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Page: 01-12

ASSESSING THE FEEDBACK SYSTEMS AND THE EFFECTIVENESS OF ITEM ANALYSIS IN VOCATIONAL TEACHER TRAINING COLLEGES: A CASE OF MOROGORO VOCATIONAL TEACHERS TRAINING COLLEGE

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ABSTRACT

Assessment is a core component of competence-based education, with feedback systems and item analysis critical for improving instructional quality and ensuring valid, reliable evaluations. However, in vocational teacher training colleges such as Morogoro Vocational Teachers Training College (MVTTC), gaps exist in feedback provision, item analysis practices, and alignment between teaching and examination setting. This study employed a case study design with a mixed-method approach, collecting data from 23 vocational tutor through questionnaires. Data analysis revealed that 45.5% of respondents receive only student marks without question-level feedback, while 40.9% obtain general pass/fail information; 81.8% report not receiving detailed item-level learning outcome analyses. Also 86.4% of teachers indicated that exams set externally force them to "teach to the test," demonstrating misalignment between teaching and assessment. These findings suggest that the current system is assessment-driven rather than learning-oriented, limiting opportunities for instructional improvement and reducing assessment validity and reliability. Strengthening structured feedback mechanisms, training teachers in item analysis, and involving instructors in exam development are essential strategies to enhance constructive alignment and the overall effectiveness of vocational teacher education.

KEYWORDS: Assessment feedback, Item analysis, Validity, Reliability, Vocational teacher training, Constructive alignment.

INTRODUCTION

Assessment is a critical component of competence-based education as it ensures that learners acquire the required skills, knowledge, and attitudes necessary for effective professional practice (Black & Wiliam, 2018; Hattie & Timperley, 2007). In vocational teacher training, assessments not only evaluate student learning but also provide essential information for improving teaching quality and supporting continuous professional development (Sadler, 2010; Wiggins, 2012). Feedback mechanisms embedded within assessment systems serve as a bridge between teaching and learning by identifying gaps in student performance, informing instructional strategies, and enhancing overall educational outcomes (Brookhart, 2013; Nitko & Brookhart, 2014). Moreover, quality assurance processes in vocational education rely on consistent assessment standards, accurate measurement of learning outcomes, and evidence-based practices to maintain the credibility and reliability of certifications awarded to trainees (McDonald, 2017; Susuwele-Banda, 2018). Without effective feedback systems, the value of assessment diminishes, as instructors cannot adjust their teaching to address learning gaps, and students are deprived of opportunities for improvement.

Statement of Problem

Although assessment practices exist in vocational teacher training colleges, significant challenges undermine their effectiveness and the overall quality of learning outcomes. Firstly, there is a lack of structured feedback systems, meaning that students and instructors often do not receive timely or detailed information about performance, which limits opportunities for corrective action and continuous learning (Brookhart, 2013; Sadler, 2010). Secondly, item analysis a critical tool for evaluating the quality of examination questions and ensuring that assessments accurately measure intended learning outcomes is rarely conducted or systematically utilized, resulting in undetected weaknesses in tests and reduced assessment reliability (Nitko & Brookhart, 2014; Wiliam, 2011). Thirdly, in many instances, the tutors who teach the courses are not involved in setting or moderating examinations. This separation creates a misalignment between teaching content and assessment tasks, threatening the validity of the evaluation process and potentially compromising the measurement of student competencies (Biggs & Tang, 2011; Susuwele-Banda, 2018). Collectively, these challenges highlight concerns regarding both the validity and reliability of assessments, raising questions about whether current practices effectively support competence-based education in vocational teacher training contexts.

Purpose of the Study

This study aims to examine the effectiveness of assessment feedback systems, the application of item analysis, and the impact of misalignment between teaching and examination practices on the validity and reliability of assessments, with specific focus on Morogoro Vocational Teachers Training College (MVTTC).

Literature Review

Theoretical Underpinning of the Study

This study is guided by Constructive Alignment Theory, Assessment for Learning (AfL), and Classical Test Theory (CTT). Constructive Alignment Theory emphasizes the need for coherence between teaching, learning outcomes, and assessment, and is used to examine how misalignment between instruction and externally set examinations affects assessment validity (Biggs & Tang, 2011). Assessment for Learning highlights the importance of feedback in improving teaching and learning, providing a basis for analysing the effectiveness of feedback systems in supporting instructional improvement (Black & Wiliam, 2009). Classical Test Theory underpins the role of item analysis in ensuring the reliability and validity of assessment instruments (Nitko & Brookhart, 2014). Together, these theories provide a framework for understanding how assessment feedback, item analysis and curriculum alignment influence the quality of assessment in vocational teacher training like Morogoro Vocational Teachers Training College.

Assessment Feedback Systems and Teaching Effectiveness

Assessment feedback systems are central to improving teaching effectiveness and student learning outcomes, as they provide instructors with evidence needed to refine instructional practices (Hattie & Timperley, 2007; Black & Wiliam, 2009). Effective feedback is characterized by being timely, specific, and actionable, enabling teachers to identify learning gaps and respond appropriately (Sadler, 2010; Shute, 2008). Research shows that detailed feedback, such as performance breakdowns at the question or learning outcome level, significantly enhances instructional decision-making and student achievement (Brookhart, 2013; Nicol & Macfarlane-Dick, 2006). Conversely, studies indicate that when feedback is limited to general summaries or grades, it has minimal impact on improving teaching and learning (Wiggins, 2012; Carless, 2015). In the context of technical and vocational education and training (TVET), feedback systems are particularly important due to the practical and competency-based nature of training (Boud & Molloy, 2013). However, empirical evidence

suggests that many TVET institutions lack structured feedback mechanisms, resulting in limited instructional responsiveness and reduced capacity to address student learning needs (Susuwele-Banda, 2018; Komba & Mwandaji, 2015). This highlights the critical role of effective feedback systems in strengthening assessment practices and supporting continuous improvement in teaching.

Item Analysis Practices and Assessment Quality

Item analysis is a critical process for improving both assessment quality and teaching practices when understood through the combined perspectives of Constructive Alignment Theory and Classical Test Theory (CTT). Constructive alignment emphasizes the coherence between learning outcomes, teaching activities, and assessment tasks, while CTT provides the statistical foundation for evaluating how well test items measure those intended outcomes (Biggs & Tang, 2011; Nitko & Brookhart, 2019; Downing, 2020). Through indicators such as item difficulty and discrimination index, tutors can determine whether assessment items accurately differentiate between levels of student understanding and whether they align with what has been taught (Wiliam, 2018; Xu & Liu, 2022). This enables educators to identify specific areas of learner misunderstanding, detect poorly performing items, and make targeted instructional adjustments that improve both teaching effectiveness and assessment validity (He & Carless, 2021; Brown & Pickford, 2021). By linking statistical evidence from item analysis with instructional decisions, tutors are able to refine lesson delivery, revisit challenging concepts, and ensure that teaching strategies are responsive to actual learner needs. However, in many TVET contexts, including settings such as MVTTC, limited use of item analysis due to inadequate training and institutional support weakens this connection, reducing the potential of assessment data to inform teaching and compromising the reliability and validity of assessment outcomes (OECD, 2023; Susuwele-Banda, 2018; Komba & Nkumbi, 2008).

Alignment Between Teaching and Examination and Its Impact on Validity

Alignment between teaching and examination is essential for ensuring the validity of assessment outcomes, as it guarantees that what is taught corresponds with what is assessed (Biggs & Tang, 2011; Anderson & Krathwohl, 2001). Constructive alignment theory emphasizes that learning outcomes, teaching activities, and assessment tasks must be coherently integrated to produce meaningful learning experiences and accurate evaluation of student performance (Biggs, 2003). When instructors are directly involved in designing or

moderating examinations, the likelihood of alignment increases, thereby enhancing validity (Brookhart, 2013; Brown & Knight, 1994). However, several studies highlight that in many education systems, including TVET, examinations are often developed by external bodies or individuals who are not involved in teaching, leading to misalignment (Guskey, 2007; Komba & Mwandaji, 2015). This disconnects results in assessments that may not reflect the taught curriculum or intended competencies, thereby reducing validity and limiting the usefulness of assessment data for improving teaching and learning (Sadler, 2010; Wiliam, 2011). Such misalignment also affects reliability, as inconsistencies arise between instructional content and assessment expectations.

Research Gap

Although existing literature provides substantial insights into feedback systems, item analysis, and alignment in assessment, most studies examine these elements in isolation rather than as interconnected components of a comprehensive assessment system (Hattie & Timperley, 2007; Nitko & Brookhart, 2014). In the context of TVET, particularly in developing countries such as Tanzania, there is limited empirical evidence exploring how the absence of structured feedback system, limited application of item analysis, and misalignment between teaching and examination collectively affect the validity and reliability of assessment (Susuwele-Banda, 2018; Komba & Mwandaji, 2015). This lack of integrated analysis creates a gap in understanding how these factors jointly influence teaching effectiveness and student learning outcomes. Therefore, this study seeks to address this gap by examining the interrelationship between feedback systems, item analysis practices, and alignment within a vocational teacher training context.

Methodology of the study.

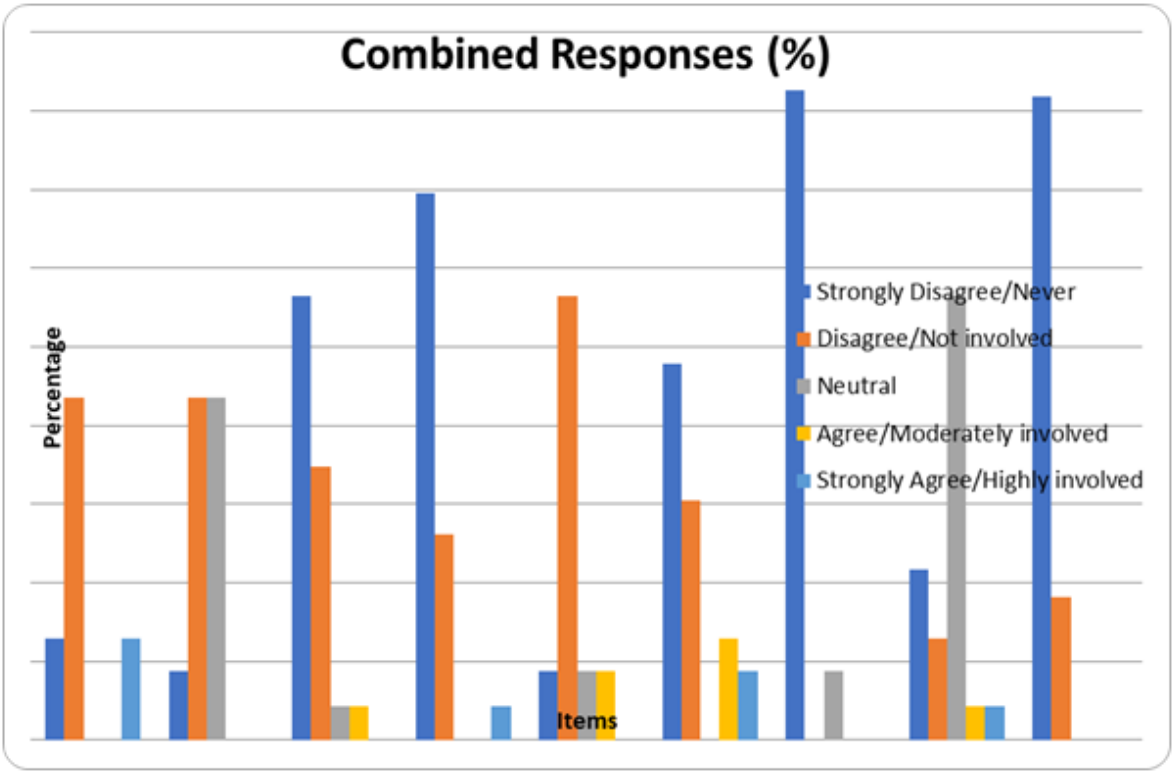
This study employed a case study research design with a mixed-method approach to investigate assessment feedback systems, item analysis practices, and assessment alignment issues by focusing much at Morogoro Vocational Teachers Training College (MVTTC) (Yin, 2018). Purposive sampling was used to select 23 teachers and 5 academic staff directly involved in teaching and assessment, ensuring participants possessed relevant expertise (Creswell & Creswell, 2018). Data were collected through structured questionnaires administered via the Google Forms platform and supplemented by semi-structured interviews with academic staff, a combination that strengthens both the validity and reliability of the findings (Bryman, 2016; Patton, 2015). Quantitative data obtained were analysed using

statistical methods, including descriptive percentages, to summarize trends in feedback practices, item analysis usage, and alignment between teaching and assessment as argued by (Field, 2018). Qualitative interview data were analysed thematically to extract insights into the effectiveness of feedback systems and the implications of misalignment on assessment quality (Braun & Clarke, 2019). This approach ensures that both numerical trends and in-depth perspectives inform conclusions regarding assessment practices at MVTTC.

Presentation and Interpretation of Data

The study collected responses from 23 teachers to examine the level of feedback provided after modular examinations, its usefulness in improving teaching practices, and challenges in using assessment data to adjust teaching strategies. The data is presented thematically according to feedback type, timeliness, comprehensiveness, and application in teaching.

Table 1: Summary of Key Responses (%)



The analysis of responses from 23 tutors at MVTTC highlights significant gaps in the effectiveness of feedback systems, item analysis practices, and alignment between teaching and assessment. Only 13% of tutors consistently received detailed feedback for each examination question, while 43.5% received partial feedback, and a comparable proportion expressed dissatisfaction. Feedback intended to identify curriculum gaps was largely

insufficient, with 56.5% strongly disagreeing that it was comprehensive. Formal review meetings were infrequent, as reported by 69.6% of tutors, and the timeliness of examination results was a concern, with 56.5% indicating delays that limited opportunities for instructional adjustments. These trends suggest that the current feedback system is inadequate for supporting teaching improvements and breaking the instructional improvement cycle.

Tutor involvement in item analysis was minimal; 47.8% of respondents reported no participation, and only 8.7% were highly involved. Detailed analyses of learning outcomes were rarely provided, with 82.6% of tutors not receiving such information, and 81.8% indicating that item analysis offered little guidance for instructional decision-making. While some tutors (56.5%) utilized previous examination data in planning teaching strategies, the widespread insufficiency and limited applicability of feedback data point to inconsistent use of assessment results to inform practice. This indicates that the current system prioritizes performance measurement over actionable teaching insights.

Collectively, these findings reveal that assessment practices at MVTTC are constrained by limited, untimely, and poorly structured feedback system, minimal tutor participation in item analysis, and a lack of formal mechanisms for reviewing and applying assessment data. Consequently, the assessment system remains predominantly assessment-driven rather than learning-oriented. Addressing these gaps through structured feedback systems, active tutor engagement in item analysis, and timely dissemination of results is essential for improving constructive alignment, enhancing instructional practices, and strengthening the overall quality and effectiveness of vocational teacher training at MVTTC.

Discussion of Findings

The findings of this study highlight that the assessment system at Morogoro Vocational Teachers Training College (MVTTC) is currently limited in its capacity to support the improvement of teaching practices. Regarding feedback systems, only 13% of tutors reported receiving detailed feedback for every question, while over 40% received partial feedback, and 56.5% strongly disagreed that feedback sufficiently identified curriculum gaps. Effective feedback, as emphasized in Assessment for Learning (AfL) principles, should provide actionable information that enables instructors to adjust teaching strategies and address areas of student misunderstanding (Black & Wiliam, 2021; Shute, 2018; Wiliam & Leahy, 2021). The lack of detailed, timely, and specific feedback at MVTTC breaks the instructional improvement cycle, limiting tutors' ability to refine their teaching and respond to learner

needs (OECD, 2025; He & Carless, 2021). This indicates that current feedback mechanisms are insufficiently structured to support evidence-informed instructional adjustments.

The study also examined the role of item analysis in guiding teaching improvements. Results show that 47.8% of tutors were not involved in item analysis, and 82% reported that it was generally unhelpful for instructional planning. Within the framework of Classical Test Theory (CTT), item analysis provides critical information on item difficulty, discrimination, and overall test reliability, which can directly inform curriculum adjustments and teaching strategies (Nitko & Brookhart, 2019; Downing, 2020; Xu & Liu, 2022). Limited tutor participation in this process restricts opportunities to identify weaknesses in assessment items and to align teaching more closely with student performance gaps (Biggs & Tang, 2014; Cohen, 2022). Consequently, the lack of systematic item-level evaluation undermines the potential of assessment data to guide evidence-based teaching improvements.

Finally, alignment between teaching and assessment is essential for using assessment data to enhance instructional practices. The study found that externally set examinations and minimal tutor involvement in exam development disrupted constructive alignment, resulting in assessments that did not accurately reflect taught content. Constructive Alignment Theory emphasizes that alignment between learning outcomes, instructional activities, and assessments ensures that assessment results can be meaningfully used to inform teaching decisions (Biggs & Tang, 2014; Anderson & Krathwohl, 2021). Weak alignment at MVTTC limits the usefulness of assessment data for refining teaching strategies, as even accurate performance information cannot be leveraged effectively when it does not correspond with the intended curriculum (Black & Wiliam, 2021; Xu & Liu, 2022; OECD, 2025; He & Carless, 2021).

Collectively, these findings underscore that assessment practices at MVTTC currently do little to promote instructional improvement. The absence of detailed feedback, limited application of item analysis, and misalignment between teaching and assessment collectively hinder tutors' ability to enhance teaching quality. Strengthening structured feedback systems, increasing tutor involvement in item analysis, and ensuring alignment between teaching and assessment are critical steps to make assessment a practical tool for improving teaching practices and fostering better learning outcomes.

Conclusion of the study

The assessment system at Morogoro Vocational Teachers Training College (MVTTC) exists but remains incomplete, reflecting a structure that is more assessment-driven than learning-

oriented. Limited and delayed feedback restricts tutors' ability to respond effectively to student learning needs, breaking the cycle of instructional improvement (Black & Wiliam, 2021; Xu & Liu, 2022). Item analysis is underutilized, with minimal tutor involvement, reducing the reliability of assessment instruments and constraining the identification of weaknesses in question design or curriculum coverage (OECD, 2025; Nitko & Brookhart, 2019). Additionally, misalignment between teaching and externally set assessments weakens constructive alignment, as assessments often fail to reflect taught content or intended learning outcomes (Biggs & Tang, 2011; Black & Wiliam, 2021). Collectively, these gaps in feedback, item analysis, and alignment limit the effectiveness, credibility, and educational utility of assessment at MVTTC, highlighting the need for systemic improvements to enhance teaching and learning outcomes.

Recommendations of the study

1. Introduce structured feedback systems

The study at MVTTC showed that feedback mechanisms are largely insufficient, with only a few tutors receiving detailed, question-level feedback, and many indicating that existing feedback fails to identify curriculum gaps. Implementing structured feedback systems would provide timely, specific, and actionable information on student performance, enabling tutors to pinpoint learning gaps and adjust their teaching strategies accordingly. Such systems would make assessment a tool for continuous instructional improvement rather than merely reporting grades, fostering a learning-oriented environment and enhancing student outcomes.

2. Enhance item analysis and link it to instructional adjustment

Findings revealed that item analysis at MVTTC is underutilized, with minimal tutor involvement and little evidence that existing analyses inform teaching. It is crucial to train tutors in conducting systematic item analysis and interpreting the results to guide instructional decisions. By evaluating item difficulty, discrimination, and alignment with learning outcomes, tutors can identify problematic questions, understand areas where students struggle, and adjust their instructional approaches to address gaps in understanding. Properly used, item analysis becomes a bridge between assessment and teaching, improving both the reliability of exams and the effectiveness of instruction.

3. Involve instructors in exam setting and moderation

Externally set examinations at MVTTC were found to limit tutor involvement, creating a disconnect between teaching and assessment. Engaging instructors in designing and moderating examinations ensures that assessments reflect taught content and intended

learning outcomes. Active participation strengthens ownership of the assessment process, makes exam questions more relevant, and provides meaningful data for improving teaching practices. This involvement also fosters a coherent assessment system that integrates tutor expertise into evaluation, enhancing both teaching and learning outcomes.

4. Strengthen alignment between teaching and assessment

Weak alignment between teaching content and assessments reduces the validity and utility of exam results, as found in the MVTTC study. Strengthening alignment involves coordinating learning outcomes, instructional activities, and assessment tasks to ensure that evaluations measure what has been taught. Proper alignment ensures that assessment data accurately reflects student competencies and informs teaching adjustments, supporting a learning-oriented system rather than one driven solely by grading. This approach improves instructional effectiveness, reinforces curriculum coverage, and enhances the educational impact of assessments.

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