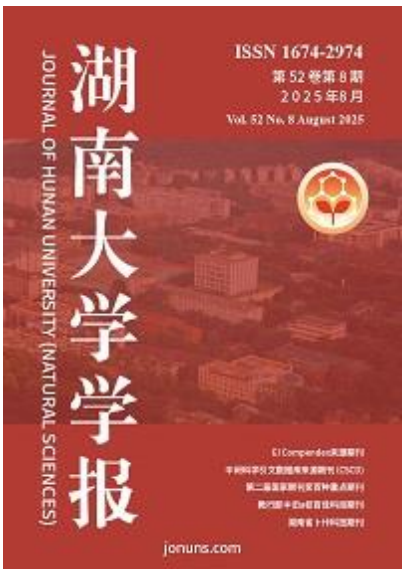

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Validation of a Rubric to Evaluate Universities' Practices on Student Diversity and Inclusion in Higher Education

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Abstract: Purpose: Students are considered the main beneficiaries of education, and diversity and inclusion are integral components of the education system. Countries have made several commitments to strengthen student diversity and inclusion in higher education as part of their transition towards Sustainable Development Goal 4 (SDG4). This highlights the need develop a valid tool to assess the institutionalisation of student diversity and inclusion in higher education. **Methods:** This study describes the use of a rubric of 20-indicators on diversity and inclusion, each with three categories, to assess the content. The rubric was developed by conducting a literature review on these topics. Fifteen experts were consulted for their judgments and ratings. The experts not only ranked the items in order of importance but also suggested revisions. **Findings:** Based on their feedback, content validity ratio (CVR) was calculated, resulting in 79 validated items. **Improvement/Novelty:** The validation process helped to determine the validity of the rubric and allowed the identification of items that required modifications. The validated rubric will assist the universities in self-assessing their progress and finding out areas of attention related to student diversity and inclusion in higher education.

Keywords: Evaluation, Diversity, Inclusion, Students, Higher education, Rubric, Validation.

评估大学在高等教育中学生多样性和包容性实践的评分标准的验证

摘要：目的：学生被视为教育的主要受益者，多样性和包容性是教育体系不可或缺的组成部分。各国已做出多项承诺，将加强高等教育中学生的多样性和包容性，以此作为向可持续发展目标4 (SDG4) 过渡的一部分。这凸显了开发有效工具来评估高等教育中学生多样性和包容性制度化的必要性。方法：本研究描述了使用一个包含20个多样性和包容性指标的评分标准（每个指标包含三个类别）来评估内容。该评分标准是通过对这些主题进行文献综述而制定的。我们咨询了15位专家，征求他们的判断和评分。专家们不仅按重要性对项目进行了排序，还提出了修改建议。结果：根据他们的反馈，计算了内容效度比 (CVR)，最终得到79个经过验证的项目。改进/新颖性：验证过程有助于确定评分标准的有效性，并可以识别需要修改的项目。经过验证的评分标准将帮助大学自我评估其进展，并找出与高等教育学生多样性和包容性相关的关注领域。

关键词：评估、多样性、包容性、学生、高等教育、评分标准、验证

1. Introduction

Higher education has become more diverse due to immigration, the influx of refugees, increased legal recognition and awareness of differences, and anti-discrimination legislation [1]. In 2015, EU member states committed to promoting social inclusion and cultural diversity by fostering the education of young people from disadvantaged backgrounds and making the higher education system more inclusive [2, 3]. Despite the broad political commitments at the European level, only a few countries have followed up with concrete action at the system level to promote social inclusion in higher education.

The terms diversity, equality, and inclusion are often used interchangeably, but they have different meanings [4, 5]. Diversity refers to individual or group differences among people. Students at a university can be diverse in terms of gender identity, age, sexual orientation, ethnic origin, culture, and race, as well as linguistic minorities, refugees or immigrant status, vulnerability due to socio-economic status, special educational needs, or disability. While equality aims to provide equal opportunities for students, inclusion refers to students from diverse backgrounds being valued by the institution or in a group [4].

Diversity and inequality are widely discussed topics around the world, and access to all levels of education has become a high priority to ensure that no one is left behind [1]. Although diversity cannot be restricted to specific areas [6], different indicators of student diversity and inclusion affect universities. The available literature [7-18] suggests several elements that need to be considered to institutionalise student diversity and inclusion in higher education. The elements include: 1) institutional philosophy; 2) diversity policy; 3) inclusion of students from diverse backgrounds; 4) strategies for full student participation; 5) leadership; 6) support services for students; 7) inclusive curriculum; 8) institutional climate and culture; 9) staff training; and 10) inclusive teaching methods and techniques.

The transition to an inclusive system is a highly complex process, as it requires inevitable changes in policies, organisational structures, and institutional practices [19-21]. Despite the publication of national and international documents emphasising the importance of adopting a social model that advocates for the implementation of inclusive policies in academic settings [22], there has not been an encouraging response in the education sector [23-24, 22]. Previous studies reveal that institutions are not adequately equipped to integrate all students from an inclusive perspective. For example, despite a high level of educational inclusion, a discriminatory structural pattern of exclusion and segregation persists for students with disabilities, particularly those with intellectual or multiple disabilities [20, 22].

The main purpose of developing a rubric is to assess universities' practices in relation to student diversity and inclusion in higher education. Universities can use the rubric to evaluate their progress and development in institutionalising student diversity and inclusion in higher education and to identify areas that require additional focus. Therefore, the aim is to create a rubric that provides evidence of the validity of the content. The technique of expert judgement is the most commonly used strategy for determining content validity, in which qualified and competent experts evaluate the content of a research instrument and determine their agreement with the construct proposal, by approving or

disapproving the content [25]. Experts' judgement is the informed opinion of professionals with experience in the field, recognised by others as experts who can provide information, evidence, judgements, and evaluations [26].

Following the technique of expert judgment, different studies have used Lawshe's (1975) [27] content validity ratio (CVR) as a method to validate the items in different instruments, such as a mathematical knowledge scale [28], an inclusive education teaching aptitude test [29], or a rubric for open educational resources for learning [26]. As a result of this review, it was decided to develop a rubric to assess universities' approaches to student diversity and inclusion in higher education through item validation. In light of this, the main aim of this study was to outline the steps involved in developing and validating the content of items within a rubric designed to assess universities' approaches to student diversity and inclusion in higher education.

2. Methods

2.1. Participants

Participants in the study were 15 experts in equality, diversity, and inclusion. Of them, 53% were males and 47% were females, with more than 10 years of teaching and research experience in higher education. The experts were represented by 40% from Spain, 20% from India, 13% from the UK, 13% from the USA, and one expert each from Ireland and Canada.

2.2. Procedure

The study's main objective was to validate a rubric that evaluates universities' practices and policies on student diversity and inclusion in higher education. The process of content validation entailed evaluating how well a rubric incorporates a construct's relevant and representative elements [30]. The methodological process followed for validation of the rubric has been divided into two phases, viz. development and initial evaluation of the rubric to assess universities' practices of student diversity and inclusion in higher education and validation of rubric content by a panel of experts. The protocol for the study was reviewed and approved by the University of Salamanca Research Ethics Committee. In both the phases, informed consent was obtained from the experts, and ethical criteria regarding data protection and confidentiality were ensured. The phase-wise detailed descriptions of the procedures followed are given below.

2.3. Development and initial evaluation of the rubric to assess universities' practices of student diversity and inclusion in higher education

Based on the academic literature review, the necessary information was obtained to develop items to assess universities' practices of student diversity and inclusion in higher education. The rubric was developed following a review of existing evaluation instruments, such as the equity scorecard [31], the inclusive excellence scorecard [32], the rubric for the institutionalisation of service-learning in higher education [33], and the institution-wide evaluation rubric [18].

The review of the above instruments helped to identify four dimensions related to the examination of the university's attention to student diversity and inclusion in higher education. The identified dimensions were (i) the university's philosophy and mission of attention to student diversity and inclusion in higher education; (ii) institutional strategies aimed at students' diversity and inclusion in higher education; (iii) teaching, research, and support services for students from diverse backgrounds; and (iv) leadership in addressing student diversity and inclusion in higher education. These four dimensions included 20 indicators related to the definition, strategic planning, university mission, organisational structure, accreditation process, awareness, collaboration, equal partnership opportunities, learning outcomes, faculty knowledge, curriculum, teaching-learning, resources, research, supporting services, coordination, policy-making, professional development opportunities, and funding.

Each of these indicators had three categories of evaluation: institutionalisation to some extent, an average level of institutionalisation, and total institutionalisation of student diversity and inclusion in higher education. For the strategic planning indicator, the following three categories were developed, as illustrated in Table 1.

Table 1. Examples of a strategic planning indicator and its evaluation categories

1.2	**Strategic planning for the institutionalisation of student diversity and inclusion in higher education**
1.2.1	The university has defined goals for student diversity and inclusion, although these have not yet been implemented in its official strategic plans.
1.2.2	The university has strategic plans to implement short- and long-term goals for student diversity and inclusion.
1.2.3	The university has developed strategic plans that cover both short- and long-term goals to promote student diversity and inclusion on the university campus.

Each of the indicators had all three evaluation categories.
Source: Prepared by the authors

2.3.1. Initial review of the rubric

Before sending the rubric to experts for its validation, the authors conducted an initial review of the content of the rubric. The rubric was evaluated considering its purpose and administration, content review, reliability and validity of the data, and finally the three categories

under each indicator to determine the extent to which they met the expectations of the rubric criteria.

2.4. Validation of rubric content by a panel of experts

2.4.1. Selection of a panel of subject matter experts

In the second phase, 15 subject matter experts (SMEs) in the fields of equality, diversity, and inclusion, both academics and researchers, were identified through an online search, and their expertise was verified by searching for their profiles on their university websites. The selection criteria for experts were (a) professionals involved in teaching or research on EDI and (b) at least 10 years of experience in teaching or research on EDI. The experts included academics and researchers working in higher education sectors in Canada, India, New Zealand, Spain, the UK, and the USA. Therefore, a panel of 15 experts was assembled to review the rubric.

2.4.2. Development of the evaluation form

The SMEs were provided with the rubric evaluation form for their judgement and rating on the items and suggestions for further improvement of the items as seen in Table 2 below.

Table 2. Rubric evaluation form

Sr. No.	Items	MI (3)	LI (2)	NIA (1)
3	**Institutionalisation Strategies for Teaching, Research, and Support Services for Students from Diverse Backgrounds**			
3.1	**Faculty Knowledge and Awareness**			
3.1	Few faculty members at the university have knowledge of student diversity and understand the importance of including students from diverse backgrounds in higher education.			
3.	Some faculty members at the university have knowledge about student diversity and use it to include students from diverse backgrounds in their teaching and learning processes.			
3.	Most faculty members on the campus use their knowledge of diversity in a variety of ways to include all students in the teaching and learning processes, irrespective of their diverse backgrounds.			
Suggestion(s) for further improvement of items:				

**MI=Most Important, LI=Least Important, NIA=Not Important at All*
Source: Prepared by the authors

2.4.3. Preparation of an evaluation package for the SMEs

After the rubric evaluation form had been prepared, an evaluation package was prepared for each SME. The evaluation package included a cover letter explaining the purpose of the rubric, the reasons for selecting them as experts, a description of how to conduct the evaluation and score the items, a copy of the rubric evaluation form, and the scores with working definitions of the terms.

2.4.4. Data collection from the SMEs

In this phase, each of the SMEs was contacted on March 1, 2023 via their official emails with an evaluation package as an attachment. They were asked to read the entire evaluation package carefully and to submit their responses by 31 March 2023 at the latest. The data were thus collected over one month using Lawshe's content validity method. The experts were provided with a draft of the entire rubric and were asked for their assessment of the dimensions, indicators, and scoring categories included in each indicator. They were asked them to answer the following question for each item in the rubric: "Is the item most important, least important, or not important at all?" They were also asked to provide feedback on the items, suggesting any necessary corrections or revisions.

2.4.5. Calculation of the content validity ratio and the content validity index

The responses of all the SMEs were pooled and for each item, the number experts who rated it as "most important" was determined. To determine the validity of the items, *CVR* for each item was calculated using the following formula. In accordance with the recommendations of [34-35], the Item-Content Validity Index (*I-CVI*) (number of agreements on "most important"/number of experts) and the Kappa (*K*) statistics were also calculated and included in the item analysis.

$$CVR = \frac{n_e - \frac{N}{2}}{\frac{N}{2}}$$

where, n_e = number of SMEs identifying an item as ¨most important¨
N = total number of SMEs

According to the formula above, the *CVR* value is negative when less than half of the experts rate an item as "most important" [27]. The *CVR* value is 0 when half of the experts rate an item as "most important". If more than half of the experts rate an item as "most important", the *CVR* is between 0 and 0.99. When all the experts rate an item as "most important", the *CVR* is 1.

3. Results

Tables 3 to 6 shows the 84 items, comprising 4 dimensions, 20 indicators, and 60 categories with their *CVR*, I-CVI, and Kappa based on the ratings of 15 experts.

Table 3. Items with CVR = 1, I-CVI = 1, and K = 1, rated as "most important" by the experts

Sr. No.	Item	No. of Experts in	*CVR*	*I-CVI*	*K*

		Agreement			
1.1.3	Universally accepted definition	15	1	1	1
1.2.3	Strategic planning to promote diversity and inclusion	15	1	1	1
1.3.3	Inclusion in official mission and of primary concern	15	1	1	1
1.4.3	Formal and purposeful linkage	15	1	1	1
1.5.3	Mechanisms for accessibility and retention	15	1	1	1
2.1.3	Frequently organization of awareness programmes	15	1	1	1
2.2.3	Consistent collaboration to meet needs	15	1	1	1
2.3.3	Encouragement to participate in all activities	15	1	1	1
2.4.3	Mechanisms to improve learning outcomes	15	1	1	1
3.1.3	Application of knowledge in different ways	15	1	1	1
3.2.3	Strong evidence that diversity and inclusion are valued	15	1	1	1
3.3.3	Full integration of inclusive methods	15	1	1	1
3.4.3	Availability of a wide variety of resources	15	1	1	1
4.1.3	Actively coordination across campus	15	1	1	1
4.4.3	Sufficient funding	15	1	1	1

Source: Prepared by the authors

Table 4. Items with CVR = 0.66, I-CVI = 0.83, and K = 0.81, rated as "most important" by the experts

Sr. No	Factor	No. of Experts in Agreement	*CVR*	*I-CVI*	*K*
1	Philosophy and mission	13	.73	.86	.86
1.1	Definition	13	.73	.86	.86
1.1.1	Definition addresses only limited aspects of diversity	14	.87	.93	.93
1.2	Strategic planning	13	.73	.86	.86
1.3	Mission of the university	14	.87	.93	.93
1.4	Organizational structure and student diversity	14	.87	.93	.93
1.4.2	Informal relationship with 1151rganizational structure	13	.73	.86	.86
1.5	Diversity on campus	14	.87	.93	.93
1.5.2	Visibility of diversity on campus	14	.87	.93	.93
1.6	Accreditation process	14	.87	.93	.93
1.6.2	Inclusion in internal and external accreditation if required	13	.73	.86	.86
1.6.3	Inclusion in both internal and external accreditation	14	.87	.93	.93
2	Institutional strategies	14	.87	.93	.93
2.1	Awareness	14	.87	.93	.93
2.1.2	Sometimes 1151rganizat awareness programmes	13	.73	.86	.86
2.2	Collaboration	14	.87	.93	.93
2.3	Equal partnership opportunities	14	.87	.93	.93
2.3.2	Encourage participation in some activities	14	.87	.93	.93
2.4	Learning outcomes	14	.87	.93	.93
2.4.2	Assessment focused on Diversity and inclusion	13	.73	.86	.86
3	Teaching, research, and support services	14	.87	.93	.93
3.1	Knowledge on diversity and inclusion	14	.87	.93	.93
3.2	Curriculum	13	.73	.86	.86
3.3	Teaching and learning	14	.87	.93	.93
3.4	Resources	13	.73	.86	.86
3.5.3	Regular research on diversity	13	.73	.86	.86
3.6	Support services	14	.87	.93	.93
3.6.2	Availability of some support services	13	.73	.86	.86
3.6.3	Availability of most support services	14	.87	.93	.93
4	Leadership	13	.73	.86	.86
4.1	Coordination	14	.87	.93	.93
4.2.3	Recognition of diversity and 1151rganizat	13	.73	.86	.86
4.3.3	Regular professional development activities	14	.87	.93	.93
4.4	Funding	13	.73	.86	.86

Source: Prepared by the authors

Table 5. Items with CVR >0.49, I-CVI = 0.80 and K = 0.79

Sr. No	Factor	No. of Experts in Agreement	*CVR*	*I-CVI*	K
1.1.2	Inconsistence definition of diversity	12	.60	.80	.79
1.2.1	No implementation in the strategic plan	12	.60	.80	.79
1.2.2	Strategic planning for diversity and inclusion	12	.60	.80	.79
1.3.1	Limited alignment with the core mission	12	.60	.80	.79
1.3.2	Alignment with core mission, but not of primary concern	12	.60	.80	.79
1.4.1	No link to the organizational structure	12	.60	.80	.79
1.5.1	Low visibility of diversity on campus	12	.60	.80	.79
1.6.1	Inclusion only in internal accreditation	12	.60	.80	.79
2.1.1	Diversity information given on the university website	12	.60	.80	.79
2.2.1	Limited collaboration with local organisations	12	.60	.80	.79
2.2.2	Collaboration only when required	12	.60	.80	.79
2.3.1	Limited opportunities for equal partnership	12	.60	.80	.79
2.4.1	Limited inclusion of diversity in assessment	12	.60	.80	.79
3.3.2	Integration of inclusive methods to some extent	12	.60	.80	.79
3.6.1	Limited supporting services	12	.60	.80	.79
4.2	Policymaking	12	.60	.80	.79
4.3	Professional development opportunities	12	.60	.80	.79

Source: Prepared by the authors

Table 6. Items with CVR <0.49, I-CVI <0.73, and K <0.72, rated as "least important" by the experts

Sr. No.	Factor	No. of Experts in Agreement	*CVR*	*I-CVI*	K
3.1.1	Limited knowledge of diversity and inclusion	11	.47	.73	.72
3.1.2	Limited application of diversity knowledge	11	.47	.73	.72
3.2.1	Minimal coverage of diversity in the curriculum	10	.33	.67	.66
3.2.2	Curriculum values diversity and inclusion	11	.47	.73	.72
3.3.1	Limited integration of inclusive methods	11	.47	.73	.72

3.4.1	Very limited availability of resources	10	.33	.67	.66
3.4.2	Availability of some resources	11	.47	.73	.72
3.5	Research	11	.47	.73	.72
3.5.1	Research on diversity is rarely encouraged	8	0	.53	.51
3.5.2	Research on diversity is sometimes conducted	8	0	.53	.51
4.1.1	Limited coordination	10	.33	.67	.66
4.1.2	Coordination with practices	11	.47	.73	.72
4.2.1	Limited recognition of diversity and inclusion	9	.20	.60	.58
4.2.2	Lack of formal policies on diversity and inclusion	10	.33	.67	.66
4.3.1	Lack of professional development activities	9	.20	.60	.58
4.3.2	Some profesional development activities	9	.20	.60	.58
4.4.1	Nominal funding	10	.33	.67	.66
4.4.2	Average funding	10	.33	.67	.66

Source: Prepared by the authors

Tables 3 to 6 show that, out of 84 items (100%), 15 items (17.86%) with a *CVR* of 1 (*I-CVI* = 1 and *K* = 1, see Table 3) achieved the minimum score required to remain within the rubric [27]. A total of 34 items (40.48%) with a *CVR* > 0.66 (*I-CVI* = 0.86 and *K* = 0.86, see Table 4) and 17 items (20.24%) with a *CVR* > 0.49 (*I-CVI* = 0.80 and *K* = 0.79, see Table 5) were obtained. The remaining 18 items (21.43%) with *CVR* < 0.49 (*I-CVI* = 0.73 and *K* = 0.72, see Table 6) were therefore not considered important by the experts. The data were further grouped according to the CVR values and presented in Table 7.

Table 7. Distribution of CVR values for the 84 items

CVR	**f**
90-99	15
80-89	20
70-74	14
60-69	17
50-59	0
40-49	7
30-39	6
20-29	3
10-19	0
0-9*	2
Total	***N* = 84**

**Not Significant*

Source: Prepared by the authors

Table 7 shows that the CVR of most of the items (*n* = 66, 78.58%) was above 0.49, well above the required values when a panel of 15 experts validated the research instrument, while 18 items (21.43%) had a *CVR* below the required value of 0.49 [27]. This suggests that these 18 items were not important; however, they were considered appropriate because the qualitative expert feedback indicated that they were constructs of student diversity and inclusion in higher education.

Furthermore, given the objectivity and uniformity of the rubric, all of these items required additional expert feedback on their wording and qualitative inputs for improvements. The items were further revised taking into account the qualitative suggestions of the experts.

3.1. Revisions made to the items with a CVR < 0.49

The results of the statistical analysis presented in Tables 3 to 6 show that 18 items (21.43%) in the rubric were suboptimal, with CVR values below 0.49. As a result, one indicator and seventeen categories of eight indicators in the rubric were revised. Specifically, the term "research on student diversity and inclusion" was replaced by Indicator 3.5 (research). Most of the categories (1.1.1, 2.3.1, 2.4.1, 3.2.1, 3.5.1, 4.2.1, and 4.3.1) with scores below 90% were associated with negative statements. As a result, the experts recommended replacing these negative statements. Following this recommendation, the negative term "no" has been replaced by "rarely" in certain categories. For instance, "no visible diversity" was replaced by "rarely visible" (2.3.1), "do not recognise" by "rarely recognise" (4.2.1), and "do not research diversity and inclusion" by "research on student diversity and inclusion is rarely encouraged" (3.5.1). The negative term "no" or “not” from the statement "no independent support" was changed to "limited support service" (2.4.1), from the statement "does not acknowledge student diversity" was changed into "minimally addresses student diversity" (3.2.1), and from the statement "does not provide training" was changed to "lack of training opportunities" (4.3.1). The statement "no operational definition of diversity and inclusion" (1.1.1) was replaced with "an operational definition that addresses limited aspects of student diversity". In addition, the experts suggested removing the term “visible diversity”, as it was confusing with the categories of diversity that are visible. The statement "visibility of students from underrepresented groups" (2.3.1 and 2.3.3) was used instead. The revisions also changed the wording from "limited opportunities only when deemed appropriate" to "sometimes encouraged to participate in curricular and co-curricular activities" (2.2.2). The low expert ratings for indicator 3.5 and its categories (3.5.1 to 3.5.3) led to a change in the wording from “conduct research to review the status of diversity and inclusion” to “conduct and encourage research that reflects the commitment to student diversity and inclusion". The name of the category was also improved by changing the wording from "rarely provides professional development training" to "provides some professional development opportunities" (4.3.2). Some experts suggested moving some of the indicators to a different dimension to facilitate readability, continuity of responses, and smooth application of the rubric. To implement these suggestions, Indicator 1.6 (collaboration with diversity organisations) was moved from Dimension 1 (university philosophy and mission on diversity and inclusion) to Dimension 2 (institutional strategies on student diversity and inclusion), and

Indicator 2.3 (noticeable diversity on the university campus) was moved to Dimension 1. In addition, Indicator 2.4 (support services for students from diverse backgrounds) was moved from Dimension 2 to Dimension 3 (teaching strategies, research, and support services). Therefore, after determining the CVR, I-CVI, and K values for the entire rubric, it was decided to remove 18 items.

Table 8. Mean values of CVRt, I-CVI, and K based on the agreement of 15 experts

Sr. No.	Dimension	No. of items	Mean No. of Experts in Agreement	*CVRt*	S-CVI	*K*
1	Philosophy and mission	25	13	.73	.90	.86
2	Institutional strategies	17	13	.73	.88	.86
3	Teaching, research and support services	25	12	.60	.82	.79
4	Leadership	17	12	.60	.77	.79
Total/Mean		**84**	**13**	**.66**	**.84**	**.83**

Source: Prepared by the authors

Table 8 shows the mean values of CVR, I-CVI and K for each dimension and the entire rubric. Dimension 1 (philosophy and mission) and Dimension 2 (institutional strategies) obtained a *CVR* of 0.73 (*I-CVI* = 0.90, *K* = 0.86 for Dimension 1 and *I-CVI* = 0.88, *K* = 0.86 for Dimension 2), while Dimension 3 (teaching, research, and support services) and Dimension 4 (leadership) achieved a *CVR* of 0.60 (*I-CVI* = 0.82, *K* = 0.79 for Dimension 3 and *I-CVI* = 0.77, *K* = 0.79 for Dimension 4). The mean *CVR for the whole rubric was* 0.66 (*I-CVI* = 0.84 and *K* = 0.83), which was well above the required value of 0.49 [27]. In order to maintain impartiality and to take into account the overall *CVR* of the rubric 0.66 (*I-CVI* = 0.84 and *K* = 0.83), the revised items were retained.

4. Discussion

Sustainable Development Goal 4, "Equitable and quality education for all", of the UN Sustainable Development Goals (SDGs), ratified by 193 nations in 2015, is closely related to the other goals as education is also considered to promote civic and cultural engagement, and health [36]. Despite efforts to evaluate diversity and inclusion in higher education, research tends to focus more on overall campus diversity, with student diversity being one of the aspects examined. Given that students are considered the main beneficiaries of education, it is necessary to examine the institutionalisation of student diversity and inclusion in higher education [37].

The construction of the rubric required an in-depth examination of the sources. In addition, the theoretical rationale for each criterion was considered relevant and included. This type of evaluation rubric can reduce bias in the judgement process by including only the most important aspects of student diversity and inclusion; it can be used by those unfamiliar with diversity and inclusion practices. This is important because the evaluators' perceptions of rubrics can influence the results [38].

This article describes the methodology for converting a set of student diversity and inclusion indicators in higher education into a rubric. The procedure followed to determine the content validity of the rubric ensured the conformity, comprehensibility, and relevance of the indicators included. Ensuring the validity and reliability of the designed instrument is essential for advancing the scientific field of study [39]. This process offers adequate evidence to demonstrate the quality of the designed tool [40].

The analysis has enabled the validation of an instrument for measuring the institutionalisation of student diversity and inclusion in higher education, consisting of 20 indicators organised into four dimensions: philosophy and mission; institutional strategies; teaching, research and support services; and leadership. The experts considered 62 (78.57%) items under four dimensions to be important for the rubric. This result is in line with other studies that highlight the importance of the indicators (see Tables 3 to 5) for diversity and inclusion in higher education [12-18]. It is important to note that the use of CVR, I-CVI, and Kappa helped in identifying the criteria they did not consider important [27, 39]. Only two items analysed in this study had a CVR of 0, and 16 items had a CVR in the range of 0.20 to 0.47. Thus, a total of 18 items were rated as the least important by the experts. However, considering their relevance in the rubric and maintaining the objectivity of the categories, the items were revised based on the judges' suggestions. The inclusion of the items had no impact on the achievement of a high CVI coefficient in the overall rubric, as it scored CVR = 0.66 (I-CVI = 0.84).

The results of this study suggest that the validated criteria from the rubric can be used to evaluate universities' policies and practices on student diversity and inclusion in higher education. This would allow universities to self-assess their progress in incorporating student diversity on campus and the inclusion of students from diverse backgrounds in higher education, which in turn would include the elements that experts have identified as important.

In addition, these results show that attention to student diversity and inclusion in higher education must meet certain requirements. These include not only a well-articulated diversity philosophy and mission, but also well-framed institutional strategies, teaching, learning, research, and institutional leadership focused on student diversity and inclusion. The findings of this study suggest the possibility of using a validated rubric to evaluate universities' practices in student diversity

and inclusion in higher education. The main advantage of the rubric developed is that it allows universities to self-assess their student diversity and inclusion practices and to identify areas that require further attention. The validity process helped to improve the items and the final rubric, which was based on the data collected in the form of expert ratings and judgements. Reliability was then determined and the percentage of agreement method was used to further improve the rubric. With a 0.81 reliability coefficient, the rubric was found to be a reliable tool for evaluating the institutionalisation of student diversity and inclusion in higher education [37].

The limitations encountered during the development and validation process are also noted in this section. The main difficulty addressed during the development of the rubric was related to the inability to cover essential dimensions such as accessibility, assessment and well-being due to the extensive nature of the rubric [37]. Therefore, further research is required to incorporate these dimensions into the rubric. As outlined in PULSE DEI rubric, three categories given under each indicator could be expanded into 5 or 6 categories to offer a wider range of choices [41]. Despite an effort to translate the rubric into Spanish using the Qualtrics survey tool, this attempt was not validated by the respective language experts. Therefore, the Spanish-translated version of the rubric will need further revision from the Spanish language experts. It should also be noted that, although the panel comprised experts from the fields of equality, diversity and inclusion, the study did not include other types of authorities involved in implementing diversity and inclusion policies at universities, such as vice rectors for disability and inclusion, coordinators or managers of diversity and inclusion. Another limitation was that, due to time constraints, it was not possible to conduct an additional round of evaluation of the rubric by experts. Furthermore, the lack of dialogue between the experts and the authors hindered the establishment of a consensus on the final version of the rubric.

5. Conclusions

The main objective of this study was to validate a rubric intended to assess the institutionalisation of student diversity and inclusion in higher education from a university perspective. This research is significant given the limited availability of tools for assessing the institutionalisation of student diversity and inclusion in higher education, a topic that is infrequently explored by the academic community. This may be attributed, in part, to the challenges associated with integrating student diversity and inclusion within higher education. This process involves clearly defining student diversity and translating policies into effective practices. Following a literature review focused on student diversity and inclusion, aimed at identifying the theoretical components for measurement and the validation process by experts, a tool that effectively objectifies and defines student diversity and inclusion in higher education was successfully developed. The rubric serves as a tool for promoting reflection and improvement in university practices while also facilitating the collection of reliable data for the inclusion of students from diverse backgrounds. The rubric facilitates collaborative dialogues among the university, its constituent units, and stakeholders, professionals, and administrators engaged in the institutionalisation of student diversity and inclusion in higher education. The rubric can function as a foundation for evaluating the university's practices related to student diversity and inclusion in higher education.

Declarations

Author Contributions

Conceptualization, H.S.M. and M.C.S.G.; methodology, H.S.M. and AJS.; validation, H.S.M., M.C.S.G. and AJS; formal analysis, H.S.M. and AJS; investigation, H.S.M.; resources, M.C.S.G.; data curation, H.S.M.; writing—original draft preparation, H.S.M.; writing—review and editing, H.S.M.; visualization, H.S.M.; supervision, M.C.S.G.; project administration, M.C.S.G.; funding acquisition, H.S.M. All authors have read and agreed to the published version of the manuscript.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

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Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki and approved by the Research Ethics Committee of the University of Salamanca (protocol code 857 and January 25, 2023) for studies involving humans.

Conflicts of Interest

The authors have no known conflicts of interest to disclose.

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