



Research Article

SCALE CONSTRUCTION ON ATTITUDE OF POLYTECHNIC STUDENTS TOWARDS DIPLOMA PROGRAMME

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Abstract: The present research study was conducted during 2021-22. In these study attitude of polytechnic students towards diploma programme was studied. As a part of research work it was necessary to construct a scale for the purpose of study. Keeping this in view, an attempt has been made to develop a scale for measuring the attitude of polytechnic students towards diploma programme. Method of summated rating scale by Likert (1932) was used. From all these sources tentative lists of 66 statements were prepared keeping in view of the applicability of statements suited to the area of study. The 66 statements collected were carefully edited and 52 statements were prepared in the form of questionnaire and was sent to experts. 30 statements out of 52 were selected through relevancy testing. After computing 't' values for all the 30 statements, statements with 't' values more than 1.75 were selected for the final scale. 20 statements with 't' value more than 1.75 were selected in the scale and final scale comprised of 20 statements to measure the attitude of polytechnic students towards diploma programme.

Keywords: Reliability of the scale, Summated rating scale

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Introduction

The polytechnic in agriculture is one of the basic and first step in agriculture education which aimed to provide enrolled collegians with knowledge, skill, and experience, which are required to be assets in agriculture [1]. Diploma in agriculture is a 2 years full-time diploma course in agriculture. Diploma courses in agriculture are the set of specialized courses that are offered under the agriculture stream. Attitude was operationalized as positive or negative feeling of polytechnic students towards diploma programme.

Attitude is the prime cause for the growth of an individual and will have great impact on the way we think, the way we perceive and the way we do the things. Hence, there is need to study the attitude of polytechnic students towards diploma programme. Attitude in this study was operationally defined as the degree of positive or negative feeling of polytechnic students towards diploma programme.

Materials and Methods

To measure the attitude of polytechnic students towards diploma programme a scale has been developed by the following procedure. Method of summated rating scale developed by Likert (1932) [2] was used to construct the attitude scale of polytechnic students towards diploma programme.

Steps used in construction of attitude scale are given below

The following steps were carried out to construct the scale to measure the Attitude of polytechnic students towards Diploma programme [3,4].

Collection and editing of items

A set of 66 statements representing the attitude of polytechnic students towards diploma programme were collected initially from available literature, interaction with experts and then edited on the basis of criteria suggested by

Thurstone (1946) [5], Chave (1929) [6], Likert (1932) and Edwards (1957) [7].

Out of 66 statements, 52 statements were retained after editing. These statements were administered to experts having expertise in the research study. The judges included the faculty and scientists working in Acharya N. G. Ranga Agricultural University, Sri Venkateswara University, Extension Education Institute, Hyderabad, University of Agricultural Sciences, Bangalore and G. B. Pant University of Agriculture and Technology, Pantnagar. The responses obtained from judges were subjected to Standard Normal Deviate test (z test). Thus, 30 statements out of 52 were selected through relevancy testing. The 30 statements were given to students from a non-sample area and asked to indicate their degree of agreement or disagreement with each statement on a five-point continuum ranging from strongly agree to strongly disagree. The score given for the positive statement were 5, 4, 3, 2 and 1 for strongly agree, agree, undecided, disagree and strongly disagree and 1, 2, 3, 4 and 5 respectively for the negative statement. For each individual sum up the scores on all statements for which response category gave response. After getting total score for all individuals, arrange these scores from higher to lower values. Then take top 25 per cent of the respondents with the highest total scores and the bottom 25 per cent of the respondents with the lowest total scores which are called as high group and low group respectively. These are called criterion groups. The middle 50 per cent of the respondents were deleted for further analysis. The top 25 per cent were considered as high group and bottom 25 per cent were considered as low group to calculate the critical ratio i.e., "t" value for each statement. The calculated "t" value for each statement will measure the extent to which the statement differentiates between the respondents of high group and low group. The "t" values were calculated by using the formula suggested by Edwards (1957). The "t" value for each statement was calculated by using the formula.

Table-1 Attitude scale administered to the polytechnic students

SN	Statement	't' values
1	Diploma programme in agriculture is boon to the students	2.14
2	Diploma programme course contents are easy to understand	2.04
3	Semester system helps in learning more subjects in a short span of time	3.43
4	Diploma programme helps in enriching both theoretical and practical knowledge in agriculture	3.31
5	Diploma programme provides an opportunity for career development in agriculture	2.93
6	Diploma programme doesn't develop confidence in students to take up farming*	1.97
7	Diploma programme is well suited to students from rural as well as urban background	0.53
8	The curriculum encompasses orientation towards the basic concepts in various disciplines in agriculture	1.05
9	The course curriculum is not in line with job market*	3.01
10	Diploma programme is more of skill oriented	3.46
11	Diploma programme in agriculture doesn't have good value in society*	3.83
12	The diploma holders can seek jobs in a variety of sectors in agriculture field	-1.28
13	Diploma programme doesn't promote positive attitude towards farming*	2.88
14	The lessons in the programme doesn't provide sufficient knowledge to the students to advise farmers to improve their farm income*	2.51
15	The practical classes equip the students with skills to identify field problems and give remedial measures	0.73
16	Diploma programme is not useful and is wastage of time & money*	2.42
17	Diploma holders become agriculture professionals serving farmers at an early stage	1.92
18	The programme is designed to suit actual field situation in agriculture	1.68
19	Diploma programme is meant for the students having only farming back ground*	1.85
20	The programme doesn't generates human resources capable for working in a variety of organizations serving farming community*	2.76
21	Students gain entrepreneurial skills through diploma programme	1.51
22	The programme provides an opportunity to students to take up agri business after completion of Diploma programme	1.16
23	There must be permanent teaching staff in diploma programme for getting desired results	2.33
24	I prefer Diploma programme for securing B.Sc. (Hons.) seat	1.39
25	The lab facilities available in my diploma programme are satisfactory	1.44
26	PAMP (Participatory Agriculture Management programme) programme of Diploma courses helps the students to build leadership skills, decision making skills and problem solving	2.77
27	PAMP of Diploma courses is helpful to understand risk management in farming	1.66
28	It is better to devote one semester completely for PAMP	3.65
29	Students gain first-hand experience with PAMP programme in Diploma courses	3.43
30	PAMP in Diploma courses helpful in understanding the constraints in application of latest agricultural technology	4.06

$$t = (XH - XL)$$

$$\sum (XH - XL)^2 + (XL - XL)^2 / n(n-1)$$

$$\sum (XH - XH)^2 = \sum XH^2 - ((\sum XH)^2 / n)$$

$$\sum (XL - XL)^2 = \sum XL^2 - ((\sum XL)^2 / n)$$

Where

XH = The mean score on a given statement for the high group

XL = The mean score on a given statement for the low group

$\sum XH^2$ = Sum of squares of the individual score on a given statement for high group

$\sum XL^2$ = Sum of squares of the individual score on a given statement for low group

$\sum XH$ = Summation of scores on a given statement for high group

$\sum XL$ = Summation of scores on a given statement for low group

n = Number of respondents for in each group

\sum = Summation

Selection of attitude statements for final scale

After computing "t" values for all the items [Table-1], statements comprising of twenty statements with t value equal to or greater than 1.75 were finally selected and included in the attitude scale. Finally, the scale for measuring attitude of polytechnic students towards diploma programme consists of 20 statements.

Reliability of the scale

A scale is reliable when it will consistently produce the same results when applied on the same sample [8]. For testing the reliability, split half method was employed. The scale of 20 statements was distributed to thirty polytechnic students of non-sample area for their responses. After getting back the responses, the scale was divided into two halves, all odd statements into one half and all even statements into another. Then the co-efficient of reliability was calculated between the two halves. The correlation coefficient for both the sets was worked out. The correlation coefficient ($r=0.81$) was significant at 0.01 level indicating the scale was highly suitable for administration to the polytechnic students.

Validity of the scale

As the content of the attitude thoroughly covered the entire universe of the study with special emphasis on diploma programme through available literature and consultation with expert opinion, it was assumed that present scale satisfied the content validity.

Administration of the scale

Attitude of polytechnic students towards diploma programme was measured with the help of five-point scale developed for the study. The final scale selected with 20 statements was administered to the 240 sampled polytechnic students. They were requested to give responses to each statement in terms of their own degree of agreement or disagreement on a five-point continuum. Each statement of scale was provided with five-point continuum viz., strongly agree (SA), agree (A), undecided (UD), disagree (DA), strongly disagree (SDA) with scores of 5, 4, 3, 2 and 1 respectively for positive statements and 1, 2, 3, 4 and 5 for negative statements. The total score of the respondent on the scale was obtained by summing up the scores of all the statements in the scale. The possible minimum and maximum score was 20 and 100. The scale met the reliability and validity test satisfactorily indicated its ability and validity test satisfactorily indicated its ability as an instrument for measuring attitude of polytechnic students towards diploma programme. This study aims at constructing a scale to measure the attitude of polytechnic students towards diploma programme.

Application of research

Diploma courses in agriculture are the set of specialized courses that are offered under the agriculture stream. Attitude in this study was operationally defined as the degree of positive or negative feeling of polytechnic students towards diploma programme. The attitude of polytechnic students towards diploma programme was measured with help of Likert scale.

Research Category: Agricultural Extension

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Author statement: All authors read, reviewed, agreed and approved the final manuscript. Note-All authors agreed that- Written informed consent was obtained from all participants prior to publish / enrolment

Study area / Sample Collection: Polytechnic Colleges of ANGRAU University

Cultivar / Variety / Breed name: Nil

Conflict of Interest: None declared

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

Ethical Committee Approval Number: Nil

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