

CHAPTER III

CONSTRUCTION OF INCLUSIVE EDUCATION TEACHING APTITUDE TEST

3.1 INTRODUCTION

Reviewing the literature on teaching aptitude tests construction revealed that all the available tests are found on measuring general teaching aptitude of pre-service teachers but none of the investigator in India has tried to construct a test that measures teaching aptitude for inclusive education. Further discussion with the experts in the field pointed to an idea to construct an aptitude test that measure teaching aptitude for inclusive education.

An aptitude test is not a set of questions, miniature performances, puzzles and other gadgets assembled in the pious hope that somehow it measure proficiency for a job or vocation. On the contrary, the construction of an aptitude test follows certain definite procedures and demands considerable psychological and statistical skill (Garrett, 1966).

Keeping this in mind, the steps suggested by Garrett (1966) have been followed in constructing the inclusive education teaching aptitude test for the pre-service teachers.

- ☐ Job analysis
- ☐ Tentative selection or construction of test
- ☐ Experimental tryout
- ☐ Setting-up directions for administration and scoring – establishment of norms
- ☐ Follow-up studies to determine the predictive value of the test in the selection and in vocational guidance

The first two steps i.e. job analysis and tentative selection/construction of test have been discussed thoroughly in this chapter. The chapter also covers detailed description of the deciding factors for the test.

3.2 JOB ANALYSIS

The collection of detailed information about type of activities and qualities, required in a person for a particular profession, is a pre-requisite for constructing an aptitude test for that profession. Analysis of job, vocation or other activity can be helpful in determining the probable ability, fundamental skills and personality traits required. The information about a job or activity can be obtained from a number of sources such as previous studies, analysis of documentary materials, interviews with personnel and direct experience (Thorndike, 1956). Based on the review of the standardized general teaching aptitude tests developed in past and available materials on teaching in inclusive classroom, a list of traits to be covered under IETAT was prepared. It was thought worthwhile to prepare a rating scale as regards the traits to be included under IETAT (for detailed information about the rating scale, refer to APPENDIX II). The idea was to arrive at a convenient and workable list of traits that might be regarded as proofs of possessing the teaching aptitude for inclusive education by a pre-service teacher. While preparing the rating scale, the purpose of the scale was made as explicit as possible and unnecessary specification or details were excluded from its purview. The prepared list was sent to 16 Subject Matter Experts [SMEs] in the field of teacher education, inclusive education and psychology of education (List of SMEs is given as APPENDIX I) for their rating on the importance of traits for being a teacher in inclusive school. The experts were requested to rate the traits on five-point scale as per their knowledge and experience. Besides rating the traits, they were also asked to suggest trait(s) that can be included under the IETAT. The data collected from the experts have been analyzed and summarized in the following table 3.1.

Table 3.1

SMEs' Rating on the Traits' Important for Teaching in Inclusive Education

Sr. No.	Factor/Trait	MI	SI	CS	LI	NI	Total
		5	4	3	2	1	16*5=80
1	Knowledge about inclusive education	10*5=50	6*4=24	0	0	0	74
2	Dealing with parents	7	7	1	1	0	68
3	Awareness about inclusive education	11	5	0	0	0	75
4	Acceptance of responsibilities	8	6	1	1	0	69
5	Role of new teacher in inclusive education	5	6	3	2	0	62
6	Skills required for teaching in an inclusive classroom	6	9	1	0	0	69
7	Teachers' attitude towards inclusive education	5	10	1	0	0	68
8	Identification of disabilities	13	3	0	0	0	77
9	Knowledge about disabilities	15	1	0	0	0	76
10	Dealing with SwSN	8	5	2	1	0	68
11	Readiness to accept SwSN	5	8	3	0	0	57
12	Attitude towards disabilities	5	10	1	0	0	68
13	Readiness for teaching in inclusive setting	6	6	4	0	0	54
14	Knowledge about inclusive teaching methods	14	2	0	0	0	78
15	Attitude towards SwSN	12	4	0	0	0	76
16	Support to SwSN	8	7	1	0	0	68
17	Readiness to teach SwSN	13	2	1	0	0	73
18	Ability to teach SwSN	9	6	1	0	0	69
19	Ability in grouping the students with SwSN	6	6	3	1	0	54
20	Ability to make classroom inclusive	14	2	0	0	0	78
21	Knowledge about teaching techniques required for inclusive classroom	10	6	0	0	0	74
22	Ability to adapt instruction as per the need of SwSN	14	2	0	0	0	78
23	Role in promoting inclusive education	6	5	3	2	0	50
24	Ability to apply assistive technologies	9	6	1	0	0	69
25	Knowledge about inclusive models and strategies	8	8	0	0	0	72
26	Ability to adjust curriculum to suit SwSN	9	4	2	1	0	67
27	Skills to manage an inclusive classroom	13	3	0	0	0	77
28	Competency in assessing the SwSN	5	9	1	1	0	61
29	Teachers' behavior with SwSN	4	10	2	0	0	60
30	Professional development of teacher	7	3	4	2	0	45
31	Use of strategies for classroom management	6	7	2	1	0	58
32	Ability in promoting classroom climate	5	5	3	3	0	45
33	Proficiency in group analysis	3	10	1	2	0	55

(MI=Most Important, SI=Somewhat Important, CS=Can't Say, LI=Least Important, NI=Not Important)

From the table 3.1, it can be observed that trait no. 1, 3, 8, 9, 14, 15, 17, 20, 21, 22, 25 and 27 were found to be most important by the 16 experts. Out of 80, the rating scores of these traits were found to be more than 70. The higher the rating score, the greater is the contribution of that trait to a success in teaching in inclusive education.

Further, some of the traits were inter-related and similar in nature. Thus some traits were grouped that could make the test precise and practicable. Based on the grouped traits, factors were identified. Grouping of the traits was done in consultation with the experts. The grouping of traits has been presented in the following table 3.2.

Table 3.2
Grouping of Traits

Factor	Trait No.	Grouped Traits	Trait No.	Merged Traits included in the Group
Knowledge about inclusive education	1	Knowledge about inclusive education	4	Acceptance of responsibilities
			5	Role of new teacher in inclusive education
			6	Skills required for teaching in an inclusive classroom
	3	Awareness about inclusive education	2	Dealing with parents
			7	Teachers' attitude towards inclusive education
Perceived Ability to Identify Disabilities	9	Knowledge about disabilities	8	Identification of disabilities
	12	Attitude towards disabilities	10	Dealing with SwSN
			11	Readiness to accept SwSN
Attitude towards teaching CwSN	19	Ability to make inclusive classroom	13	Readiness for teaching in inclusive setting
			14	Teachers' role in inclusive classroom
			15	Knowledge about inclusive teaching methods
	16	Attitude towards SwSN	17	Support to SwSN
			18	Readiness to teach SwSN
Perceived Ability to adapt inclusive teaching methods	22	Knowledge about teaching techniques required for inclusive classroom	24	Role in promoting inclusive education
			26	Knowledge about inclusive models and strategies
	23	Ability to adapt instruction as per the need of SwSN	20	Ability in grouping the students with SwSN
			21	Ability to make classroom inclusive
			25	Ability to apply assistive technologies
			27	Ability to adjust curriculum to suit SwSN

Factor	Trait No.	Grouped Traits	Trait No.	Merged Traits included in the Group
Skills to manage an inclusive classroom	28	Skills to manage an inclusive classroom	29	Competency in assessing the SwSN
			32	Use of strategies for classroom management
			34	Proficiency in group analysis
	33	Ability in promoting classroom climate	30	Teachers' behavior with SwSN
			31	Professional development of teacher

The table 3.2 shows the merged traits into the group and grouped traits into five factors. These five factors were used in the initial draft, pilot test, and final test forms.

3.2.1 Factors of IETAT

For the purpose of measuring relative aptitude of pre-service teachers with regard to the possession of factors that speak of inclusive education teaching aptitude, the following five factors have been selected based on the SMEs' rating.

- (i) Knowledge about Inclusive Education
- (ii) Perceived Ability to Identify Disabilities
- (iii) Attitude towards Teaching CwSN
- (iv) Perceived Ability to Adapt Inclusive Teaching Methods
- (v) Skills to Manage Inclusive Classroom

3.2.1.1 Knowledge about Inclusive Education

The success of IE depends on many factors and the teacher is the most important factor among other factors. A willingness of teachers in teaching in an inclusive classroom is the hallmark of IE. Most of the pre-service teachers are conducting their practice lessons with a homogeneous group of learners, thus they may not accommodate to CwSN in the inclusive classroom without having knowledge regarding IE. Thus, it is necessary for him/her to have required knowledge about IE because, besides teachers' views and attitude towards IE, their knowledge about IE is important in making the IE successful by changing the classroom practices as per requirement. This suggests that the knowledge teacher possesses about IE may affect their ability to adapt as well as their performance in the inclusive classroom.

3.2.1.2 Perceived Ability to Identify Disabilities

Every child has their own strength and weaknesses. Their learning pace may vary because of physical or mental differences. Developmental and learning problems of children may be associated with their physical and mental disability. Thus a teacher in inclusive education should possess the ability to identify disabilities/impairments among such children by observing behavior, checking the school records and meeting with the parents. Through early identification of disability/impairment, a teacher can plan his teaching accordingly which in turn can minimize the learning problems of CwSN arise out of their impairment. Thus teachers' ability to identify disabilities has been selected one of the factors for constructing the IETAT.

3.2.1.2 Attitude towards Teaching CwSN

Teachers play a pivotal role in mainstreaming inclusive education. Excellent educational infrastructure, well-articulated educational policy, and well-resourced inclusive education program are of no use without the teacher's willingness to teach in inclusive school. The success of inclusive education largely depends on teachers' adequate knowledge and positive attitude towards teaching SwSN. Thus a teacher needs to be aware of the learning needs of CwSN, assistive devices and universal design for learning tools. It is the teacher who can lead the inclusion successful by taking interest in teaching CwSN, planning the instruction as per the learning needs of students and modeling behavior in the classroom.

3.2.1.4 Perceived Ability to Adapt Inclusive Teaching Methods

Effective inclusion does not take place until the teacher deliver relevant and meaningful instruction (Mastropieri and Scruggs, 2010). Creating an inclusive classroom that fulfills the learning needs of children with varied learning needs is a hallmark of inclusive education. In inclusive classrooms, the teachers are required to teach the content differently so as to make it integrative, flexible and interdisciplinary (Kochhar and West, 1996). For this, the teachers are expected to adapt varied teaching methods and techniques that make the classroom inclusive. A teacher must be able to adapt teaching methods as per the students' background knowledge, learning styles, motivation and

interest. Such adaptation in teaching methods along with modifying the curriculum and teaching-learning materials, teaching styles, and evaluation criteria can be helpful in improving the learning achievement of CwsN in inclusive classrooms. Thus a teacher has to accommodate the learning styles of CwsN by adjusting curriculum materials, use of a variety of teaching-learning environment and individualized instruction which in turn leads to enhance outcomes of CwsN.

3.2.1.5 Skills to Mange Inclusive Classroom

Implementing effective inclusion program presents significant challenges for the inclusive school teachers. The success of inclusive education largely depends on the responsiveness and willingness of teachers and therefore they are required to have a number of additional skills for managing an inclusive classroom (Wang, Haertal and Walberg, 1993). But the problem here is that the teachers would not receive intensive training in the skills that are possessed by the special education teachers.

Besides basic classroom management theories, the teachers are also required to create a positive environment in the inclusive classroom. Along with the psycho-social aspects, the physical aspect of the classroom also exerts a great influence on the inclusive classroom management (Neilson, 1997). The diversity in inclusive classroom presents a range of management encounters for teachers like behavioral challenges of CwsN. Thus classroom management contributes more to inclusive school learning than classroom instruction or other factors.

All these five factors were followed from initial draft to final draft of the IETAT without changing their serial number.

3.3 TENTATIVE SELECTION OR CONSTRUCTION OF TEST

After deciding the factors, a number of items were developed under each factor. The items were initially constructed in the English language due to region wise variation in the language in India. The items had to be constructed anew as no inclusive education teaching aptitude was available in India and the items of general teaching aptitude were

not of much use in the present test. Thus a total of 97 items were framed from the review of materials on inclusive education keeping in mind the teaching aptitude. Factor wise items developed are given in the following table 3.3.

Table 3.3
Factor wise Number of Items Constructed in the IETAT

Sr. No.	Factor	Test Items Constructed
1	Knowledge about Inclusive Education	20
2	Perceived Ability to Identify Disabilities	20
3	Attitude towards Teaching CwSN	19
4	Perceived Ability to Adapt Inclusive Teaching Methods	20
5	Skills to Manage Inclusive Classroom	18
Total		97

From the table 3.3 it can be observed that a total of 97 items were constructed for the first draft of IETAT and section wise there were 20 items in section I, 20 items in section II, 19 items in section III, 20 items in section IV and 18 items in section V (For detailed information about the items, refer to APPENDIX IV).

The constructed 97 items were sent to 16 SMEs in the field of Inclusive Education, Teacher Education and Psychology of Education for the content validation purpose (refer to APPENDIX III).

3.3.1 Content Validity of Items

Content validity deals with whether the test content and composition are appropriate, given what is being measured. For e.g. does the content reflect the knowledge/skills required to do a job or demonstrate that one grasps the course content sufficiently? To answer this question, content validity should be one of the primary consideration in assembling the test.

Before a test is put into production to be administered to actual participants, an independent group of SMEs should review the test or assessment and compare the items/questions included in the test.

There are various methods for determining the content validity. For the present test, a method developed by Lawshe (1975) was used for determining the content validity of the items of a test. In Lawshe method, a rating is given to every item in test or assessment in terms of whether the knowledge or skills measured by each item is ‘essential’, ‘useful, but not essential’, or ‘not necessary’ to the performance of what is being measured (i.e. the construct). The more SMEs agree to an item as essential the higher the content validity of that item. Lawshe further developed a formula called the ‘Content Validity Ratio [CVR]’ that can be calculated for each item. The average of the CVR across all items on the test can be taken as a measure of the overall content validity of the test. The following formula I given by Lawshe is for calculation of CVR.

$$CVR = \frac{n_e - \frac{N}{2}}{\frac{N}{2}} \quad (\text{Formula I})$$

Where, n_e = No. of SMEs rating an item as ‘essential’

N = Total no. of SMEs providing ratings

A item rating scale was prepared and given to the 16 SMEs for their rating on items of the test (for detailed reference about item rating scale, refer to APPENDIX V). The responses received from the SMEs are summarized in the following table 3.4.

Table 3.4
SMEs Ratings and CVR of the Items on IETAT

Section	Item No.	Essential	Useful but not Essential	Not Necessary	CVR	Remark
Section I	1	10	4	0	0.25	Retained
	2	15	1	0	0.88	Retained
	3	10	5	1	0.25	Retained
	4	12	4	0	0.5	Retained
	5	11	4	1	0.38	Retained
	6	13	3	0	0.63	Retained
	7	11	5	0	0.38	Retained
	8	10	5	1	0.25	Retained
	9	5	5	6	-0.38	Rejected
	10	11	3	2	0.38	Retained
	11	12	4	0	0.5	Retained
	12	13	3	0	0.63	Retained
	13	14	2	0	0.75	Retained
	14	5	4	7	-0.38	Rejected
	15	7	3	6	-0.13	Rejected
	16	5	5	6	-0.38	Rejected
	17	10	3	3	0.25	Retained
	18	10	6	0	0.25	Retained
	19	5	6	5	-0.38	Rejected
	20	14	2	0	0.75	Retained
Section II	21	15	1	0	0.88	Retained
	22	10	6	0	0.25	Retained
	23	4	5	7	-0.50	Rejected
	24	11	5	0	0.38	Retained
	25	10	4	2	0.25	Retained
	26	14	2	0	0.75	Retained
	27	11	3	2	0.38	Retained
	28	3	9	4	-0.63	Rejected
	29	10	4	2	0.25	Retained
	30	12	3	1	0.5	Retained
	31	14	2	0	0.75	Retained
	32	15	1	0	0.88	Retained
	33	16	0	0	1	Retained
	34	13	3	0	0.63	Retained
	35	5	4	7	-0.38	Rejected
	36	10	5	1	0.25	Retained
	37	12	3	1	0.5	Retained
	38	6	6	4	-0.25	Rejected
	39	8	2	6	0	Rejected
	40	7	4	5	-0.13	Rejected

Section	Item No.	Essential	Useful but not Essential	Not Necessary	CVR	Remark
Section III	41	6	2	8	-0.25	Rejected
	42	15	1	0	0.88	Retained
	43	14	2	0	0.75	Retained
	44	12	4	0	0.5	Retained
	45	12	3	1	0.5	Retained
	46	14	2	0	0.75	Retained
	47	15	1	0	0.88	Retained
	48	16	0	0	1	Retained
	49	13	3	0	0.63	Retained
	50	5	3	8	-0.38	Rejected
	51	15	1	0	0.88	Retained
	52	10	5	1	0.25	Retained
	53	12	4	0	0.5	Retained
	54	11	4	1	0.38	Retained
	55	13	3	0	0.63	Retained
	56	4	4	8	-0.5	Rejected
	57	8	2	6	0	Rejected
	58	7	4	5	-0.13	Rejected
	59	6	2	8	-0.25	Rejected
Section IV	60	15	1	0	0.88	Retained
	61	16	0	0	1	Retained
	62	13	3	0	0.63	Retained
	63	6	2	8	-0.25	Rejected
	64	11	3	2	0.38	Retained
	65	5	4	7	-0.35	Rejected
	66	12	4	0	0.5	Retained
	67	4	5	7	-0.5	Rejected
	68	4	4	8	-0.5	Rejected
	69	8	2	6	0	Rejected
	70	16	0	0	1	Retained
	71	13	3	0	0.63	Retained
	72	7	4	5	-0.13	Rejected
	73	10	5	1	0.25	Retained
	74	12	4	0	0.5	Retained
	75	11	4	1	0.38	Retained
	76	10	5	1	0.25	Retained
	77	14	2	0	0.75	Retained
	78	11	3	2	0.38	Retained
	79	13	2	1	0.63	Retained
Section V	80	12	3	1	0.5	Retained
	81	14	2	0	0.75	Retained
	82	15	1	0	0.88	Retained
	83	16	0	0	1	Retained
	84	11	4	1	0.38	Retained

Section	Item No.	Essential	Useful but not Essential	Not Necessary	CVR	Remark
Section V	85	15	1	0	0.88	Retained
	86	10	5	1	0.25	Retained
	87	13	2	1	0.63	Retained
	88	4	5	7	-0.5	Rejected
	89	15	1	0	0.88	Retained
	90	10	3	2	0.25	Retained
	91	6	2	8	-0.25	Rejected
	92	13	3	0	0.63	Retained
	93	3	5	8	-0.63	Rejected
	94	8	2	6	0	Rejected
	95	7	4	5	-0.13	Rejected
	96	13	3	0	0.63	Retained
	97	12	4	0	0.5	Retained

Table 3.4 shows the SMEs rating on 97 items related to inclusive education teaching aptitude. The highest CVR was found to be 1 (item 48, 61, 70 and 83) and the lowest CVR was found to be -0.63 (item 28 and 93). The distribution of items as per their CVR has been given in the following table 3.5.

Table 3.5
Distribution of Items as per CVR

CVR	Items	Total
1	48, 61, 70, 83	04
.50 – .99	2, 4, 6, 11, 12, 13, 20, 21, 26, 30, 31, 32, 33, 34, 37, 42, 43, 44, 45, 46, 47, 49, 51, 53, 55, 60, 62, 66, 71, 74, 77, 79, 81, 82, 85, 87, 89, 92, 96, 97	40
.25 - .49	1, 3, 5, 7, 8, 10, 17, 18, 22, 24, 25, 27, 29, 36, 52, 54, 64, 73, 75, 76, 79, 80, 84, 86, 90	25
.01 - .24	NIL	00
0 and less than that	9, 14, 15, 16, 19, 23, 28, 35, 38, 39, 40, 41, 50, 56, 57, 58, 59, 63, 65, 67, 68, 69, 72, 88, 91, 93, 94, 95	28
Total		70

Table 3.5 shows that the 28 items having CVR .25 and more than that were retained and items with CRV 0 and less than that were removed due to their less content validity. One

item on Universal Design of Learning was added as per the suggestion by the experts. Thus a total of 70 items with high content validity were retained for pilot testing.

Besides rating to items, the SMEs also suggested their view for further improvement of the items. The suggestions received from the SMEs on items and action taken for implementing the suggestions have been summarized in the following table 3.6.

Table 3.6
SMEs' Suggestions for the Improvement of Items of IETAT

Section	Item No.	New Order No. of Item	Suggestion(s) by SMEs	Remark
Section I	1	1	Restructure options	Options restructured
	2	2	Restructure the stem Reorder the options	Stem restructured Options reordered
	3	3	Restructure the stem Modify options	Stem restructured Options modified
	4	4	Change in options Reorder options	Options reordered
	5	5	Restructure options	Options restructured
	6	6	Restructure the stem Change and reorder the options	Stem restructured Options changed and reordered
	7	7	Reorder the option	Options reordered
	8	8	Restructure the stem Reorder the options	Stem restructured Options reordered
	9	--	Item rejected due to the low content validity	
	10	9	Reorder options	Options reordered
	11	10	Use the term general instead of regular Restructure the stem Change and reorder options	Regular term replaced by general Stem restructured Options modified and reordered
	12	11	Use the term inclusive education instead of inclusion Modify options	Inclusion term replaced by inclusive education Options modified
	13	12	--	--
	14	--	Item rejected due to the low content validity	
	15	--	Item rejected due to the low content validity	
	16	--	Item rejected due to the low content validity	

Section	Item No.	New Order No. of Item	Suggestion(s) by SMEs	Remark
Section I	17	13	--	--
	18	14	Reframe the stem as its similar to item 12 Reorder options	Stem reframed Options reordered
	19	--	Item rejected due to the low content validity	
	20	15	Rephrase the item Modify options	Item rephrased Options modified
Section II	21	16	Reframe the stem	Stem reframed
	22	17	Rephrase the stem	Stem rephrased with RPwD Act (2016)
	23	--	Item rejected due to the low content validity	
Section II	24	18	Rephrase the item	Item rephrased
	25	19	--	--
	26	20	Restructure the stem	Stem restructured
	27	21	--	--
	28	--	Item rejected due to the low content validity	
	29	22	--	--
	30	23	Frame single question instead of matching type and change options accordingly	Framed incomplete stem and changed options
	31	24	Frame single question instead of matching type and change options accordingly	Framed incomplete stem and changed options
	32	25	--	--
	33	26	--	--
	34	27	Rephrase the item	Item rephrased
	35	--	Item rejected due to the low content validity	
	36	28	--	--
	37	29	--	--
	38	--	Item rejected due to the low content validity	
	39	--	Item rejected due to the low content validity	
	40	--	Item rejected due to the low content validity	
	41	--	Item rejected due to the low content validity	
Section III	42	30	Restructure the stem	Stem restructured
	43	31	--	--
	44	32	--	--
	45	33	Restructure the stem Modify options	Stem restructured Options modified
	46	34	--	--
	47	35	--	--
	48	36	--	--

Section	Item No.	New Order No. of Item	Suggestion(s) by SMEs	Remark
Section III	49	37	--	--
	50	--	Item rejected due to the low content validity	
	51	38	--	--
	52	39	--	--
	53	40	Modify options	Options modified
	54	41	--	--
	55	42	--	--
	56	--	Item rejected due to the low content validity	
	57	--	Item rejected due to the low content validity	
	58	--	Item rejected due to the low content validity	
	59	--	Item rejected due to the low content validity	
Section IV	60	43	--	--
	61	44	Rephrase the stem with a question or incomplete statement form instead of filling in the blank	Stem rephrased with the incomplete statement
	62	45	--	--
	63	--	Item rejected due to the low content validity	
	64	46	--	--
	65	--	Item rejected due to the low content validity	
	66	47	--	--
	67	--	Item rejected due to the low content validity	
	68	--	Item rejected due to the low content validity	
	69	--	Item rejected due to the low content validity	
	70	48	Restructure the stem Modify options	Stem restructured Options modified
	71	49	--	--
	72	--	Item rejected due to the low content validity	
	73	51	--	--
	74	52	--	--
	75	53	Add item on UDL	Added an item on UDL
	76	54	--	--
	77	55	Restructure the item	Item restructured
	78	56	Reframe options	Options reframed
	79	57	Restructure the stem Reorder the options	Stem restructured Options reordered
Section V	80	58	--	--
	81	59	--	--
	82	60	--	--
	83	61	--	--
	84	62	--	--
	85	63	Modify the stem	Stem modified
	86	64	--	--

Section	Item No.	New Order No. of Item	Suggestion(s) by SMEs	Remark
Section V	87	65	--	--
	88	--	Item rejected due to the low content validity	
	89	66	--	--
	90	67	Restructure the stem	Stem restructured
	91	--	Item rejected due to the low content validity	
	92	68	--	--
	93	--	Item rejected due to the low content validity	
	94	--	Item rejected due to the low content validity	
	95	--	Item rejected due to the low content validity	
	96	69	--	--
	97	70	--	--

From the table 3.6, it can be observed that SMEs suggested rephrasing (4 items), reframing (2 items), restructuring of stem (11 items) and change/modification in entire item (6 items) whereas suggestions regarding the options were changing/modifying (11 items), reordering (8 items) and restructuring the options (2 items). Some SMEs were also suggested to add items on RTPwD Act (2016), Universal Design of Learning [UDL] and Right to Education [RTE] Act (2009). One item on UDL was framed and included in the pilot form of IETAT while one item on PwD Act (2009) was replaced with RTPwD Act (2016). There were no suggestions for 38 items as the SMEs found the items well-constructed. Section wise number of items rejected and retained is given in the following table 3.7.

Table 3.7
Section wise Number of Items Retained in the Pilot Form of IETAT

Section	No. of Items constructed	No. of Items Rejected due to Low Content Validity	No. of Items Retained and Further Improved
I	20	05	15
II	20	06	14
III	19	06	13
IV	20	06	15 (14+1*)
V	18	05	13
Total	97	28	70 (69+1*)

**Added item on UDL*

Table 3.7, shows that out of total 97 items, 5, 6, 6, 6 and 5 items were rejected from the section I, II, III, IV, and V respectively. A total of 69 items were retained and further improved. One item on UDL was added in section IV as per the suggestion of SME. Section wise, 15, 14, 13, 15 and 13 items were retained under the section I, II, III, IV, and V respectively. Thus a total of 70 items with high content validity were selected for the pilot testing of IETAT spread out under the five factors.

3.3.2 Items Used in the IETAT

There are various objective test techniques used in testing, for instance, multiple choice, matching, free responses (analogy type) and so on. For the purpose of the present test, multiple choice items were used.

There are several forms of multiple choice items. The one used in the present test consists of the stem followed by four possible completions one of which is correct. The main reason to include such items only was because such items are comparatively less open to guessing than other type items. Also, they are adaptable to a wide variety of materials. When well-constructed the multiple choice items are probably the best in all the objective type tests.

The present IETAT was constructed by intending to test a particular aptitude under the five factors. Besides items in the questions and incomplete statement form, items related to the arrangement in correct order, inference from the given figure and situation, and matching type are also included in the test. Necessary directions to guide and help the pre-service teachers to answer such items are also given with the particular items. Some of the items included in the test are given below.

[A] Which of the following types of seating arrangement will you use for the CwSN in your classroom so that each one of them can be easily observed by you?

- a. S
- b. T
- c. U
- d. Z

[B] You as a teacher will not attach label “disabled” to the Children with Disability because labeling has adverse effects on their

- a. social aspect.
- b. language aspect.
- c. economical aspect.
- d. philosophical aspect.

[C] Arrange the following categories in order that teacher must have for professional development in inclusive education.

- I Basic knowledge of the characteristics of CwSN and understanding of their role and responsibility in the inclusive education process
 - II Understanding how to differentiate instructions to meet the needs of CwSN
 - III Effective classroom management strategies to promote academic engagement and pro-social behavior while minimizing disruptions to the learning environment
 - IV Learning strategies to communicate and collaborate effectively with resource teachers/special educators
- a. I, II, III, IV
 - b. IV, III, II, I
 - c. III, II, IV, I
 - d. II, III, I, IV

[D] Observe the given figures carefully.



I



II



III



IV

Select the correct alternative that depicts the types of disability.

- a. I-Blindness, II- Deafness, III-Orthopaedic handicap, IV-Mental retardation
- b. I-Deafness, II-Orthopaedic handicap, III-Mental retardation, IV-Blindness
- c. I-Mental retardation, II-Blindness, III-Deafness, IV-Orthopaedic handicap
- d. I-Orthopaedic handicap, II-Mental retardation, III-Deafness, IV- Blindness

[E] Suppose, one of your students is having trouble in hearing and understanding soft speech in a noisy background. Which among the following hearing loss will he have?

- Moderate Hearing Loss
- Profound Hearing Loss
- Severe Hearing Loss
- Mild Hearing Loss

[F] Match the column A with column B.

	Column A		Column B
A	Children with Visual Impairment (CwVI)	I	Visual and tactile aids for learning
B	Children with Orthopaedic Impairment (CwOI)	II	Sign Language
C	Children with Hearing Impairment (CwHI)	III	Calipers
D	Children with Mental Retardation (CwMR)	IV	Abacus for mathematics learning

- A-I, B-II, C-III, D-IV
- A-II, B-III, C-IV, D-I
- A-IV, B-III, C-II, D-I
- A-III, B-IV, C-I, D-II

Thus the pilot form of IETAT in all contained 70 items with 15, 14, 13, 15 and 13 items under the section I, II, III, IV, and V respectively. Approximate time required by the pre-service teachers for answering all the 70 items could be 31.5 minutes (29 seconds per item) excluding 3.5 minutes for reading instructions and 5 minutes for filling general information (APPENDIX XIV). The following table 3.7 presents section wise number of items and approximate time required to answer the items.

Table 3.8
Section wise Items included in Preliminary IETAT

Section		Item Nos. in IETAT	No. of Items	Approximate Time Required (in minutes)
I	Knowledge about Inclusive Education	1-15	15	6.75
II	Perceived Ability to Identify Disabilities	16-29	14	6.30
III	Attitude towards Teaching CwSN	30-42	13	5.85
IV	Perceived Ability to Adapt Inclusive Teaching Methods	43-57	15	6.75
V	Skills to Manage Inclusive Classroom	58-70	13	5.85
Total		70 items		31.5 Minutes

As the pilot form of the IETAT was to be administered among the pre-service teachers of Gujarat, it was necessary to translate the whole test into Gujarati language which in turn could help in having a better and wider sampling. The pilot form of IETAT was, thus, translated into the Gujarati language taking care to see that simple language is used in translating the items and to make them self-explanatory. The translated version of the IETAT was referred to Gujarati language experts for language checking (Refer to APPENDIX I). Based on the suggestions received from the Gujarati language experts, necessary corrections were made in the translated version of IETAT. The pilot form of IETAT was finally got cyclostyled in the form of a test booklet both in English and Gujarati language. The answer sheets required for answering the test items have been separately given so that the pre-service teachers can record their responses of the items separately without marking them on the test booklet (For detailed information about the pilot test, refer to APPENDIX VII).

The entire process of IETAT construction has been described in this chapter. The next chapter discusses the procedure of administering the pilot test and item analysis.