohl, 2002) in the context of Bloom's Revised Taxonomy. Assessment should offer the student an opportunity to demonstrate this analysis, assessment and problem solving process when he/she is required to analyse problems, assess evidence or provide solutions. The qualitative evidence therefore suggests that assessment reform is not just a quality assurance issue but is a key element of embedding deeper OBE implementation.

4.3 Transition from Knowledge to Application and Higher Order Thinking

The narratives of participants showed that OBE-related learning experiences involved various cognitive processes. The ability to remember and to understand was seen as prerequisites, especially for theoretical coursework, but was not considered to be enough end products of university education. More importance was given to tasks where students could apply their disciplinary knowledge to solve 'real-world' or 'unfamiliar' problems.

Description of fieldwork, laboratory activities, data interpretation, diagnosis, problem solving, and research related activities were clearly shown in the fieldwork section of the application and analysis section of the activities. Students said that these activities allowed them to relate theoretical knowledge to real-life scenarios and staff also reported that activities that involved the students in interpreting information and making decisions were helpful.

These are in line with the research that focuses on active learning and participation of the students. Active learning encourages students to actively process and make sense of the material they are learning, as opposed to just passively absorbing it (Meyers & Jones, 1993; Prince, 2004). Similarly, Freeman et al., (2014) showed the importance of active methods for science, technology, engineering and mathematics learning. For an institution like UAF where learning often happens in the context of agricultural, scientific, technological and professional applications, these offer a means of making OBE visible in the classroom day-to-day.

The accounts of the participants also revealed a relatively low amount of opportunities for evaluation and creation processes. Such processes were most evident in post-graduate research, design activities and open-ended projects. The experiences of PhD students tended to be related to interpretation of evidence, independent judgment and development of original solution, while for MS students, the references were more to the point of applying knowledge and developing practical competencies.

This pattern can be understood with the help of Bloom's Revised Taxonomy. The qualitative evidence does not show evidence of learning at UAF being linearized from lower to higher order thinking. Instead, opportunities for higher levels of cognitive engagement will rely on the type of course, teaching strategy, and assessment task, as indicated by participants' experiences. While application and analysis seem to be more easily integrated into practical and problem-based tasks, learning environments that allow more autonomy, complexity and openness are needed for evaluation and creation.

This is a key difference. This is not to say that every university learning should be at the highest level of Bloom's taxonomy. The importance of Remembering and Understanding is always emphasized. The question is whether students are also given adequate opportunities to go beyond the reproduction of knowledge to the use, examination, judgement and creation of knowledge. The findings indicate that opportunities are present at UAF, but not yet as fully integrated at all learning places.

4.4 Institutional and pedagogical constraints

Participants noted few key conditions that affect the deeper implementation of OBE. Difficulties in implementing student-centred and outcome-oriented approaches were consistently cited as being related to large classes, faculty workload, limited resources, examination-oriented practices, and faculty preparedness.

Large classes were considered to be very difficult as interactive teaching, formative assessment and individualized feedback demand extended teacher-student interaction. Resource constraints were also significant, notably in fields that rely on laboratories, field facilities, equipment and specialized technologies. The constraints show that change of pedagogy is not independent of the organization in which teaching is delivered.

The other important barrier was the examination culture. It was suggested that student behaviour in learning was affected by the expectation of what they would find in exams. Where assessment focuses on recall, students have a practical need to focus on memorisation rather than application, analysis or problem solving where this is the focus of broader learning outcomes. This tension is, therefore, not just one of students' motivation but also partly one of the connection between the institutional assessment practices and the behaviours that are rewarded.

The associated issue of faculty preparedness arose. Participants highlighted the importance of hands-on professional development on writing meaningful learning outcomes, linking teaching and assessment, creating authentic tasks and assessing them based on appropriate assessment criteria. This discovery reinforces Guskey's (2002) thesis that a more positive change will occur in teachers' practices when professional development is linked to classroom practice.

The accounts also illustrate the need to not view implementation as a one-to-one exercise of policy compliance. Educational change, according to Fullan (2007), is a change in professional practice and organizational culture while Spillane et al., (2002)

focus on the interpretation of teachers in policy implementation. In the present study, the formal OBE structures were present in the university, however, they affected classroom practice to a different degree depending on the understanding of the teachers, resources available and course characteristics and assessment expectations.

The barriers reported by participants should not therefore be taken as a sign of failure of OBE. Instead, they point to the circumstances in which it is challenging to put into practice. Meaningful OBE cannot be achieved unless institutional arrangements are in place to make the desired pedagogical practice achievable, instead of just having to be documented by faculty.

4.5 Perceived benefits and priorities for strengthening OBE

Overall, participants linked the meaningful use of OBE to positive learning experiences despite the limitations mentioned earlier. Students and staff correlated the hands-on and outcome-based learning with enhanced engagement, hands-on competence, critical thinking, problem-solving, research skills, communication and professional readiness. Notably, these potential advantages were linked to the implementation of OBE and not the presence of OBE documents.

This difference supports the key conclusion of the study. For those students who engaged in fieldwork, laboratory activities, projects, research and problem-solving, participants saw OBE as aiding in more meaningful learning. These experiences are in line with experiential and authentic learning that involves relating academic knowledge with real-world situations (Kolb, 1984; Herrington et al., 2010).

There were convergences and differences in student and staff perspectives. Both groups understood the need for hands on learning, for example, and for the assessment and implementation to be appropriate as well as meaningful. Students, however, focused more on the reasons for the requirements of OBE, and how these relate to assessment, while staff focused more on workload, resources, institutional expectations, and how the requirements of OBE are practical. The difference matters as it illustrates that OBE is lived differently depending upon one's position in the educational process.

Another common point of focus was feedback. Students need to be let know by the assessment about their weaknesses to ensure that they perform better, participants said. This aligns with other work in the field of learning oriented assessment and feedback, in which the importance of assessment to support learning is stressed, rather than the importance of learning for the sake of assessment (Boud & Falchikov, 2007; Carless, 2007; Hattie & Timperley, 2007).

Participants thus highlighted a number of interconnected priorities for the advancement of OBE: relevant faculty training, integration of outcomes and assessment, enhancing experiential learning, orientation of learners, providing meaningful feedback, providing sufficient learning materials, and reduction of unnecessary documentation. These priorities indicate that the institutional development should be less about increasing OBE paperwork but more about enhancing those conditions that allow teachers and students to effectively implement OBE.

4.6 Integrative Interpretation

The results paint a picture of relatively institutionalized, but pedagogically uneven OBE at UAF. Participants were generally acquainted with the formal structures that have emerged in the university due to outcome-based education. According to qualitative reports, however, the pedagogical value of OBE is whether these constructs have impact on the actual classroom, lab, field and research environments.

The key difference that comes out of the study is then between formal adoption and substantive enactment. Formal adoption is seen in: CLOs, PLOs, curriculum mapping, assessment plans and related documents. Substantive enactment can be seen in how these elements influence student learning activities, assessment practices, and opportunities for students to demonstrate more complex skills.

Bloom's Revised Taxonomy can assist with highlighting the cognitive aspect of this enactment. Participants recalled learning experiences related to remembering and understanding, but the most vivid reports of meaningful OBE experiences related to applying knowledge, analysing information, and solving problems. Evaluation and creation were less consistently embedded and were specifically related to post graduate research, design and open ended activities. The taxonomy thus serves to illustrate not a rank order of participant achievement but a range in the amount of cognitive opportunities offered by the learning environments.

The results also indicate that the implementation of OBE deeper than curriculum documentation is not possible. The outcomes, teaching activities and assessment should be complementary in constructive alignment (Biggs, 1996; Biggs & Tang, 2011). Similarly, pedagogical and institutional conditions are necessary for active, experiential and authentic learning (Kolb, 1984; Herrington et al., 2010; Prince, 2004). Faculty development, manageable workloads and adequate resources are therefore not peripheral concerns but integral to substantive implementation.

In summary, this study indicates that UAF has developed from building the institutional structure of OBE to a more significant challenge: to ensure that this structure is regularly successful in providing meaningful learning experiences. The future of OBE implementation should be assessed not so much on the basis of documentation but on the opportunities students have to apply, analyse, evaluate and create knowledge in real disciplinary and professional contexts.

5. Conclusion and Recommendations

5.1 Conclusion

This is a qualitative study to examine the implementation and perceived impact of Outcome Based Education (OBE) on University of Agriculture, Faisalabad, specifically on the experiences of the students and academic staff. The results show that the learning by outcomes is beyond the unfamiliarity phase at the university. Academic staff and students are in general aware of and understand the formal structures, including Course Learning Outcomes (CLOs), Programme Learning Outcomes (PLOs), assessment mapping, course level documentation and quality assurance mechanisms. The results, however, show that these structures by themselves are not guaranteed pedagogical consistency and significance.

One key conclusion was that there is a difference between formal adoption and substantive implementation. The participants agreed that OBE is institutionalized, but not implemented in the classroom level in all faculty due to the different understanding, teaching methods, assessment methods, resources and the context of the disciplines. This implies that the big challenge is not just the implementation of OBE frameworks, but also how to make learning activities viable in order for students to show the intended outcome.

The results also show that there is a gap between learning outcomes and teaching activities and assessment that needs to be strengthened. Practical, laboratory, field based, project and research activities were seen to be especially effective in the achievement of outcomes-oriented learning. Traditional lectures and tests, on the other hand, were more associated with remembering and understanding. The qualitative evidence indicates that Apply is a fairly well-represented level in the teaching and learning of mathematics and that Analyse is found in postgraduate level research, design and open-ended activities, but with less consistency. The evidence indicates that Evaluate and Create are less well represented, with Evaluate particularly being found in the postgraduate level research, design and open-ended activities.

In general, there was a positive perception of the OBE concept by the participants regarding student engagement, practical competence, critical thinking, problem solving, research capability and communication, professional preparedness. The benefits of these, however, were considered to be contingent on the quality of implementation, and not on the formal adoption of OBE. Some important constraints were identified as large class sizes, faculty workload, limited facilities, and examination oriented practices as well as faculty preparedness.

The study findings overall are that OBE is progressing with varying degrees of success at UAF. The university has laid most of the institutional basis for OBE, a better focus on pedagogical depth, cognitive alignment, authentic learning experiences and continuous improvement is needed for the next step. Ultimately the meaningfulness of implementation should be evaluated by what students can demonstrate as a result of their learning and not the mere presence of OBE documentation.

5.2 Recommendations

1. The above qualitative results suggest the following recommendations:
2. Increase the practical skills development of the faculties. The shift from terms to documentation; the development of CLOs; constructive alignment; teaching focused on the student; genuine assessment; rubrics and higher order learning activities are not just terms, but practices that need to be developed through OBE training.
3. Increase the alignment of assessment and learning outcomes. The form of assessment should be in accordance with the cognitive level mentioned in CLOs. Analytical questions, case studies, problem solving tasks, projects, practical assessments and other appropriate authentic assessments should be used more.

4. Increase experiential and practice-based learning. Laboratory work, field activities, research projects, demonstrations, design tasks and practical activities and tasks related to the discipline should be intensified to give students opportunities to apply and analyse knowledge.
5. Introduce students to OBE. Students should be made aware of the CLOs and PLOs and explicitly told what CLOs and PLOs are and why it is important to have outcome based learning so that they know that the CLOs and PLOs are something they can do, not something they have to do.
6. Improve feedback and continual improvement. Feedback should be meaningful and timely and become part of the assessment process. Feedback at the course level and regular reviews should be used to discover any difficulties and enhance the teaching and learning.
7. Address implementation constraints. Class size, faculty workload, and resource constraints should be taken into account, when designing OBE activities, when possible. Departments should determine what laboratory, field, equipment, software, and other resources are required within each discipline.
8. Streamline documentation. OBE documentation should be kept as an important quality assurance process, but must be kept to a minimum if possible and linked to teaching, assessment and student learning. The focus needs to change from documentation as evidence of compliance to documentation as evidence of educational improvement.

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