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Development And Standardization Of Attitude Towards Blended Learning Scale Of B.Ed. Trainees.

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Abstract

Attitude towards blended learning refers to an individual's perceptions, feelings, and predispositions whether positive or negative towards the integration of traditional face-to-face teaching methods with online or digital learning environments. It reflects the extent of acceptance, satisfaction, and engagement demonstrated when participating in or supporting blended learning approaches.

The present study aimed to develop a standardized scale for measuring attitudes towards blended learning among B.Ed. trainees. The initial pool of items was subjected to item analysis, and low-validity items were eliminated. The final version of the scale consists of 50 items, each rated on a five-point Likert scale. Both the validity and reliability of the scale were established.

Keywords: Blended learning, attitude, Standardization.

1.1 Introduction

Blended learning refers to the integration of technology with traditional face-to-face instruction. In recent years, this approach has been increasingly adopted within the education system. Graham et al. (2019) defined blended learning as "the strategic combination of online and in-person instruction." Similarly, Garrison and Kanuka (2004) described it as "the thoughtful integration of classroom face-to-face learning experiences with online learning experiences." John Watson emphasized its potential, stating, "Blended learning, combining the best elements of online and face-to-face education, is likely to emerge as the predominant teaching model of the future."

In essence, blended learning combines traditional classroom instruction with technology-enhanced and distance learning methods. It is an innovative and effective approach to teaching and learning that offers flexibility, accessibility, and ease of use. Moreover, it has the potential to enhance students' motivation and improve their academic achievement.

1.2 Construction of attitude towards blended learning scale

1.2 Construction of the Attitude towards Blended Learning Scale

Based on the sources available to the investigator, no standardized scale measuring attitudes towards blended learning has been recently constructed in India. To address this gap, the investigator, in consultation with the research supervisor, developed and standardized an **Attitude towards Blended Learning Scale**. The construction of this scale was guided by the **CASEL dimensions**, namely: self-awareness, self-management, social awareness, relationship management, and decision-making.

1.3 Construction of Items

The construction of a scale is a complex task carried out through a series of systematic steps, as outlined below:

- Planning
- Preparation of preliminary form
- Pre-tryout
- Editing
- Pilot study
- Item analysis
- Preparation of final form

Planning

The first and most important step in the process was planning. At this stage, the investigator identified the key concepts related to blended learning that would form the basis of item construction.

Preparation of the Preliminary Form

The investigator prepared an initial draft of the Attitude towards Blended Learning Scale for B.Ed. trainees consisting of **100 statements**. Care was taken to avoid ambiguity and redundancy in wording. Each statement was designed for responses on a **five-point Likert scale**: *Strongly Agree, Agree, and Undecided, Disagree,* and *Strongly Disagree.* Positive statements were scored 5, 4, 3, 2, 1, while negative statements were scored in reverse order.

Pre-Tryout

The preliminary draft was reviewed by a panel of subject experts in education and psychology, as well as schoolteachers with a Ph.D. in Education. They were asked to evaluate the clarity and appropriateness of the statements. Language corrections were further refined with the help of English language experts. Based on their suggestions, the tool was revised and improved.

Editing

Following the pre-try-out stage, responses and expert feedback were consolidated. Thirty statements were removed due to redundancy or lack of clarity, leaving **70 statements** in the revised version of the tool.

Pilot Study

To establish the psychometric properties of the scale, a **pilot study** was conducted with **125 randomly selected B.Ed. trainees** from Cuddalore District, Tamil Nadu. The trainees were instructed to respond to each statement, with the assurance that their responses would remain confidential and be used solely for research purposes. Although there was no strict time limit, participants were encouraged to complete the scale within **45–50 minutes**, consistent with psychological response limits. The completed scales were collected and scored.

Item Analysis

The Attitude towards Blended Learning Scale was treated as an interval scale. Therefore, **t-test analysis** was used for item discrimination. In line with Edwards (1965), items with a t-value greater than **1.75** were retained, while those below the critical value were discarded (as cited in Kamatchi, 2013). The status of the items after analysis is presented in **Table 1**.

Table No 1 Item Analysis of attitude towards blended learning Scale

S. No	Item number in Pre form	't' Value	Result	Item numbers in Final form	Item type
1.	1.	3.44	Selected	1	Positive
2.	2.	0.23	Rejected	-	-
3.	3.	4.52	Selected	2	Positive
4.	4.	5.13	Selected	3	Negative
5.	5.	0.13	Rejected	-	-
6.	6.	1.80	Selected	4	Negative
7.	7.	0.44	Rejected	-	-
8.	8.	2.12	Selected	5	Positive
9.	9.	0.38	Rejected	-	-

10.	10.	4.12	Selected	6	Positive
11.	11.	2.66	Selected	7	Positive
12.	12.	0.34	Rejected	-	-
13.	13.	3.37	Selected	8	Positive
14.	14.	1.96	Selected	9	Positive
15.	15.	7.40	Selected	10	Positive
16.	16.	1.02	Rejected	-	-
17.	17.	3.33	Selected	11	Positive
18.	18.	6.36	Selected	12	Positive
19.	19.	1.16	Selected	13	Positive
20.	20.	0.31	Selected	-	Positive
21.	21.	2.21	Selected	14	Positive
22.	22.	0.02	Rejected	-	-
23.	23.	9.15	Selected	15	Positive
24.	24.	0.32	Rejected	-	-
25.	25.	0.41	Selected	16	Positive
26.	26.	0.44	Rejected	-	-
27.	27.	3.56	Selected	17	Positive

28.	28.	4.32	Selected	18	Positive
29.	29.	2.15	Selected	19	Positive
30.	30.	3.32	Selected	20	Negative
31.	31.	2.31	Selected	21	Negative
32.	32.	1.99	Selected	22	Negative
33.	33.	6.87	Selected	23	Negative
34.	34.	0.56	Rejected	-	-
35.	35.	5.36	Selected	24	Negative
36.	36.	0.13	Rejected	-	-
37.	37.	3.69	Selected	25	Negative
38.	38.	4.44	Selected	26	Positive
39.	39.	0.98	Rejected	-	-
40.	40.	8.87	Selected	27	Negative
41.	41.	1.62	Selected		Positive
42.	42.	5.56	Selected	28	Positive
43.	43.	3.31	Selected	29	Positive
44.	44.	5.56	Selected	30	Positive
45.	45.	1.23	Rejected	-	-

46.	46.	1.99	Selected	31	Negative
47.	47.	2.25	Selected	32	Positive
48.	48.	3.26	Selected	33	Negative
49.	49.	3.29	Selected	34	Negative
50.	50.	5.02	Selected	35	Positive
51.	51.	5.56	Selected	36	Positive
52.	52.	4.58	Selected	37	Positive
53.	53.	0.32	Rejected	-	-
54.	54.	4.89	Selected	38	Positive
55.	55.	5.39	Selected	39	-
56.	56.	3.33	Selected	40	Positive
57.	57.	5.62	Selected	41	-
58.	58.	1.15	Rejected	-	-
59.	59.	10.2	Rejected	42	Positive
60.	60.	4.56	Selected	43	Positive
61.	61.	0.81	Rejected	-	-
62.	62.	4.22	Selected	44	Positive
63.	63.	4.32	Selected	45	Negative

64.	64.	3.54	Selected	46	Positive
65.	65.	0.30	Rejected	-	-
66.	66.	3.23	Selected	47	Positive
67.	67.	4.45	Selected	48	Negative
68.	68.	2.21	Selected	49	Positive
69.	69.	5.63	Selected	50	Positive
70.	70.	0.55	Rejected	-	-

Preparation of final form

After the item analysis, **50 items** were retained for the final version of the *Attitude Towards Blended Learning Scale*.

1.4 Reliability

Reliability is one of the essential characteristics of a sound measuring instrument. A tool is considered reliable if it consistently produces stable results. According to Aquino and Razon (1993), reliability reflects the degree of consistency among repeated measures of the same variable.

In the present study, the reliability of the scale was established using the **split-half method**, and the coefficient of reliability was found to be **0.72**, indicating that the tool possesses an acceptable level of consistency.

1.5 Validity

Validity refers to the extent to which an instrument measures what it is intended to measure. It is a crucial property of a measuring instrument, as reliability is influenced by validity. A valid tool ensures that the measurement outcomes accurately represent the construct being studied.

Content Validity

Content validity is the degree to which a measuring instrument provides comprehensive coverage of the topic under study. In this study, content validity was established with the help of the research guide and a panel of subject experts. Based on their feedback, several modifications were made to ensure that all dimensions of attitudes towards blended learning were adequately represented. Therefore, the tool can be considered to possess strong content validity.

1.6 Scoring Procedure

The *Attitude Towards Blended Learning Scale* consists of **50 items**, of which **14 are negative items** (Items 3, 4, 20, 21, 22, 23, 24, 25, 27, 31, 33, 34, 45, and 48). Each item is rated on a five-point Likert scale, with scoring for positive items ranging from **5 (Strongly Agree)** to **1 (Strongly Disagree)**, while the scoring for negative items is reversed.

- **Maximum possible score:** 250
- **Minimum possible score:** 50

The scale was standardized for both male and female B.Ed. trainees. The scoring procedure is summarized in **Table 2**.

Table No: 2 Scoring Procedure of attitude towards blended learning Scale

Sl. No	Item type	Scoring
1	Positive items	5,4,3,2.1
2	Negative items	1,2,3,4,5

1.7 Norms

The data obtained from the sample followed the characteristics of a **normal probability curve (NPC)**. Accordingly, **the investigator established Z-score norms**. To classify the levels of attitude high, moderate, and low the area under the NPC was divided into three regions.

The **normalized values** of the scale are as follows:

- **Mean (M):** 174.72
- **Standard Deviation (SD):** 16.01

Table No: 3 the Norms of the Scale

S. No	Norms	Levels
1	+1.01 and Above	High group
2	+1 to -1	Moderate
3	-1 .01 and Below	Low group

For example

The student score of attitude towards blended learning is=144

Where X= 144

144 -174.72 / 16.1= -1.91

The point -1.91 is lies the low group. So the student's attitude towards blended learning is low

1.8 Conclusion

The education and success of students largely depend on their learning approaches. As future citizens of the nation, it is essential for students to develop a favorable and positive attitude towards education. Such an outlook fosters openness to innovative methods, thereby nurturing a positive attitude towards blended learning among B.Ed. trainees.

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