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Constructive Alignment and Assessment Validity in Design and Engineering Higher Education: An Expert-Informed Small-Scale Study

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Abstract

This study examines expert perspectives on the validity of task alignment in higher education assessment within the University of Cambridge's Faculty of Education. It is motivated by concerns arising from Terence Crooks et al.'s framework on threats to validity, including unclear task design, misalignment with Intended Learning Outcomes (ILOs), vague marking criteria, and limited use of rubrics. Using qualitative interviews with academics across different levels of seniority, the study explores how constructive alignment is understood and implemented in practice, and what factors influence assessment validity. A thematic analysis approach is employed to identify patterns in expert perspectives. Findings are interpreted in relation to existing scholarship and Crooks et al.'s framework, leading to the development of an alignment-enhancement model to support more coherent and valid assessment design. The study addresses key research questions concerning challenges and strategies for improving task alignment in higher education.

Keywords

Task Alignment, Assessment Validity, Constructive Alignment, Assessment Design, Higher Education, Construct Validity, Content Validity

1. Introduction

Assessment design in higher education faces persistent challenges related to the validity of task alignment, particularly where assessment tasks, marking criteria, and Intended Learning Outcomes (ILOs) are not coherently connected. Such mis-

alignment can undermine the reliability and interpretability of student performance, raising concerns about the overall validity of assessment practices.

Within postgraduate contexts—especially in design and engineering disciplines involving complex, open-ended tasks such as essays in competitive product development models—these challenges become more pronounced. Assessment often requires balancing creativity, technical knowledge, and analytical depth, increasing the risk of unclear expectations, inconsistent marking, and overly holistic judgment. These issues reflect key threats identified in Terence Crooks et al.'s framework (Crooks et al., 1996), including vague criteria, insufficient task clarity, and weak alignment between assessment components.

While the concept of constructive alignment is widely recognized in higher education, there remains limited empirical insight into how academics interpret and operationalize alignment in practice, particularly in specialized disciplinary contexts. Existing literature highlights principles of effective assessment design, but less attention has been given to expert-informed perspectives on how alignment validity is experienced, challenged, and improved in real settings.

This study, therefore, aims to explore expert perspectives on the validity of task alignment in higher education assessment. It addresses a set of research questions focused on identifying key challenges to alignment, examining how academics design and evaluate aligned assessments, and exploring strategies to enhance validity in practice.

The study contributes to the field by providing empirically grounded insights from academic practitioners and by synthesizing these perspectives with existing theoretical frameworks. It proposes an alignment-enhancement model to support more coherent assessment design, offering practical relevance for educators involved in developing and evaluating assessment in higher education.

2. Literature Review

A good review of the literature was conducted, focusing on the validity and alignment of assessments in higher education. A comprehensive reading of various theories propounded on the principle of assessment, assessment alignment (Messick, 1989; Mansell et al., 2009; Newton, 2010; Wiliam, 2008; Crooks et al., 1996) and from a module provided at Cambridge University enabled me to recognize the threats to validity in design and engineering education and the important of assessment alignment as a best practice in education. Assessment holds a central role in higher education and education in general, serving as a fundamental process to determine the extent of students' learning within their program of study (Wiliam, 2008). To ensure any successful assessment and to fully comprehend the diverse uses and impacts of assessment, it is essential to perceive the assessment system as a framework that provides information and influences individuals' learning and behaviors (Newton, 2010).

The enhancement of learning and teaching in higher education through assessment, along with the impact of standard criteria on the achievements of individ-

uals, schools, universities, and the nation, has been extensively debated (Newton, 2010; Mansell et al., 2009; Wiliam, 2008; Crooks et al., 1996).

Ensuring validity and assessment alignment in engineering and design education can be achieved via high-quality assessments that inform educators about criterion requirements, which increase the standard of design learning (Olds et al., 2005).

2.1. Assessment Alignment

In educational settings, alignment typically refers to the consistency and harmony among three key components: standards, teaching, and assessment (including tasks, intended learning outcomes, and marking criteria). When these components are aligned, they are in agreement and support one another, as noted by various scholars. For instance, Biggs (2003) emphasizes the importance of their consistency, Bhola et al. (2003) discuss their mutual support, La Marca (2001) highlights their compatibility, and Ananda (2003) underscores how they work together effectively.

When a strong correlation exists between various elements, as highlighted by La Marca et al. (2000), Anderson (2002), Farenga et al. (2002), and Biggs (2003), it is anticipated that students will experience enhanced learning. Consequently, alignment is considered fundamental in standards-based education (Smith & O'Day, 1990; Fuhrman, 2001). The advantages of alignment are also evident when linking criteria to assessments. Moreover, a high degree of standardization and alignment in assessments is crucial for making decisions (Koretz & Hamilton, 2006) and for validating the interpretation of assessment results (La Marca, 2001; Rothman, 2003).

Inadequate assessment and alignment can create problems for educational institutions. On the other hand, assessments including irrelevant elements can damage the educational system and disadvantage students (Resnick et al., 2004). Many institutions acknowledge the value of assessment alignment in enhancing assessment validity in education, as it is a well-established practice in higher education (Kandlbinder & Peseta, 2009).

2.2. Validity and Alignment

While alignment and validity represent distinct concepts, they share a crucial relationship, particularly in the context of assessing educational outcomes (La Marca, 2001; Rothman, 2003; Webb, 1997). Alignment, as defined by Webb (1997), pertains to the consistency among the components of an educational system—namely, standards, instruction, and assessments. Validity, as outlined in the Standards for Educational and Psychological Testing (AERA et al., 1999: p. 9), refers to the degree to which interpretations of test results are supported by theory and evidence, aligning with intentional testing practices. Under this framework, the legitimacy of assessment interpretations, rather than the assessment itself, is emphasized.

2.3. Validity in Assessments

Assessments are of primary importance in the process of teaching and learning as they provide valuable feedback to instructors on their teaching practices and students' development (Voltz, Sims, & Nelson, 2010). Research on assessments often delves into specific methods of validity such as construct validity, content validity, and criterion-related validity; the latter includes predictive and concurrent validity (Crooks et al., 1996). Consistency in assessment refers to the coherent regeneration of findings when using a test, whilst validity relates to the accurate use of assessment results in determining the performance or characteristics of the learner (Chang & Seow, 2018). A 2025 critical examination argues that constructive alignment can function as a *neutral toolkit* but requires careful contextualization to avoid superficial quality assurance practices (Newby & Cornelissen, 2025).

The viewpoint prevailing among the majority of academics and scholars, such as Sireci (2009), Downing (2003), Kane (2001), Moss (1995), and Shepard (1993), posits that the validity concept is construct validity, a perspective that has endured gradually. Originally, validity was established through expert panels examining tests or programs and offering opinions on the relevance and representativeness of the items. When the panel deemed that the items successfully assessed aspects of the test's intended content, this aspect of validity was termed content validity (Wiliam, 2008). However, challenges arose when poorly-defined content hindered the use of content validity for validation purposes, leading to debates about its conceptualization. While some validity theorists consider 'content validity' technically incorrect and argue against the term, this viewpoint is debatable (Messick, 1989).

2.4. Rubrics Facilitate Valid Judgment of Performance Assessments

With reference to internal and external aspects of validity, such as an established rubric (Gearhart et al., 1995), the relevance and utility of the rubric for its intended purpose (Intended Learning Outcomes, or ILOs) emphasize its external validity. Sharing marking schemes with learners guides them toward understanding the assessment criteria and how educators evaluate assignments. This study aims to gather expert opinions on the use of rubrics and their alignment with ILOs, helping learners understand how they will be assessed.

2.5. The Importance of Assessment Alignment

Assessments should demonstrate how effectively students have understood the intended learning outcomes, while instruction should ensure they achieve these outcomes. To accomplish this, assessments, learning objectives, and instructional strategies must be closely aligned to support and reinforce each other.

2.6. Developing an Efficient Assessment of Learning Processes

Lessons, course activities, assessments, and instruction should be strategically de-

signed to enable students to effectively fulfill assessments and establish connections, collect, arrange, engage with, and apply learning outcomes.

3. Significance of the Study

Valid assessments enable me to assess student progress accurately, identify areas for improvement, and provide meaningful feedback that supports student learning and development. Additionally, valid assessments contribute to the overall effectiveness and success of the educational program, enhancing the learning experience for both students and educators.

Studying the specialist in task design can also provide insights into how to impact and improve the student learning experience, enabling them to assume more prominent leadership positions within their institution.

4. Aims of the Study

The aim of this study is to gain insights from experts on task alignment through a small-scale research project. This will be accomplished using qualitative research methods, including data collection and interviews with senior educators—such as senior lecturers, principal lecturers, and professors—in the design and engineering department at XXXX University. The data will be analyzed using thematic analysis approaches.

5. Research Questions

Please note that the sub-questions were designed for the interview to answer those questions.

Primary Research Question 1: How do experts perceive the alignment between marking criteria, Intended Learning Outcomes (ILOs), and rubrics in Design & Engineering education assessment practices?

Subsidiary Questions:

- Within the engineering development module CPD, what level of alignment do you think is appropriate between the marking criteria and the intended learning outcomes?

Primary Research Question 2: What criteria do experts consider essential for assessing the alignment between marking criteria, ILOs, and rubrics?

Subsidiary Question:

- As a quality assessor, what is the key factor to achieve valid alignment between marking criteria, ILOs, and rubric?

Primary Research Question 3: What challenges do experts identify in achieving effective alignment between marking criteria, ILOs, and rubrics in higher education assessments?

Subsidiary Question:

- How can you create a well-aligned and effective assessment for an engineering assignment or essay?

Primary Research Question 4: What strategies do experts recommend for im-

proving alignment between marking criteria, ILOs, and rubrics to enhance assessment validity and reliability?

Subsidiary Question:

- What strategy would you suggest to enhance alignment between design and engineering assessments in the Competitive Product Development module?

Primary Research Question 5: How do experts see the impact of aligned marking criteria, ILOs, and rubrics on student learning outcomes and academic standards in higher education?

Subsidiary Question:

- What effect does misalignment have on student learning outcomes?

6. Method

In this section, I outline several related procedural stages, including participant recruitment, the study design, and the data collection phase. Firstly, I describe the recruitment of participants, followed by an outline of the study design, which guided my approach to recruiting a professor, senior lecturer, and quality assessor. The materials subsection provides a description of the remaining methods and procedures used in the study, such as the type of research, research philosophy, research approach, research recruitment phases, data collection, and data analysis. Finally, the procedure for data analysis and thematic analysis for the study is outlined.

7. Type of Research

7.1. Qualitative Approach

Myers (1997) states that qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena. Examples of qualitative methods are action research, case study research, and ethnography. Qualitative data collection methods include observation and participant observation (fieldwork), interviews, and questionnaires, while data sources include documents and texts, and the researcher's impressions and reactions (Myers, 1997). As this research seeks to understand assessment experts' views on task design and assessment alignment, a mainly qualitative approach to data gathering shall be used. The selection of a qualitative approach also fits well with Hussey and Hussey's views (Hussey & Hussey, 1997: p. 20), which defined qualitative research as a subjective approach, as in this research, which focuses on identifying expert views on the task and assessment alignment.

7.2. Deductive/Inductive Approach

According to Hussey and Hussey (1997: p. 19), the deductive method is referred to as moving from the general to the particular. Inductive research, on the other hand, is a study in which theory is developed from the observation of empirical reality; thus, general inferences are induced from particular instances, which is the reverse of the deductive method since it involves moving from individual obser-

vation to statements of general patterns or laws (Hussey & Hussey, 1997: p. 13).

The inductive research method aligns well with the interpretive social science research philosophy, as demonstrated previously. In this study, expert opinions on assessment alignment were collected. A recommendation was developed to address the threats to validity related to assessment alignment.

8. Research Approach

Neuman (2003) identify three primary research philosophies in social science: positivist, interpretive, and critical approaches. For this research, the interpretive approach is most suitable.

8.1. Interpretive Research

Neuman (2003) describes the interpretive approach as studying socially meaningful actions through detailed observation in natural settings to understand how people create and maintain their social worlds. Denzin and Lincoln (1998) note that this approach emphasizes the relationship between researchers and respondents, fostering a 'communal contact' not found in traditional research. This methodology is suitable for my study, which aims to understand assessment alignment experts' perspectives to improve future assessments.

8.2. Subjective/Objective

A key decision in the research paradigm was the researcher's level of subjectivity or objectivity. Easterby-Smith et al. (1991) argue that scientific validity requires researcher independence. This study adhered to that principle by allowing participants to freely express their views on assessment alignment.

8.3. Interviews

An interview is defined as a conversation between two or more people (the interviewer and the interviewee) where questions are asked by the interviewer to obtain information from the interviewee. Conducted usually on a one-to-one basis, it is designed to reveal the underlying motives of the interviewee's attitudes, behavior, and perceptions (Oxford English Dictionary, 2008).

8.4. Research Sample/The Recruitment Phase/Interview Procedure

Guba and Lincoln (1985) suggest that in qualitative research, sample size is determined by the need for adequate information. Thus, for this study, 3 participants were engaged for 30-minute interviews. Participants, identified as "experts in Design and Engineering teaching and have the experience in assessment alignment", were individuals with at least five years of experience in higher education as senior lecturers, principal lecturers, or professors. These experts typically hold leadership roles and collaborate in assessment processes. An initial form ensured diverse perspectives across sectors, industries, ages, and genders. Three interviews were con-

ducted in May 2024. Three participants, with 15 - 20 years of experience at XXXX university, accepted and had extensive experience in assessment development, planning, and policy-making within higher education.

8.5. Inclusion Criteria

Data was collected from individuals who met the following criteria: they were either a senior lecturer, principal lecturer, or professor; they had dedicated a meaningful amount of time to working on assessment; they were willing to participate; and they had been working for XXXX University with good experience in quality assessment and validity assurance for at least five years.

8.6. Data Collection Phase

Data was collected through semi-structured interviews that focused on the main research questions while allowing for flexibility to alter their sequence or probe for more information when appropriate (Silverman, 2014).

The interview sub-questions were informed by the main research questions. In exploring assessment alignment, the questions asked included the following:

Within the engineering development module CPD, what level of alignment do you think is appropriate between the marking criteria and the intended learning outcomes? As a quality assessor, what is the key factor to achieve valid alignment between marking criteria, ILOs, and rubric? How can you create a well-aligned and effective assessment for an engineering assignment or essay? What strategy would you suggest to enhance alignment between design and engineering assessments in the Competitive Product Development module? What effect does misalignment have on student learning outcomes? There are two primary types of marking schemes: analytic and holistic. What are your preferred methods and why?

8.7. Data Analysis-Thematic Analysis

Thematic analysis, as detailed by Braun and Clarke (2006), was chosen to interpret the data. Thematic analysis of free-flowing text can focus on individual words or larger text blocks (Ryan & Bernard, 2000). It is a method for identifying, analyzing, and reporting patterns (themes) within data (Patton, 1990), and is described as qualitative data reduction (Patton, 1990). While it minimally organizes and describes data in rich detail, it often goes further by interpreting various aspects of the research topic (Boyatzis, 1998). Braun (2005) suggests thematic analysis is a foundational method for qualitative analysis. It involves identifying themes that capture important data elements related to the research question and represent patterned responses or meanings within the data (Patton, 1990). Identifying concepts, themes, and meanings is crucial in the data analysis process (Patton, 1990).

In this study, I engaged with participants to discuss their views on assessment alignment using an inductive and interactive approach. I (the researcher) generated the initial codes following repeated engagement with the data. This method

allowed me to build prior knowledge from the collected data and develop early analytical insights. It was therefore crucial to review and re-read the interview notes and transcripts to achieve familiarity with the data, a process of immersion. I familiarized myself with the data by reading and re-reading the transcripts of the three interviews.

Thematic analysis followed an inductive process consisting of six phases, completed manually (Table 1). Initial codes were refined into broader themes through an iterative process of grouping related codes, reviewing patterns across the dataset, and ensuring alignment with the research question. Themes were then defined, named, and reviewed to ensure internal coherence and a clear distinction between them.

To support credibility, I maintained an audit trail documenting coding decisions and theme development, and engaged in peer debriefing to review and challenge emerging interpretations. Summary themes were also checked for consistency with the original data to ensure accurate representation of participants' perspectives.

In terms of positionality, I am a member of the programme under study, which may influence interpretation; to manage potential bias, I used reflexive note-taking, remained aware of preconceptions during interviews, and adhered closely to participants' accounts during analysis.

The following outlines the step-by-step process used to analyze my research data:

Table 1. Phases of thematic analysis (Boyatzis, 1998).

Phase	Description of the Process
1) Familiarising myself with the data	Reading and re-reading the data, noting down initial ideas.
2) Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3) Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme.
4) Reviewing themes	Checking the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic "map" of the analysis.
5) Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6) Producing the report	The final opportunity for analysis, final analysis of selected extracts, relating back the analysis to the research question and literature, producing a scholarly report of the analysis.

9. Finding and Discussion

During analysis, codes and themes are discerned through one of two primary methods. Inductive analysis entails starting from the data itself, with themes often characterized as 'emerging' from the data. (Braun & Clarke, 2013). Themes were

clustered into six main groups: lecturer Alignment perception, essential criteria for assessing alignment, challenges in achieving effective alignment, improving alignment, impact of alignment on student learning, and preferred marking methods.

The following sections provide a concise overview of the research findings that, according to the authors, may be relevant and valuable to design educators at other institutions.

9.1. Expert Perspective and Perception on Assessment Alignment

Research Question 1:

"*Planning for assessment alignment can be difficult*" (Participant 1), "*Every year, I need to challenge myself to ensure that assessments are aligned*" (Participant 2), especially when no neat and mutually exclusive relationship exists between individual learning outcomes and particular assessment tasks. "*It's important to make sure that every learning outcome is assessed*" (Participant 3), and that every assessment maps onto a learning outcome. You will need to be clear about the weightings of each assessment, so that students can allocate their time and effort appropriately. Each assessment needs to have the appropriate degree of complexity to ensure that students are learning at the level expected of them.

9.2. The Impact of Assessment Alignment

Research Question 2: The assessment expert highlighted the importance of aligning declarative knowledge in the early stages of a course, as this can greatly influence students' perceptions of exams in subsequent years.

Assessments hold paramount importance in the teaching and learning process, providing instructors with valuable feedback on their teaching methods and students' progress (Voltz, Sims, & Nelson, 2010). The assessment expert stressed the critical significance of aligning assessments and briefing students about them early in a course. In their view, this proactive approach can significantly shape students' perceptions of future tasks. By ensuring assessments closely match learning objectives and are effectively communicated to students from the outset, educators establish a firm foundation for understanding and performance. Clarity regarding assessment criteria fosters direction and purpose, alleviating uncertainty and anxiety. Consequently, students are better equipped to engage with course materials, leading to enhanced learning outcomes and a more positive academic experience overall.

Research Question 3: "Poorly designed assessments can detrimentally affect student learning experiences." Nevertheless, according to Participants 1, 2, and 3, poorly constructed assessments can have a negative impact on students' learning experiences. This perspective has also been highlighted in other research. Inadequate assessment practices and a lack of alignment can create obstacles for educational institutions. Moreover, assessments with irrelevant components may undermine the educational system and put students at a disadvantage (Resnick et al.,

2004). He also highlights the fact that it is essential to implement assessments effectively, meaning aligning ILOs, tasks, and marking criteria so students benefit.

9.3. Expert View on Improving Assessment Alignment and Its Impact on Student Learning Outcomes

Research Question 4: The assessment experts **(**Participant 1, 2, 3**)** involved in this study agree that "*enhancing students' understanding of assessment can lead to valuable outcomes*". Assessment experts view the process as a vital tool for identifying strengths and areas for improvement, driving targeted interventions, and fostering personal and organizational growth. They believe that effective assessment (which aligns the ILO's marking criteria and rubric) leads to valuable outcomes (such as a better understanding of how the task will be evaluated, how to align their task, and understand the marketing criteria and more) such as enhanced learning, informed decision-making, and improved performance across various domains. Smith et al. (2013) define assessment as "students' understanding of the rules surrounding assessment in their course context, their use of assessment tasks to further their learning, and their ability to work with the guidelines on standards in their context to produce work of a predictable standard."

P1-2: "Improving assessment helps students grasp how evaluations contribute to developing their design study skills and how to self-assess their learning, both of which are essential for lifelong learning".

These abilities have been demonstrated to positively influence performance and aid students in developing a learning approach that matches the intended learning objectives (Price et al., 2012; Smith et al., 2013).

Research Question 5: Experts have observed that students' perceptions of assessments significantly shape their learning behavior, emphasizing the importance of improving their comprehension of assessments. For example, if students don't grasp the task requirements clearly, their submitted work might be lacking, leading to potential task failure and a negative impact on their learning journey. On the other hand, well-aligned assessments can empower students to execute tasks to the best of their abilities, resulting in a positive impact. Students driven to achieve the best in design education may find value in a lecturer emphasizing assessment alignment.

P3: "involving students in the evaluation process", with some utilizing videos to explain task assessments. P1 (a professor in design) used a recorded video of himself explaining the connection between the task, marking criteria, ILOs, and rubric. In addition, when he delivers a lecture, he still refers to one or two points from the ILOs and explains that the lecture/seminar addresses those points. This way, the student is connected to the ongoing assessment during the term. For me, this is an interesting idea to consider in the future, and I have learned more than I thought from this research that I can implement myself in the future.

The student will understand how to answer the assignment brief and address

any issues, which will lead to successful task performance. This finding resonates with Crooks et al. (1996), who argue that what may be perceived as students' inability to complete tasks could stem from a lack of understanding of the assignment or an inability to articulate their learning clearly. This point directly addresses threats to the validity of assessments. Another valuable perspective gained from this research is the opportunity it provided me to understand both the theoretical insights of Crooks et al. (1996) and the practical wisdom of experts in assessment within this specific field.

9.4. Challenges, Opportunities, and How I Make the Changes

This research yielded valuable insights about alignment between mark schemes and learning outcomes in the context of engineering higher education. In this next section, I explore what I learned about conducting this research and the challenges faced.

The greatest frustration of this experience was that I contacted 15 academics, provided them with the participant information sheet, consent form, and research questions, and aimed to recruit 3 participants from XXXX University. Only 2 replied initially, and I later managed to find a third participant. Many declined to participate, as they think they don't have the theoretical knowledge about assessment alignment, as they are not formally qualified in education. In conducting similar research, I may have to find a participant who has an educational background in engineering or even holds an educational practice certificate, to add to the inclusion criteria and sampling. Maybe I have to explain the term used (assessment alignment in an easy way, as they are performing the task, but they didn't understand the meaning of it, hence it was my fault.

Another challenge was conducting this research within the higher education culture as the academics are busy most of the time and can't allocate time for me. In the future, I have to consider their availability as part of my research plan so that it will not affect my research.

The final challenge was writing this report. My goal for this project was to produce research as significant as the studies I typically access through the university library catalog. The data collected was not substantial enough to justify an academic study and would have benefited from a larger scale to gather more in-depth information. However, the experience of the project was excellent.

10. Change in Practice and Policy

This research involved collaboration with assessment experts in the fields of design and engineering, who provided in-depth insights into the validity of assessments, their impact on learners, and their effects on educators. The data aligns with Crook's models and provides an idea and insight about how assessment alignment can be achieved in practice. For example, it suggests briefing students using technology, such as recording video explanations of assessments and uploading them to the university system for students to access as needed. Another valuable

finding is linking each lecture and seminar to one or two Intended Learning Outcomes (ILOs) to keep students informed about the assessments and how they will be evaluated.

These insights provide some ideas to think about in terms of updating Crook's model so it will meet contemporary needs.

11. Ethical Approval and Consideration

Prior considerations were given to some ethical issues in conducting the small-scale research for Unit 2 A. Ethical considerations are crucial in conducting research. Key issues include ensuring participants' health and safety, maintaining anonymity and confidentiality, securing voluntary participation, and clearly explaining the research purpose (Mcnamara, 1994). Munhall and Boyd (1993) emphasize the researcher's ethical duty to realistically describe participants' experiences. Respecting participants provides clear research guidelines and an ethical framework for conducting the study (Brink, 1996).

The study did not require a full ethical review by the committee but was approved by the Faculty of Education, University of Cambridge, and adhered to ethical guidelines for human subjects research. Key measures during data collection included prioritizing participant safety by assessing potential risks, obtaining written consent from each participant, and planning for the management of adverse events and participant care. Efforts were made to avoid embarrassing or offensive questions and to ensure procedures did not cause psychological harm, embarrassment, or negative emotions. Participants were informed about the study's aims, methodology, and importance, with an emphasis on their health, safety, dignity, and well-being, and they signed the consent form. Anonymity and confidentiality were maintained by keeping collected data and session notes confidential, removing identifying information from shared documents, and securely storing all materials under lock and key on a password-protected computer and key at XXXX University.

Participation was voluntary, and participants had the right to withdraw or revoke their consent at any time.

12. Development of Policies and Quality of My Chosen Assessment

Assessing alignment with learning outcomes and marking criteria provides valuable information for students. The intended learning outcomes (ILOs) of the course should be regularly reviewed, and assessment designers should be involved in this process.

Future advancements in assessment design should incorporate the perspectives of academic experts in assessment, who evaluate learner performance. While meaningful measurements of performance in practice can be challenging to implement, assessment within academic training and support is an area that warrants further exploration.

13. Lesson Learned from This Small-Scale Inquiry Research

As a student, engaging in this small-scale research has proven highly effective, doubling as an excellent academic learning opportunity. I initiated the ethical application process, I designed the consent form, Participant information sheet, and the ethical form, then I received feedback from my supervisor on it, and subsequently addressed the ethical considerations collaboratively under her guidance. These activities enabled me to develop the skill of responding positively to critique. With the mentorship of my supervisor, I delved into the complexities of navigating ethical dilemmas in practical contexts.

This experience has strengthened my view on independent research, given the difficult ethical considerations, limitations on study scope, and potential constraints on data quality.

14. Research Limitation

Further research is needed to explore assessment strategies not covered in this limited study. For instance, the use of portfolios in design and engineering education and their assessment requires further investigation. Additional research on the educational impact of portfolios in these fields could help optimize their use in preparing students for professional careers. I selected 15 academics based on subject expertise, publication record, and relevance to the research focus, ensuring diversity across subfields and seniority. The final three participants offer sufficient exploratory insight due to their expertise and complementary perspectives. However, single-institution sampling and non-response may bias findings toward viewpoints and limit generalizability.

15. Conclusion

The objective of this study was to determine the perspectives of assessment experts on the alignment of assessments. Qualitative research methodologies, including data collection and interviews with senior educators—such as senior lecturers, principal lecturers, and professors from the design and engineering department at XXXX University—were employed. Thematic analysis techniques were utilized to analyze the gathered data.

The study's outcomes emphasize the significance of collaborative participation in understanding assessment alignment to address concerns about validity in design education. Based on the findings and insights gathered from participants and subsequent discussions, educators are encouraged to design assessments that align with Intended Learning Outcomes (ILOs), marking criteria, and rubrics to enrich the learning journey. Recognizing the importance of alignment in assessment is critical for improving valuable and distinctive knowledge through assessment design.

The data aligns with Crook's models and introduces a new idea. For example, it suggests briefing students using technology, such as recording video explanations of assessments and uploading them to the university system for students to

access as needed. Another valuable finding is linking each lecture and seminar to one or two ILOs to keep students informed about the assessments and how they will be evaluated.

These insights are something to consider in the future for my use in relation to Crook's 1996 model, ensuring that it remains relevant to contemporary education needs.

The case study provided me with substantial knowledge and practical experience that I might not have gained from reading a book. Essentially, the findings suggest that proficient assessment alignment design can yield benefits for both instructors and learners.

From this research, I have learned that changes in assessment policy are perceived to enhance the learning experience for both students and educators. As a lecturer, I have discovered a new technique for aligning assessments that I plan to explore in the future.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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