

Development and Standardization of Scale for Perception of Students on NEP 2020 (SPSN)

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Abstract

This paper details the systematic and rigorous procedures undertaken to construct, refine, and standardize a novel psychometric instrument, titled the "Scale for Perception of Students on NEP." Designed as a multidimensional Likert-type inventory, the primary objective of this tool is to quantitatively assess and evaluate students' attitudes, awareness, and overall reception of the multifaceted reforms introduced by the National Education Policy 2020.

Keywords: Perception, Students, NEP 2020

Introduction

The National Education Policy (NEP) 2020 marks a transformative milestone in India's educational landscape, introduced to modernize the system through a holistic, multidisciplinary, and highly flexible approach. Built on the foundational pillars of access, equity, quality, affordability, and accountability, the policy aims to transition learning paradigms from rote memorization to competency-based frameworks (Sivaraman, n.d.). Key reforms introduced by the policy include the integration of digital learning, an emphasis on vocational and skill enhancement, and structural modifications to higher education that promote learner autonomy and global employability. However, the true efficacy of these ambitious reforms hinges heavily on how effectively they translate into the academic ecosystem and, crucially, how they are perceived by the primary beneficiaries—the students.

Students are the most critical stakeholders in any educational reform; their perception, acceptance, and challenges directly influence a policy's ground-level success (Chaudhari, n.d.). Preliminary investigations indicate a generally positive reception among students regarding the policy's focus on skill-based education and flexible learning, though significant concerns remain regarding institutional preparedness, new assessment methods, and the digital divide (Chaudhari, n.d.). While recent studies have utilized basic questionnaires and exploratory methods to measure stakeholders' awareness and attitudes toward the NEP 2020 (Sudhagar & TD, 2022), the literature currently lacks a rigorously developed, standardized psychometric tool dedicated to quantifying student perception across diverse demographics.

The absence of a standardized scale limits the ability of researchers and policymakers to conduct comparative, large-scale empirical studies. Assessing complex cognitive and affective constructs—such as how students view pedagogical flexibility, their understanding of multidisciplinary courses, or their anxiety regarding new assessment methods—requires an instrument with established reliability and validity. Without such a tool, institutional feedback mechanisms remain anecdotal or overly generalized, making it difficult to pinpoint specific areas of resistance, enthusiasm, or confusion among the student body.

To bridge this critical gap in the literature, this research focuses on the development and standardization of a comprehensive scale to measure student perception of the NEP 2020. Grounded in established psychometric methodologies, the study details the systematic creation of the scale, from the generation of the initial item pool to rigorous content validation by academic experts and statistical refinement. By providing a valid and reliable metric, this scale will empower academic institutions to accurately capture student feedback, evaluate the transitional impact of the policy, and implement targeted interventions to ensure that the vision of the NEP 2020 is realized effectively and equitably.

Statement of the problem:

The statement of the problem is stated in the following way-

“Development and standardisation of scale for perception of students on NEP 2020”

Objectives:

The major objectives of the study are following:

1. To construct a Scale for Perception of Students on NEP 2020; and
2. To standardize Scale for Perception of Students on NEP 2020 with reference to its reliability, validity and norms.

Steps taken for the construction and standardisation of a Scale for perception of students on NEP 2020

The following steps have been taken for the construction and standardisation of a scale: -

1. Deciding format of the tool: -

Selecting the appropriate format for a research tool is critical, as it determines both the scoring framework and the subsequent data analysis techniques. This study utilizes a 5-point Likert scale featuring the following options: (i) Strongly Agree (SA), (ii) Agree (A), (iii) Neutral (N), (iv) Disagree (D), and (v) Strongly Disagree (SD). Because the scale measures personal perception, there are no incorrect answers; respondents simply select the option that best aligns with their views. Furthermore, the dimensions of the tool were developed through a comprehensive review of relevant articles and prior research, alongside consultations with educators. This rigorous process established a strong foundation for the seven dimensions of students' perceptions of NEP 2020, which are illustrated in Figure 1.

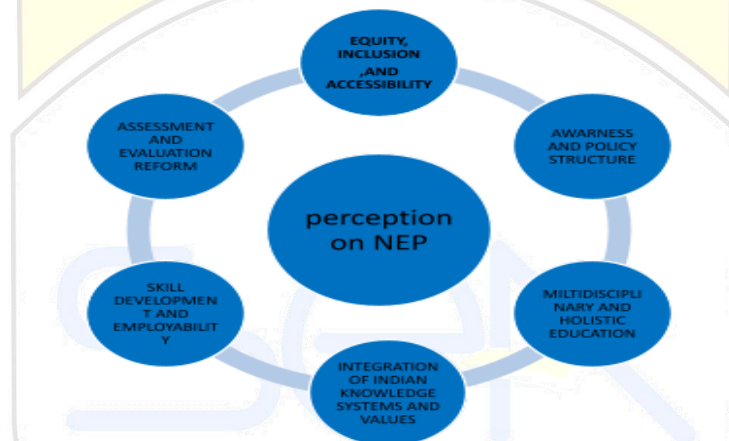


Figure 1: Dimensions of Questionnaire for Perception of Students on NEP 2020

2. Development of the items for the scale: -

In psychometric instrument development, "items" refer to the specific statements formulated to construct the measurement tool—in this case, the "Scale for Perception of Students on NEP 2020." Recent literature emphasizes that evaluating student perspectives on comprehensive policies like NEP 2020 requires a multifaceted approach, capturing shifts toward multidisciplinary learning, flexibility, and holistic development (Aithal & Aithal, 2020; Kumar, 2021). To adequately capture these nuances, and in accordance with standard scale development guidelines which recommend generating a large initial item pool to ensure broad content validity (DeVellis, 2017), the researcher drafted an initial pool of 85 items. These statements were carefully distributed across the seven previously identified dimensions to form the first draft of the scale.

3. Preparing the First Draft: -

The initial draft of the Scale for Perception of Students on NEP 2020 (SPSN) was constructed with strict adherence to established psychometric criteria for test development. This preliminary version comprises 86 items. Additionally, the instrument includes clear instructions

to guide the respondents, alongside a dedicated section for collecting essential demographic variables such as name, gender, and age.

4. Editing of the First Draft: -

To establish content validity, the initial draft of the scale was submitted to a panel of 10 experts in educational research. The panel was requested to evaluate the items based on their appropriateness, relevance, and linguistic clarity. Guided by their critical feedback, the researcher carefully revised the instrument. Six items were eliminated entirely due to ambiguity identified by the experts. Consequently, the revised draft of the scale was reduced to 80 items.

5. Pre-Try Out: -

During the preliminary try-out phase, the revised scale was administered to a sample of 50 students. Participants were provided with comprehensive instructions prior to engaging with the instrument. Throughout this administration, the researcher carefully observed and documented any difficulties or ambiguities the respondents encountered while completing the scale.

6. Preparation of Second Draft: -

Based on the difficulties documented during the preliminary try-out, the researcher eliminated nine items that proved to be ambiguous. Consequently, the second draft of the scale was refined to 71 items. The response format remained identical to the first draft. Because the scale measures subjective perceptions—meaning all answers are valid—numerical weights were assigned to each option for scoring purposes. The response alternatives and their corresponding weights are detailed in Table 1 below.

Table No. 1: Alternatives for answering and their corresponding weightage

Alternatives For answering each item				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5	4	3	2	1

7. Try Out: -

To conduct the formal try-out, the second draft of the scale was administered to a sample of 160 student within the Gorakhpur division. After the instructions were clearly explained, participants completed the survey. The researcher then collected the integrated question-and-answer booklets and evaluated them according to the pre-determined scoring framework. A respondent's final score on the scale was calculated by summing the numerical weights of all their selected responses

8. Item Analysis: -

To evaluate the suitability of individual items, the researcher conducted an item analysis. While Cronbach's Alpha is primarily utilized to measure the overall internal consistency reliability of a tool, examining its associated item-total statistics (such as the "alpha if item deleted") also helps determine the adequacy of specific items. Using data from the 71 items in the second draft of the scale, this analysis was performed to finalize the scale's composition. The calculated Cronbach's Alpha values and item statistics are presented in Table 2.

Table No. 2: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.804	.799	71

As demonstrated in Table 2, the calculated Cronbach's Alpha coefficient is 0.804. This value indicates a high level of internal consistency, thereby confirming the overall reliability of the measurement tool. The detailed item-total statistics used to further evaluate the individual statements are presented subsequently in Table 3.

Table no. 3 Item Total Statistics

Item No.	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item 1	.385	.799
Item 2	.569	.793
Item 3	.610	.792
Item 4	.367	.798
Item 5	.569	.793
Item 6	-.156	.810
Item 7	.092	.805
Item 8	.037	.806
Item 9	.180	.803
Item 10	.610	.792
Item 11	.569	.793
Item 12	.610	.792
Item 13	.569	.793
Item 14	.428	.798
Item 15	.569	.793
Item 16	-.156	.810
Item 17	.092	.805
Item 18	.037	.806
Item 19	.092	.805
Item 20	.610	.792
Item 21	.471	.796
Item 22	.303	.800
Item 23	.385	.799
Item 24	.309	.800
Item 25	.319	.800
Item 26	.409	.797
Item 27	.610	.792
Item 28	.278	.800
Item 29	.381	.799
Item 30	.264	.801
Item 31	.443	.796
Item 32	-.035	.808
Item 33	.158	.805
Item 34	-.045	.808
Item 35	.354	.798
Item 36	.462	.796
Item 37	.423	.798
Item 38	.464	.798
Item 39	.384	.798
Item 40	.092	.805

Item 41	.428	.797
Item 42	.014	.807
Item 43	.569	.793
Item 44	.099	.805
Item 45	.542	.796
Item 46	.092	.805
Item 47	.307	.800
Item 48	.569	.793
Item 49	.201	.805
Item 50	-.235	.812
Item 51	.544	.794
Item 52	.405	.798
Item 53	.219	.802
Item 54	.217	.802
Item 55	.092	.805
Item 56	-.321	.812
Item 57	-.147	.810
Item 58	.529	.795
Item 59	.229	.802
Item 60	.610	.792
Item 61	.325	.800
Item 62	-.147	.810
Item 63	.096	.805
Item 64	.448	.796
Item 65	.610	.792
Item 66	.513	.795
Item 67	.513	.795
Item 68	.610	.792
Item 69	.400	.797
Item 70	.448	.796
Item 71	.513	.795

To refine the scale, the researcher evaluated the items using two key metrics from Table 3. First, the "Corrected Item-Total Correlation" measures how well a specific item correlates with the overall questionnaire. Items with a correlation coefficient below 0.30 ($r < 0.30$) contribute weakly to the scale and are generally recommended for removal. Second, the "Cronbach's Alpha if Item Deleted" column projects how the baseline reliability (established at 0.804 in Table 2) would change if an item were removed. If deleting an item increases the overall Alpha, discarding it improves the instrument's reliability.

The analysis revealed that 21 items (6, 7, 8, 16, 17, 18, 19, 32, 33, 34, 40, 42, 44, 46, 49, 50, 55, 56, 57, 62, and 63) failed both criteria. They exhibited corrected item-total correlations of less than 0.30, and their deletion increased the overall Cronbach's Alpha. Consequently, based on the data in Tables 2 and 3, the researcher eliminated these 21 items from the scale.

9. Final Draft: -

Following the removal of the inappropriate items, the final draft of the scale was prepared, comprising exactly 50 items. This finalized instrument—complete with clear instructions and

a designated section for demographic information—was then printed for the final phase of data collection. The dimension-wise distribution of these 50 items is presented in Table 4.

Table No. 4: Dimension Wise Distribution of Items of Scale for Perception of Students on NEP 2020

Sl. No.	Dimension of Questionnaire for Perception of students on NEP 2020	Items	Total no. of items
1.	Awareness and Policy Structure	1,2, 3, 4, 5, 6	6
2.	Multidisciplinary and Holistic education	7,8,9,10,11,12	6
3.	Integration of Indian Knowledge Systems and Values	13,14,15,16,17,18,19,20	8
4.	Skill Development and Employability	21,22,23,24,25,26,27	7
5.	Technology Integration and Digital Learning	28,29,30,31,32,33,34	7
6.	Assessment and Evaluation Reforms	35,36,37,38,39,40,41, 42	8
7.	Equity, Inclusion, and Accessibility	43,44,45,46,47,48,49, 50	8
Total			50

10. Reliability: -

This option uses "internal consistency," which is the specific type of reliability that Cronbach's alpha measures.

The internal consistency of the Scale for Perception of Students on NEP 2020 (SPSN) was evaluated using Cronbach's alpha. The analysis yielded a coefficient of 0.812, indicating a high level of reliability for the instrument.

11. Validity: -

To establish the face and content validity of the Scale for Perception of Students on NEP 2020 (SPSN), the instrument was reviewed by a panel of 13 experts in educational research. The inter-rater agreement—both among the experts and between the experts and the researcher—ranged from 65% to 95%. This strong consensus indicates satisfactory content validity. Furthermore, because high internal consistency is a fundamental prerequisite for a valid instrument, Cronbach's alpha was calculated. The resulting coefficient ($\alpha = 0.812$) not only demonstrates high reliability but also further substantiates the structural validity of the scale. Consequently, the SPSN is deemed a robust and valid measurement tool.

12 Scoring: -

The scoring framework for the final draft remains consistent with earlier iterations of the scale.

13 Interpretation: -

To interpret the collected data, respondents' scores were categorized using the mean ($M = 141.74$) and standard deviation ($SD = 13.84$). The researcher established three distinct levels of perception by calculating one standard deviation above and below the mean. The upper threshold was determined as $141.74 + 13.84 = 155.58$ (rounded to 156), and the lower threshold as $141.74 - 13.84 = 127.90$ (rounded to 128). Based on these cut-off scores, respondents were classified into three categories: those scoring above 156 were labeled as having a "perfect" perception of NEP 2020; those scoring between 128 and 156 were classified as having a "moderately adequate" perception; and those scoring below 128 were categorized as having a "poorly adequate" perception.

Table No. 5: Level of Perception of student-teachers on Internship

Level of perception	Lower Limit	Upper Limit
perfect" perception of NEP 2020	56	250
moderately adequate" perception	128	156
poorly adequate" perception.	0	Below 128

Conclusion: -

A 50-item, 5-point Likert-type scale was developed to assess seven dimensions of student perception regarding internships. The instrument demonstrated strong internal consistency, yielding a Cronbach's alpha of 0.812. Additionally, face and content validity were firmly established through expert evaluation and judgment.

References: -

- Chaudhari, M. (n.d.). Students' Perceptions of NEP 2020: A Pilot Study on Its Impact on India's Education System and Progress toward SDG 4.
- Sivaraman, S. (n.d.). Evaluating the impact of NEP 2020 on higher education reforms and skill development in India: a systematic literature review.
- Sudhagar, D. P., & TD, M. B. (2022). Understanding stakeholders' perception and awareness of
- India's National Education Policy 2020 – an exploratory study. International Journal of Higher
- Education and Sustainability, 4(1), 67. <https://doi.org/10.1504/ijhes.2022.123447>

