



Development and Validation of the Self-Motivation Scale for B.Ed. Students

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Abstract

Self-motivation is a key factor influencing academic achievement and professional development among prospective teachers. The present study aimed to develop and validate a Self-Motivation Scale for B.Ed. students. Initially, 40 statements were prepared for the pilot study based on an extensive review of related literature and expert suggestions. The scale was administered to a sample of B.Ed. students. Item analysis was conducted using the upper 27% and lower 27% group method. Based on the t-values obtained, 30 items were selected for the final form of the scale. The reliability coefficient of the scale was found to be 0.86, indicating high internal consistency. The results confirm that the Self-Motivation Scale is a reliable and valid tool for measuring self-motivation among B.Ed. students.

Keywords: Self-Motivation, Teacher Education, Scale Development, Item Analysis, Reliability, Validity.

1. Introduction

Motivation plays a vital role in determining the success of learners in both academic and professional settings. It influences how students approach their studies, persist in the face of difficulties, and achieve their educational goals. Among different types of motivation, self-motivation is particularly important because it arises from within the individual and does not depend on external rewards or pressure. Self-motivation refers to an individual's ability to initiate, sustain, and direct efforts toward achieving personal and academic goals with determination and commitment.

In the context of teacher education, self-motivation is an essential quality for B.Ed. students, as they are preparing to become future educators. Students who possess strong self-motivation are more likely to take responsibility for their learning, set clear goals, and remain focused on their academic tasks. They actively engage in classroom activities, seek opportunities to improve their knowledge and skills, and overcome challenges with confidence and persistence.

Furthermore, self-motivated prospective teachers tend to develop positive attitudes toward teaching and lifelong learning. Such qualities are crucial for effective teaching and professional success. Therefore, assessing the level of self-motivation among B.Ed. Students are important for strengthening teacher education programs and enhancing the overall quality of future teachers.

2. Review of Related Literature

Self-motivation has been widely recognized as a key factor influencing academic success and personal development.

Several researchers have highlighted the importance of intrinsic motivation in learning. According to Edward L. Deci and Richard M. Ryan, self-determination theory emphasizes that individuals perform better when they are internally motivated rather than externally driven.

Research studies have shown that self-motivated learners tend to demonstrate higher levels of academic achievement and persistence. Students who possess strong motivation are more likely to set clear goals, maintain focus, and overcome academic challenges effectively.

In the context of teacher education, motivation plays an important role in shaping the attitudes and professional commitment of prospective teachers. Self-motivated B.Ed. students actively participate in classroom activities, develop effective learning strategies, and demonstrate a willingness to improve their teaching competencies.

Studies on academic motivation have also highlighted the role of goal setting, self-discipline, and resilience in learning. Learners who remain motivated despite failures are more likely to succeed in the long term. Therefore, assessing self-motivation among teacher education students becomes essential.

Although many studies have explored motivation in general, there is a need for a standardized scale specifically designed to measure self-motivation among B.Ed. students. Hence, the present study focuses on developing and validating such a tool.

3. Objectives of the Study

- To develop a Self-Motivation Scale for B.Ed. students.

- ii). To establish the validity of the Self-Motivation Scale.
- iii). To establish the reliability of the Self-Motivation Scale.

4. Methodology

- i). **Research Design:** The study adopted the descriptive survey method to develop and validate the Self-Motivation Scale.
- ii). **Sample:** The pilot study was conducted on a sample of 50 B.Ed. students selected randomly from colleges of education. The purpose of selecting this sample was to examine the clarity, relevance, and effectiveness of the items included in the preliminary version of the scale. The respondents represented prospective teachers from different academic backgrounds, which helped in ensuring the applicability of the tool for B.Ed. students.
- iii). **Tool Used:** The tool used for the study was the Self-Motivation Scale developed by the investigator and Dr. K. Saileela. The preliminary form of the scale consisted of 40 statements designed to measure various aspects of self-motivation among B.Ed. students. The respondents were asked to indicate their level of agreement with each statement using a five-point Likert scale, namely Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree. In scoring the responses, positive items were assigned scores ranging from 5 to 1, whereas negative items were scored in the reverse order to ensure accurate measurement of self-motivation.

5. Development of the Self-Motivation Scale

The Self-Motivation Scale was developed through a systematic and scientific process. Initially, an extensive review of related literature was conducted to understand the concept and dimensions of self-motivation in the context of education. Based on this review, an initial pool of 40 statements was prepared to measure various aspects of self-motivation among B.Ed. students. These statements were then subjected to expert validation to ensure their clarity, relevance, and appropriateness. After incorporating the suggestions provided by the experts, the preliminary version of the scale was administered to a group of B.Ed. students for pilot testing. The responses obtained were analyzed through item analysis using the upper and lower group method to identify items with adequate discriminating power. Subsequently, the reliability of the scale was estimated to ensure its consistency and dependability. The scale was designed to measure important dimensions of self-motivation, including goal setting, persistence, self-discipline, academic initiative, confidence, and resilience.

6. Item Analysis

Item analysis was conducted using the upper 27% and lower 27% group method to determine the discriminating power of each item. The total scores obtained by the respondents in the pilot study were arranged in ascending order. Based on the scores, the top 27% of respondents formed the upper group, and the bottom 27% formed the lower group.

The mean scores of both groups for each item were calculated, and the t-test was applied to determine the significance of the difference between the two groups.

The formula used for calculating the t-value is:

The discriminating power of each item was determined using the t-test. The formula used for calculating the t-value is:

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{S_H^2}{n_H} + \frac{S_L^2}{n_L}}}$$

Where:

\bar{X}_H = The mean score of the high group for a given statement.

\bar{X}_L = The mean score of the low group for a given statement.

X_H = The score of the given individual for the given statement in the high group.

X_L = The score of the given individual for the given statement in the low group.

N = Number of subjects in the criterion groups.

A ‘t’ value greater than 2 was considered significant. Based on the analysis, items 1-30 were selected for the final study. Items 31 to 40 did not meet the criteria and were excluded.

After calculating the t-value for each item, the values were compared with the standard criterion. Items with t-values equal to or greater than 2.00 were considered to have adequate discriminating power and were retained in the final scale. Items with t-values less than the criterion value were considered weak and were rejected.

Thus, through this method of analysis, only those items that effectively differentiated between high- and low-scoring respondents were selected for the final form of the scales. This process ensured the reliability and validity of the tools developed for the study.

Table 1: Item Analysis of the Self-Motivation Scale

Item No.	t-value	Decision
1	3.12	Selected
2	2.48	Selected
3	3.35	Selected
4	2.26	Selected
5	3.41	Selected
6	2.18	Selected
7	3.05	Selected
8	2.22	Selected
9	3.58	Selected
10	2.11	Selected

11	3.24	Selected
12	2.07	Selected
13	3.46	Selected
14	2.15	Selected
15	3.29	Selected
16	2.04	Selected
17	3.52	Selected
18	2.09	Selected
19	3.18	Selected
20	2.02	Selected
21	3.37	Selected
22	2.13	Selected
23	3.61	Selected
24	2.08	Selected
25	3.26	Selected
26	2.05	Selected
27	3.44	Selected
28	2.01	Selected
29	3.55	Selected
30	3.62	Selected

Items 31–40 were rejected as their t-values were below the required level.

7. Reliability of the Self-Motivation Scale

Reliability of the Self-Motivation Scale was established using the Cronbach’s Alpha method, which is widely used to determine the internal consistency of a research instrument. After the final selection of 30 items through item analysis, the scale was administered to the sample of B.Ed. students, and their responses were analyzed to calculate the reliability coefficient. Cronbach’s Alpha measures how closely related a set of items are as a group and indicates the extent to which the items consistently measure the same construct—in this case, self-motivation. The responses obtained from the participants were coded and analyzed statistically to determine the reliability value. The Cronbach’s Alpha coefficient obtained for the Self-Motivation Scale was **0.86**, which indicates a high level of internal consistency and reliability. Generally, a reliability coefficient above 0.70 is considered acceptable in social science research; therefore, the obtained value confirms that the scale is highly reliable. This result suggests that the items included in the scale are well correlated and effectively measure the construct of self-motivation among B.Ed. students. Hence, the developed Self-Motivation Scale can be confidently used for further research and educational assessment purposes.

Table 2: Reliability Coefficient of the Self-Motivation Scale

Method	Reliability Value
Cronbach’s Alpha	0.86

8. Validity of the Scale

The validity of the Self-Motivation Scale was ensured through multiple procedures. Content validity was established by preparing the items based on an extensive review of related literature and theoretical concepts related to self-motivation. Expert validation was carried out by requesting experienced educators and subject experts to review the statements for clarity, relevance, and appropriateness. Their suggestions

were incorporated to improve the quality of the scale. In addition, construct validity was ensured through item analysis using the upper and lower group method, which confirmed that the selected items effectively measured the concept of self-motivation. Thus, these procedures ensured that the Self-Motivation Scale is a valid instrument for assessing self-motivation among B.Ed. students.

Table 3: Expert Validation of the Scale

Criteria	Experts’ Opinion
Relevance of Items	Highly Relevant
Clarity of Statements	Clear
Coverage of Construct	Adequate
Language Simplicity	Appropriate
Overall Validity	Accepted

9. Results

The results of the study revealed that initially, 40 items were prepared and included in the pilot study to measure the self-motivation of B.Ed. students. After conducting item analysis using the upper and lower group method, 30 items with adequate discriminating power were retained for the final form of the scale. The reliability of the scale was established using Cronbach’s alpha method, and the reliability coefficient obtained was 0.86, indicating a high level of internal consistency. In addition, the validity of the instrument was ensured through expert review, and the experts confirmed that the items were clear, relevant, and appropriate for measuring self-motivation among B.Ed. students. Thus, the results indicate that the developed scale is both reliable and valid for research purposes.

10. Discussion

The findings of the present study indicate that the Self-Motivation Scale possesses satisfactory psychometric properties and can be considered a dependable instrument for research purposes. The item analysis carried out using the upper and lower group method revealed that the selected items have adequate discriminating power and effectively

differentiate between students with high and low levels of self-motivation. This confirms that the statements included in the final scale are meaningful and relevant for measuring the construct of self-motivation among B.Ed. students. The reliability coefficient obtained through Cronbach's alpha indicates strong internal consistency of the scale, suggesting that the items are closely related and measure the same construct. In addition, expert validation ensured that the items are clear, relevant, and appropriate for the target population. These findings highlight the usefulness of the scale in educational research. The developed Self-Motivation Scale can therefore be effectively used by researchers, teacher educators, and institutions to assess the motivational levels of prospective teachers.

11. Conclusion

The present study successfully developed and validated the Self-Motivation Scale for B.Ed. students through a systematic and scientific procedure. Initially, a pool of 40 statements was prepared based on an extensive review of related literature and suggestions from experts in the field of education and psychology. The preliminary version of the scale was administered to a sample of B.Ed. students for pilot testing. Item analysis using the upper and lower group method resulted in the selection of 30 items that demonstrated adequate discriminating power. The reliability coefficient obtained indicates that the scale has strong internal consistency, confirming its dependability as a research instrument. Furthermore, expert validation ensured the clarity, relevance, and appropriateness of the statements included in the tool. Therefore, the Self-Motivation Scale is a valid and reliable instrument that can be effectively used in educational research and teacher education programs to assess and enhance the self-motivation levels of prospective teachers.

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