

Assessing Lecturers' Belief on Assessment in Nigeria Using Brown's Factor Model of Assessment Belief: A Study of Content-based Validity

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ABSTRACT

The objectives of this study are threefold: First, to highlight the importance of assessment beliefs and their contribution to the practice of assessment. Second, the current literature on assessment beliefs in different contexts should be assessed, including the relationship between lecturers' beliefs on assessment and their evaluations of student performance. Third, the content-based validity of an adapted instrument (Brown conception of Assessment III Abridged Survey) will be measured using the Lawshe content validation ratio for use among lecturers within the context of Nigeria. This psychometric study utilized a 27-item survey from Brown (2006), covering four dimensions: improvement of teaching and learning, student accountability, institutional accountability, and assessment as irrelevant. Seven experts were randomly selected to judge the relevancy of each item to the domain construct based on the defined four-point scale. The Content Validity Ratio (CVR), based on the Lawshe Validity Model (1975), is used to analyze the data collected. Results indicated that items under the "assessment as irrelevant" were deemed non-essential. As a major contribution to this study, the existing literature on content-based validity studies is expanded by applying the Lawshe content validation ratio. Based on the study result, a three-dimensional conceptual framework for analyzing lecturers' beliefs

on assessment is also suggested. It calls for additional psychometric properties, particularly construct validity testing, to ensure the convergent and discriminate validity of the instrument within the context of TVET tertiary institutions in Nigeria.

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INTRODUCTION

Assessment in any instructional context, including higher education, is to provide evidence of student learning, student progress, teaching quality, and institutional accountability (Fletcher et al., 2012; Paris et al., 2012; Suleman et al., 2020). Thus, given the importance of assessment, issues related to assessment beliefs deserve investigation, particularly those connected to lecturers (Elshawa et al., 2017). Beliefs in assessment represent a critical issue in the field of assessment research. Even though this research area affects policy and practice in tertiary institutions, little is known about lecturers' beliefs about assessment (Opre, 2015). There may be numerous factors that influence the intended assessment practice. For instance, individual assessment beliefs and their varied purposes of assessment affect their judgment on what assessment methods to adopt (Osman et al., 2021).

Additionally, evidence from empirical research indicates that beliefs regarding assessment significantly influence the choice of assessment methods (Thomas, 2012; Vandeyar et al., 2007). For example, researchers have illustrated that different assessment beliefs lead to different assessment practices (Thomas, 2012; Vandeyar et al., 2007). As a result, lecturers who believe in assessing student learning use traditional assessment practices. In contrast, lecturers who believe in assessment for student learning will be motivated to use alternative assessment approaches. Thus, assessment practices employed in assessing students' learning differ depending on the

beliefs of assessment, teaching, and learning theories (Moiinvaziri, 2015). Given this, Brown et al. (2011) suggested that it is essential to consider educators' assessment beliefs to appreciate them and, if necessary, find ways to improve their assessment practices. Therefore, understanding the assessment beliefs of a lecturer, especially at the tertiary level, is essential since it can help improve the quality of assessment practices for the effective implementation of any assessment policy reform (Elshawa et al., 2017; Mohd et al., 2013).

Therefore, the connection between assessment beliefs and practice is not quite direct and simple. It is influenced by numerous distinct factors, particularly context, where the teaching activity plays a significant role. For example, in Malaysia, English language instructors believe that the assessment aims to improve teaching and learning, which involves providing information about students' progress and giving feedback to students (Elshawa et al., 2017). However, in Colombia, a study of 62 lecturers found a contradiction between their reported beliefs and practices, suggesting that lecturers need opportunities for reflection, self-assessment, and more guidance on formative assessment practices (Muñoz et al., 2012). Moreover, in higher education in New Zealand, faculty and undergraduate students across four tertiary institutions (two universities, one indigenous tertiary institution, and a polytechnic) held differing views. The results indicate that faculty viewed assessment as a trustworthy process aiding teaching and learning. In contrast,

students viewed assessment as focusing primarily on accountability and perceived assessment as irrelevant or ignored in the teaching and learning process (Fetcher et al., 2012). Hence, the outcomes of these studies brought forward three perspectives on how belief-practice relationships function. Beliefs and practices influence each other, resulting in a contradiction between what is believed and what is practiced and a different opinion regarding the purpose of assessment. It clearly shows that the relationship between belief and practice is complex and varies across contexts and individuals. Thus, assessment of lecturers' beliefs have great consequences as they influence their assessment practices (Harris & Brown, 2009).

Therefore, in technical and vocational education and training (TVET), assessment is essential for determining students' learning outcomes. It provides accurate feedback on whether students have successfully achieved the intended learning outcomes (Yusop et al., 2022). Assessing students' competence in TVET, whether through written or practical methods, is crucial to ensuring they have demonstrated mastery of practical skills and essential abilities required to carry out tasks based on specific curriculum standards (Mazin et al., 2020). However, research suggests that assessment practices in TVET can sometimes be inconsistent with their intended purposes (Yusop et al., 2023). More importantly, assessment serves multiple purposes, such as providing information about student learning and progress, teaching quality, and

program and institutional accountability (Opre, 2015). In his various studies, Brown (2004, 2008) identified four main purposes teachers' beliefs about assessment can serve. These beliefs on assessment vary widely. Some educators see it as a powerful tool to enhance teaching and learning, emphasizing helpful feedback (Brown et al., 2019). Others view assessment as holding students accountable through scores, grades, and certifications (Brown et al., 2019). Another perspective sees assessment as a way to gauge the effectiveness of schools and teachers, providing valuable data for improvement (Brown et al., 2019). Finally, some educators believe the assessment is irrelevant or harmful, questioning its accuracy and preferring to focus solely on teaching (Brown et al., 2019). This diverse range of beliefs highlights the complex role assessment plays in education.

Consequently, the role of assessment in TVET is to ensure that students' knowledge, skills, and attitudes are assessed (Yusop et al., 2023). These assessments manifest in two crucial phases: formative with a future goal, which is to gain feedback, and summative, which assesses concrete achievement and acquires evidence (Black et al., 2018). Thus, constant improvements from these assessments are required to ensure the development of knowledgeable and skilled students (Shepard et al., 2018). Hence, lecturers' understanding of the purpose and function of assessment is closely related to how they implement it in their classroom practice. While using assessment to improve teaching and learning

may be an essential factor in being a lecturer in TVET, their beliefs depend on the sociocultural context and policy framework within which they operate.

Therefore, the conception of the Assessment III Abridged Survey from Brown (2006) as a measurement tool was developed to measure teachers' beliefs about the four major purposes of assessment. The term "conception" of assessment denotes educators' belief systems about the nature and purpose of assessment and encompasses their cognitive and affective responses (Xu & Brown, 2016). Literature confirmed that researchers of assessment beliefs used diverse subsuming terms such as conception and values to define variables of interest. For example, scholars such as Remesal (2011) distinguish between the term's conceptions and beliefs, while others such as Calveric (2010), Vardar (2010), and Yidana et al. (2018) decided to use the two terms interchangeably. The concept of conception incorporates knowledge and beliefs into a singular construct to provide a framework for describing this study's overall perception and awareness of assessment.

Hence, the application of this instrument requires that validity be reported in content and construct. For example, Brown conducted studies in the context of basic education in New Zealand, focusing only on construct validity. Such studies include *Teachers' Conceptions of Assessment: Implications for Policy and Professional Development* (Brown, 2004) and *Teachers' Conceptions of Assessment: Validation of an Abridged Version* (Brown, 2006). Other

studies that applied and adapted the same instrument in the context of higher education show no evidence of content or construct validity. In Nigeria, for example, Raji et al. (2020), in their study titled "Teachers' Conceptions and Choices of Assessment Tasks in a Nigerian Postgraduate Teacher Training," adopted the same instrument but reported no content or construct validity evidence. Hence, using the instrument in the TVET context in Nigeria requires the establishment of psychometric properties in terms of content and construct validity. This evidence suggests that while the Conceptions of Assessment Abridged survey might be suitable for the New Zealand context, its validity needs to be established through content and construct validation before application in other contexts, especially the TVET context or those significantly different, like high education or different countries. Thus, this study intends to address this critical research gap identified in the TVET context: the absence of established content validity for the "Conceptions of Assessment Abridged" survey.

Accordingly, it is observed from the literature that the evaluation of content validity has been much neglected in the literature on assessment beliefs. While Brown (2019) lamented that context, culture, and local factors shape teachers' conceptions of assessment, a literature review creates a gap that the present study intends to fill. Nevertheless, a lack of precise specifications and standards challenges understanding assessment beliefs and their underlying principles in the Nigerian

higher education context. Subsequently, wide variations in its conceptualization and the resulting practical implications are expected. As a result, more data is needed on the Nigerian TVET higher education context to contextualize assessment beliefs, experiences, practices, and professional development needs, particularly during this era of accountability. Therefore, research on the validation process and the construction and adaptation of measurement instruments are still insufficient in Nigeria's education field. The current study is a step forward in this direction by using the Content Validity Ratio (CVR) based on the Lawshe Validity Model (1975) to determine the content validity of an adapted Brown Conception of Assessment Abridge Version for use among lecturers in the context of Nigerian TVET tertiary institutions.

LITERATURE REVIEW

Content-based Validity

Content validation is one of the numerous steps in the instrument development process that requires careful attention. Content validity refers to the extent to which a measurement instrument accurately represents the content being measured, thereby establishing its validity (Akmal et al., 2022). It is the first and inevitable step in assessing other sources of validity. Yet, it is ranked among instrument development's less frequently reported psychometric properties (Zapata et al., 2022). As such, it is regarded as a challenge that needs to be overcome by acknowledging its worth. Therefore, since content validity is essential to ensuring

overall validity, it is important to conduct content validation systematically using evidence and established best practices.

Moreover, researchers in psychometrics, namely Galicia et al. (2017) and Taherdoos (2016), identified three validation methods: content, construct, and criterion, with construct validity being the most widely used. Contrary to the literature reports on the commonly employed construct validity in this study, content-based validation criteria are considered. Therefore, the usual procedure for assessing the content and validity of an instrument is to consult experts. Experts are selected to evaluate and criticize an assessment method and are usually chosen based on their knowledge of the subject matter under consideration (Yusoff, 2019). The way these experts are chosen is, thus, fundamental since they must be experts in the field, either because of expertise or work experience. Once selected, the experts assess the different dimensions of the instrument using a numerical scale as a part of the procedure (Galacia et al., 2017). The process that the experts undertake becomes a real effort to eliminate unimportant aspects, modify aspects that need modification, and incorporate relevant aspects (Rubio et al., 2003). Thus, in this study, the researcher considers this process thoroughly and decides what to modify, enhance, or eliminate from the Conception of Assessment III Abridged Survey adapted for use among lecturers in TVET tertiary institutions using content validation procedures.

Assessment Beliefs

Various studies in assessment literature have investigated assessment beliefs and how they relate to assessment practice (Ha et al., 2021; Ha & Murray, 2021). Studies investigating beliefs in relation to assessment used terms like conceptions and values to describe variables of interest (Opre, 2015; Osman et al., 2021). Therefore, beliefs about assessment denote the convictions of lecturers held about the nature and purpose of assessment that incorporate their cognitive and affective responses (Xu & Brown, 2016). Empirical research on beliefs about assessment is directed at studying beliefs in various contexts and discovering the primary factors that constrain or facilitate these beliefs being translated into assessment practice (Elshawa et al., 2017). As such, cross-cultural research recommends that beliefs on assessment differ across contexts, reflecting the internalization of society's cultural priorities and practices (Barnes et al., 2015; Brown & Harris, 2009). For example, a study in the Malaysian context revealed that English language instructors believed that the purpose of assessment was to improve teaching and learning (Elshawa et al., 2017). Equally concerning the assessment beliefs linked to the assessment purposes, data analyses revealed that the items that received the highest agreement were identifying student strengths and weaknesses, giving information about students' progress, and giving feedback as they learn.

Additionally, a study by Narathakoon et al. (2020) investigated teachers' beliefs about

assessment and how they are congruent with their actual assessment practices. The research demonstrated that the teachers' approaches to assessment changed from employing a range of assessment techniques to employing a more restricted set of methods because of the O-NET tutoring policy. Incongruence between teachers' beliefs and practice could be a result of contextual factors such as educational policy and a lack of assessment knowledge.

Moreover, the literature also confirmed that studies about teachers' beliefs on assessment were conducted in New Zealand, Australia, Spain, China, Ghana, Nigeria, and Iran using Browns' (2008) COA-III (full and abridged version). The results from administering this instrument in various countries indicate different factor structures and variations in the pattern and strength of agreement on each factor (Barnes et al., 2015). For example, a study by Osman et al. (2021) on Basic School Teachers' Conceptions of Assessment in the Sissala East Municipality revealed that the participants demonstrated positive conceptions of assessment as a means for ensuring student and school accountability as well as improving teaching and learning, with assessment for student accountability yielding the highest mean value.

Similarly, a global phenomenon or a global localism, research originating in New Zealand with the Teacher Conceptions of Assessment self-report inventory has been replicated in multiple localities and languages (Brown et al., 2019), for example, (English in New Zealand, Hong Kong,

India, and Queensland; Greek in Cyprus; Arabic in Egypt; and Spanish in Spain and Ecuador) and at different ranks of instructional contexts (primary, secondary, senior secondary, and teacher education). Findings indicate that while the inventory can be applied cross-culturally after localized adaptations, no single model is universally applicable—culture, context, and the nature of teacher beliefs about assessment. Hence, judging from the literature, understanding assessment beliefs in the context of Nigerian tertiary institutions would provide further insights into cross-cultural differences in the assessment beliefs reported in the literature.

Nevertheless, empirical evidence about lecturers' views concerning classroom assessment in Nigerian TVET tertiary institutions remains scarce. A recent literature search identified a few studies on lecturers' views on classroom assessment (Raji et al., 2020). Therefore, it is crucial to understand lecturers' beliefs concerning assessment to foster sustainable collaboration among stakeholders within Nigerian TVET tertiary institutions. It is because studies concerning lecturers' and other stakeholders' perspectives have started to note the influence of lecturers' beliefs on assessment (Elshawa et al., 2017; Raji et al., 2020). For example, Raji et al. (2020) examined teachers' conceptions and choices of assessment tasks in Nigerian postgraduate teacher training. Results show that teachers practice assessments of learning and assessment for learning tasks but with preferences for assessment of learning tasks. A substantial difference

in teachers' conception of assessment was recorded.

Therefore, key findings from the reviewed studies brought forward four perspectives: First, assessment beliefs and purposes, as highlighted by Elshawa et al. (2017) and Narathakoon et al. (2020), indicate that the primary purpose of assessment is to improve teaching and learning. Second, the influence of context shows that assessment practice can be influenced by contextual factors such as educational policies and a lack of assessment knowledge. Third is cross-cultural variation, which highlights that while there are commonalities in assessment beliefs, there are variations in the factor structures and patterns of agreement among different cultural contexts. Fourth, the impacts of beliefs on assessment practice indicate that assessment beliefs can influence the choice of assessment tasks, as Raji et al. (2020) researched.

However, some gaps and limitations have been observed in the reviewed studies. For example, there is a limited focus on contextual factors, which suggests a need for in-depth exploration of these factors, including policy changes and professional development opportunities. There is a lack of comprehensive studies in specific regions, pointing out that contexts like Nigeria have been relatively understudied. As a result, more research focusing on this context would provide insights into Nigeria's unique challenges and opportunities for assessment beliefs. Equally, all the reviewed studies also show no evidence of content

validation for the adapted instruments. Consequently, these gaps and limitations suggest more comprehensive, cross-cultural, and context-specific research to advance our understanding of assessment beliefs and their implications in Nigeria. Therefore, this study intends to address this gap by providing evidence of the content-based validity of the adapted instrument, upon which a proposed framework can be suggested for use among lecturers in Nigeria. As such, the conception of the Assessment III Abridged Survey from Brown (2006) is adapted to reports on content-based validity within the context of TVET tertiary institutions in Nigeria.

Four-factor Model of Assessment Conception

Brown (2003) acknowledged four factors that explain how teachers conceptualize assessment: (1) improvement of teaching and learning, (2) accountability of teachers and schools, (3) accountability of students, and (4) irrelevance conceptions. The first dimension of how assessment improves teaching and learning is optimizing students’ learning processes by giving them constructive feedback, which encourages

their commitment to assessment through self-assessment or peer assessment. Simultaneously, the assessment provides lecturers with the necessary information to enhance their teaching activities. The second assessment dimension considers that students are accountable for their learning and must acquire the essential qualifications to access different educational levels. The third assumption concerning assessment beliefs addresses assessment from the viewpoint of its suitability or utility in measuring lecturers’ work and educational institutions in contrast to predetermined standards (Brown, 2003). It further shows that any deficiency in the level of student performance is assigned to those two actors: lecturers and institutions. Finally, the fourth type of belief is those conceptions that describe the assessment as irrelevant. Specifically, this perspective upholds that the usefulness of the assessment process is rejected in education. That assessment is considered to have negative consequences for the educational process, students, and lecturers (Opre, 2015). The four-factor model is presented in Table 1.

Table 1
Brown’s four-factor model of assessment (Conception)

Instrument	Dimensions
COA III Abridged version	Institutional Accountability Students Accountability Improvement of teaching and learning Irrelevance

Source: Authors’ work

METHODOLOGY

This methodological study forms an integral component of a comprehensive research endeavor employing a quantitative approach to assess the content validity of an adapted instrument, the Conceptions of Assessment of the III Abridged Survey, utilizing the content validation ratio (CVR). A panel of seven experts, each representing a distinct field of expertise, meticulously evaluates the relevance of each item within the adapted instrument to the underlying domain construct. The calculated CVR values are subsequently compared against established acceptance criteria to determine the fate of each item: inclusion in the final instrument, acceptance with modifications, or exclusion. This crucial phase of the study enhances the content validity of the

measurement tool, ensuring its suitability for the specific context of Nigerian TVET tertiary institutions.

Sample (Expert Validation)

The validation panel consists of experts who were chosen to judge whether the item is necessary for operating a construct in a set of items or not for inclusion or exclusion in the instrument. Therefore, expert panel comprises individuals with knowledge and proficiency in a specified field. Hence, the participants of this study were selected using random sampling from different institutions and consisted of seven experts from different fields of knowledge with practiced experience (in research and conducting research) ranging from 15 to 30 years of experience (Table 2).

Table 2
Judges' areas of knowledge and years of working experience

Judges	Area of expertise/Academic training	Years of work experience
1	Technical Education	29
2	Technical Education	30
3	Agricultural Education	19
4	Business Education	20
5	Office Technology and Management	26
6	Education (Test & Measurement)	20
7	Education (Test & Measurement)	26

Source: Authors' work

Instrument

The content validation process using the Lawshe procedure is applied to the 27-item adapted conceptions of the Assessment III Abridged Survey from Brown (2006). The

questionnaire consists of four dimensions: (1) assessment improves teaching and learning (12 items); (2) assessment is about certification of student learning (three items); (3) assessment demonstrates the quality of school (three items); and (4)

assessment is irrelevant to the work of lecturers and students learning (nine items). The inventory was judged by assessing each item using expert judgment regarding the relevancy of each item to the domain construct based on the defined four-point scale, which includes (i) the item not relevant to the measured domain, (ii) the item somewhat relevant to the measured domain, (iii) the item quite relevant to the measured domain, and (iv) the item highly relevant to the measured domain (Table 3). Equally, the expert was also

asked to evaluate the degree of language appropriateness regarding clarity, suitability, and ease of understanding. The instrument was developed by Brown (2004) within the theoretical framework delineated by the other literature on classroom assessment (Rural, 2021). The COA III Abridge Version is very relevant and applicable in gathering information for professional development and policy planning in such a way that assessment increases the student’s achievement standard and enhances the quality of lecturers’ teaching.

Table 3
Items on the conceptions of assessment subscales relate to the four main purposes of assessment

Assessment Conceptions Sub-scales	Items Number
Institutional accountability	1, 19, 10
Students’ accountability	2, 20, 11
Improvement of teaching and learning	4, 3, 22, 12, 5, 14, 13, 21, 23, 24, 6, 15,
Assessment is Irrelevance	9, 18, 8, 27, 7, 25, 17, 16, 26

Source: Brown (2006)

Data Collection Procedure

Approval to partake in the study was sought from the expert judges in two ways: some in person and others by email to obtain their agreement to take part in the study to collect the required data. The online procedure for the assessment and validation process was selected because some experts were from different geographical locations. The panel judges were informed about the purpose of the study and their roles in being selected. They were provided with the content validation form and detailed instrument validation instructions. The expert judges were asked to provide

objective and constructive recommendations on improving the sentence structure and clarity of the items. The expert panels were given three weeks to assess and validate the 27 items of the adapted instrument.

Data Analysis

The content validity ratio (CVR) method is employed to assess the content validity of the adapted instrument: Conceptions of Assessment III Abridged Survey by Brown (2006). CVR is an item measurement suitable for accepting or rejecting individual items and is universally recognized as a way of reporting content validity (Zamanzadeh

et al., 2015). The content validation ratio engages a group of expert panels to examine the degree to which each item reflects the domain construct of an instrument. Therefore, the expert judges for this study were asked to provide their judgments regarding the relevancy of each item to the domain construct based on the defined four-point scale (Table 3). The CVR technique was chosen in this study as it is practical in terms of time and cost, straightforward, simple, and easy to apply.

Adjustment of Lawshe CVR Model

As stated earlier, the content validation ratio is used to determine the viewpoints of the panel of experts. In the earliest Lawshe Model, CVR engages a group of expert judges to assess the suitability of an instrument's items that reflect the domain construct on a three-point scale: (1) essential, (2) useful but not essential, and (3) not essential. However, there have been some criticisms of Lawshe's CVR model in assessing the agreement and response of the panels (Chalavi et al., 2015). Thus, to prevent different misinterpretations related to Lawshe's codes and to provide more significant differentiation in panels' ratings, Lawshe's three-point rating scales were expanded to a four-point scale (Chalavi et al., 2015).

Quantification of Content Validity

The content validity of the adapted instrument is computed using the viewpoint of the panel experts. Thus, the agreement

of judgments among experts' panels on the relevancy of including an item in the measure can be calculated by determining the content validity ratio (CVR). As such, the decisions of an expert who makes relevant (3) and highly relevant (4) selections will be calculated using the content validity ratio formula in Equation 1.

$$\text{CVR} = \frac{n_e - (\frac{N}{2})}{N/2} \quad (1)$$

The n_e from the formula represents the number of panels that make an appropriate and highly relevant choice, while N refers to the total panels. The result from this calculation can be explained as the CVR value being closer to 1 when all the judges agree that the item is relevant or highly relevant. The CVR values range from 0 to 1 when over half of the judges make relevant (3) and highly relevant (4) choices. The CVR is negative when less than half of the judges make the selection relevant (3) and highly relevant (4). The CVR value acceptance criteria on items are based on the revised version of the reference table (Wilson et al., 2012), initially developed by Lawshe (1975). The revised version of the reference table is shown in Table 4, as adopted by Chong et al. (2021).

With seven experts, the CVR critical value for each item must be equal to or greater than 0.741 at $\alpha = .05$ level of significance for two-tailed tests (Table 4). Any item that fails to reach a CVR value of 0.741 will be excluded from the instrument.

Table 4

CVR acceptance values based on Lawshe (1975) as revised by Wilson et al. (2012)

N	Level of Significance for One-Tailed Test					
	.1	.05	.025	.01	.005	.00
	Level of Significance for Two-Tailed Test					
	.2	.1	.05	.02	.01	.00
5	.573	.736	.877	.99	.99	.99
6	.532	.672	.800	.950	.99	.99
7	.485	.622	.741	.879	.974	.99
8	.453	.582	.693	.822	.911	.99
9	.427	.548	.653	.775	.859	.99
10	.405	.520	.620	.736	.815	.97
11	.387	.496	.591	.701	.777	.93
12	.370	.475	.566	.671	.744	.89
13	.356	.456	.544	.645	.714	.85
14	.343	.440	.524	.622	.688	.82
15	.331	.425	.506	.601	.665	.79
16	.321	.411	.490	.582	.644	.77
17	.311	.399	.475	.564	.625	.75
18	.302	.388	.462	.548	.607	.72
19	.294	.377	.450	.534	.591	.70
20	.287	.368	.438	.520	.576	.69
21	.280	.359	.428	.508	.562	.67
22	.273	.351	.418	.496	.549	.65
23	.267	.343	.409	.485	.537	.64
24	.262	.336	.400	.475	.526	.63
25	.256	.329	.392	.465	.515	.61
26	.251	.323	.384	.456	.505	.60
27	.247	.317	.377	.448	.496	.59
28	.242	.311	.370	.440	.487	.58
29	.238	.305	.364	.432	.478	.57
30	.234	.300	.358	.425	.470	.56
31	.230	.295	.352	.418	.463	.55
32	.227	.291	.346	.411	.455	.54
33	.223	.286	.341	.405	.448	.53
34	.220	.282	.336	.399	.442	.53
35	.217	.278	.331	.393	.435	.52
40	.203	.260	.310	.368	.407	.48

Source: Chong et al. (2021)

Computation of Mean Value of Judgments Made by Experts' Values

According to Lawshe's suggestion, the following conversion rule is adapted for the validation process to determine the mean judgment values concerning each instrument item (Chalavi et al., 2015).

1. Highly relevant or quite relevant is substituted with 2,
2. Somewhat relevant is substituted with 1,
3. Not relevant is substituted with zero.

The total value of highly relevant or quite relevant (2), somewhat relevant (1), and relevant (0) for each item is added up, and we divided by the total number of experts. The items that fail to meet the value of the minimum requirements are excluded from the final instrument.

Acceptance or Rejection of An Item (Decision Rule)

The following benchmarks are established to include or exclude items in the instrument:

- An item is unconditionally included if its CVR equals or exceeds 0.741. This value is set given the number of judges (7).
- An item is accepted if its CVR ranges from 0–0.741 and the numerical mean of judgment is equal to or greater than 1.5. Such a CVR value indicates that more than half of the panel experts made “highly relevant” or “quite relevant”

choices. The mean value equal to or greater than 1.5 indicates that the mean judgment is closer to “highly relevant” and “quite relevant” choices. On the other hand, the mean value equal to or greater than 1.5 suggests that the mean judgment is equal to or greater than 75% of the maximum mean (2), which is greater than the minimum acceptable (Chalavi et al., 2015).

- An item is either revised or omitted from the instrument if CVR is less than or equal to 0 and the mean is less than 1.5. These indices indicate that at least half of the panel did not judge it to be “highly relevant or quite relevant” (an essential item on Lawshe's scale) and that it possesses a mean of judgments that is closer to “somewhat relevant or not relevant” (an unessential item on Lawshe's scale).

RESULTS

Based on the analysis of Table 5, 12 of the initial 27 items failed to meet the inclusion criteria. Three items from the “improving teaching and learning” sub-construct, and nine items from the “assessment as irrelevant” sub-construct were deemed not essential to the overall framework of the study. Table 6 presents a detailed overview of the rejected items and their respective constructs.

Consequently, only fifteen items remained for further analysis. These items were distributed across three dimensions:

Table 5
CVR, means of judgment, and acceptance/rejection results of assessment belief construct

Item Number	Total (N=7) CVR ≤0.741	Mean of Judgments <1.50	Item Status	Item Number	Total (N=7) CVR ≤0.741	Mean of Judgments <1.50	Item Status
1	1.000	2.00	Accepted	15	0.428	1.42	Rejected
2	1.000	2.00	Accepted	16	1.000	2.00	Accepted
3	1.000	2.00	Accepted	17	0.428	1.42	Rejected
4	1.000	2.00	Accepted	18	0.428	1.42	Rejected
5	1.000	2.00	Accepted	19	0.142	1.42	Rejected
6	1.000	2.00	Accepted	20	-0.142	0.85	Rejected
7	1.000	2.00	Accepted	21	-0.714	0.42	Rejected
8	1.000	2.00	Accepted	22	0.428	1.42	Rejected
9	1.000	2.00	Accepted	23	-0.428	0.71	Rejected
10	1.000	2.00	Accepted	24	-0.428	0.57	Rejected
11	1.000	2.00	Accepted	25	-0.428	0.57	Rejected
12	1.000	2.00	Accepted	26	-0.428	0.57	Rejected
13	1.000	2.00	Accepted	27	-0.428	0.28	Rejected
14	1.000	2.00	Accepted				

Source: Authors' work

institutional accountability (3 items), students' accountability (3 items), and improvements in teaching and learning (9 items). Subsequently, these items would be subjected to confirmatory factor analysis to assess their construct validity.

Notably, two factors—institutional and student accountability—had only three indicators. While some researchers, such as Marsh et al. (1998), advocate for many indicators per factor, others, such as Kenny (1979) and Kenny et al. (1998), argue that a minimum of three indicators per factor is sufficient to avoid model identification problems. This perspective aligns with the work of Koran (2020), who recommended a minimum of three indicators per factor

to ensure the over-identification of all models and prevent complications arising from empirical under-identification. This approach ensures that the subsequent confirmatory factor analysis will yield reliable and valid results.

The study aims at achieving three objectives, and the results are presented and discussed based on these objectives. First, the results provide insights into the significance of assessment beliefs in the context of educational assessment practices. The assessment belief construct was evaluated based on the mean of judgments and CVR values. The findings demonstrate that some items were accepted (with a mean of judgments ≥ 1.50 and a CVR $>$

Table 6
Assessment belief construct and rejected items

Construct	Dimensions	Item number	CVR ≤ 0.741	$\bar{x} < 1.50$	Total item rejected
Assessment belief	Institutional Accountability	3	1.000	2.00	3
			1.000	2.00	
			1.000	2.00	
	Students Accountability	3	1.000	2.00	
			1.000	2.00	
			1.000	2.00	
	Improvement of teaching and learning	12	1.000	2.00	
			1.000	2.00	
			1.000	2.00	
			1.000	2.00	
			1.000	2.00	
			1.000	2.00	
			0.428	1.42	
			1.000	2.00	
			0.428	1.42	
			0.428	1.42	
			0.142	1.42	
			-0.142	0.85	
	-0.714	0.42			
	0.428	1.42			
	Irrelevant	9	-0.428	0.71	
-0.428			0.57		
-0.428			0.57		
-0.428			0.57		
-0.428			0.28		
Total items rejected					12

Source: Authors' work

0.741), while others were rejected due to lower mean judgments and CVR values. Secondly, the study aimed to assess the existing literature on assessment beliefs across different contexts. The literature review reveals that assessment beliefs vary

across different contexts and countries. Cultural, societal, and educational factors play a significant role in shaping educators' beliefs about assessment. Thirdly, another objective was to determine the content-based validity of the adapted instrument,

specifically the “Brown Conception of Assessment III Abridged Survey,” within the Nigerian context. The Lawshe Content Validation Ratio (CVR) results are presented in the table. Items with CVR values greater than 0.741 and mean judgments higher than 1.50 were accepted, while those failing to meet these criteria were rejected. The study thus quantitatively evaluated the validity of the adapted instrument.

In summary, the study objectives revolved around emphasizing the importance of assessment beliefs, evaluating the existing literature, and assessing the content validity of an adapted instrument. The provided results contribute to achieving these objectives by shedding light on the validity of the instrument and offering insights into how well it aligns with the targeted constructs, particularly within the Nigerian context.

Discussion on Findings

The study adapts Brown’s four-factor model of assessment beliefs, which encompasses improvement of teaching and learning, institutional and student accountability, and irrelevance conceptions. This model serves as the basis for understanding the assessment beliefs of lecturers in the context of TVET Nigeria. The findings reveal a detailed content validity assessment process analysis using the Content Validity Ratio (CVR) method, which involves expert judgments. The CVR values and mean judgments for each item are presented, leading to acceptance or rejection decisions. It further revealed that contextual differences are an

important factor that defines assessment beliefs at different levels of instructional contexts. This finding is supported by Brown et al. (2019), who opined that while the inventory can be used cross-culturally after localized adaptations, there is indeed no single universally applicable model. Context, culture, and local factors shape the belief in assessment. Equally, a study by Astuti (2015) confirmed the findings of this study, which found that most participants tend to disagree with the view that assessment is irrelevant.

Thus, based on the findings of this study, 15 items are retained. These items were distributed across three dimensions: institutional accountability (3 items), students’ accountability (3 items), and improvements in teaching and learning (9 items). The findings exclude the dimension of “assessment as irrelevant,” suggesting its limited relevance in the context of TVET Nigeria. Furthermore, the outcome addresses a gap in understanding lecturers’ viewpoints on assessment in the Nigerian TVET context, where research is scarce. Equally, the findings align with existing research suggesting lecturers prioritize assessment to improve teaching and learning, similar to findings in other contexts like Malaysia.

CONCLUSION

This study aimed to adapt an assessment belief instrument for use among lecturers in the Nigerian TVET context. The initial 27-item instrument, based on Brown’s model, underwent a rigorous content validation process involving expert judgments.

Following analysis, twelve items were excluded. Remarkably, nine items belonged to the “assessment as irrelevant” sub-construct, suggesting that this dimension might not be relevant in the Nigerian TVET context. Additionally, three items were removed from the “improving teaching and learning” sub-construct. Table 6 provides a detailed breakdown of the rejected items.

Therefore, only fifteen items remained for further analysis. These retained items are distributed across three dimensions: institutional accountability (3 items), students' accountability (3 items), and improvement in teaching and learning (9 items). In the next stage of the research process, these items will be subjected to confirmatory factor analysis. This analysis will assess their construct validity and determine if they accurately measure the intended dimensions of assessment beliefs in the Nigerian TVET context.

In conclusion, this study has successfully reduced the initial instrument to a more concise and contextually relevant set of 15 items. The next phase of the research will involve confirmatory factor analysis to evaluate the construct validity of these items and ensure they accurately measure the intended dimensions of assessment beliefs among lecturers in Nigerian TVET institutions.

Implications for Theory and Practice

This study regarding assessment beliefs in the Nigerian TVET context has offered valuable insight into theory and practice.

On the theory side, the study reinforces the idea that assessment belief models like Brown's require contextual adaptation. The finding that the “assessment as irrelevant” dimension was excluded suggests that Nigerian TVET lecturers generally value assessment and its role in education. It contributes to the ongoing development of contextually sensitive models of assessment beliefs. Furthermore, the three identified dimensions—institutional accountability, student accountability, and improvement of teaching and learning—provide a focused framework for understanding lecturers' assessment beliefs in Nigerian TVET. This framework can guide future research to explore these dimensions in greater depth.

The findings can be used to develop assessment practices that align with lecturers' beliefs in TVET, leading to more effective learning and improved student outcomes. The emphasis on institutional accountability, student accountability, and improvements in teaching and learning provides a practical framework for TVET lecturers to design and implement meaningful assessments. Equally, policymakers can use the findings to develop assessment policies that harmonize with lecturers' beliefs and promote effective teaching and learning.

Limitations and Recommendations for Future Research

While offering valuable insights, this study has limitations that suggest paths for future research. The study involved a limited number of expert judges for content validation. Expanding the pool of

judges in future studies can enhance the generalizability of the findings. Moreover, the study focused solely on lecturers' assessment beliefs. Including students' perspectives on assessment in future research could provide a more holistic understanding of the assessment landscape in Nigerian TVET.

On the other hand, as mentioned in the conclusion, the next phase of this research should involve confirmatory factor analysis to assess the construct validity of the remaining 15 items. It will ensure that the three identified dimensions—institutional accountability, student accountability, and improvement of teaching and learning—are accurately measured. Additionally, once the instrument's construct validity is established, future research can delve into the predictive validity of the instrument. It would investigate the relationship between lecturers' assessment beliefs and their actual assessment practices to provide professional development interventions.

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