Manual for Achievement Test in Commerce

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Abstract:

This paper focuses on preparation of Manual for Achievement Test in Commerce. Initially 150 test items were prepared which were given to the experts for their suggestions, comments and criticism. As per expert advise, few items were eliminated and few were modified and the first draft consisted of 111 test items. Item analysis was done. Difficulty value and discrimination power were calculated. Final draft consisted of only 52 items. Final draft was applied on XI Class Commerce students to check the reliability and validity of the test.

METHOD FOR CONSTRUCTION OF ACHIEVEMENT TEST

The test was constructed while keeping in view the objectives of Commerce at class XI which mainly focused on the measurement of ability to understand the concepts concerning Commerce. Further, keeping in mind the objectives, syllabus of Commerce text book of class XI prescribed by NCERT was read thoroughly and the items for achievement test in commerce were prepared. Before constructing the items, investigator reviewed all the test items prepared by NCERT and other experts for the achievement tests used for various survey researches in commerce. Discussions with different teachers of Secondary schools were held and the teachers of concerned subject were consulted to frame the items. Suitable items were retained for preliminary draft of the test.

Initial draft consisted of 180 items related to commerce concepts. All the test items were evaluated by three teachers, who were teaching at secondary stage in order to remove the ambiguous items and to find out if there was any defect in the language or vagueness in the format of the items. On the basis of the opinion of the above teachers few items were modified according to the suggestions received from them and 29 items were dropped. In this way the preliminary draft of the test contains 151 multiple choice items corresponding to sixteen concepts of commerce. These items along with number of items representing each concept having been given in table 1.

Table 1: Allocation of items included in the preliminary draft of the test.		
Sr. No.	**Name of the chapter**	**No. of Items**
1.	Nature and purpose of business	7
2.	Forms of business organization	9
3.	Private, Public and Global enterprises	5
4.	Business services	13
5.	Emerging modes of business	5
6.	Social responsibility of business & business ethics	9
7.	Formation of a company	8
8.	Sources of business finance	9

9.	Small business		4
10.	Internal trade		4
11.	International business – I		5
12.	International business – II		8
13.	Theory base of accounting		9
14.	Journal		27
15.	Basic accounting procedures – Ledger		15
16.	Special purpose book – cash Book		14
Total			151

The test items were multiple choice type with four options to each one of them. One and only response out of the four options was correct in each case. Here the pupils were supposed to answer each question by selecting the correct response from among four listed responses.

The test included concepts related to topics such as – Nature and purpose of business, Forms of business organization, Private, Public and Global enterprises, Business services, Emerging modes of business, Social responsibility of business & business ethics, Formation of a company, Source of business finance, Small business, Internal trade, International business-I, International business-II, Theory base of accounting, Journal, Basic accounting procedure-Ledger, Special purpose book-cash Book.

After having finalized the test items, the test items were administered on 100 students of class XI of Guru Amardass Public School, Jalandhar (Pb) to find out the level of difficulty as well as vagueness if any in achievement in commerce. The necessary instructions were given to the students. The students were asked to mark tick on the right options. There was no time limit and time taken by each student was noted down.

Out of the 151, 16 items were found to be confusing for the students and 24 were difficult to be answered. So out of 151 items 40 items were rejected, on the basis of performance of above students. Now, 111 items selected after the preliminary try out were arranged, keeping in view the difficulty level and the nature of content. In this way achievement test in commerce for the final tryout consisted of 52 items.

FINAL TRYOUT OF THE TEST

The test was administered for final tryout to 50 students. The answer sheets were scored with the help of scoring key. One mark was assigned for each correct answer and the total scores obtained by a student was the total number of his/her correct responses.

ITEM ANALYSIS

Item analysis of achievement test was done to find out ambiguities clues, ineffective distracters and technical defects that might have been over looked during test construction. It ensured objectivity in the test by modifying or eliminating such items as were still ambiguous in nature and to have check on the functioning of detractor.

DIFFICULTY VALUE OF THE ITEM

The difficulty values of 111 items were completed by the formula:

Difficulty value of the items = $\dfrac{\text{No. of students responding correctly to the item}}{\text{Total No. of Students}}$

Table 2 shows the item number, the number of students responding correctly to that item and the difficulty values of the items.

DISCRIMINATION POWER OF THE ITEMS

50 students for the final tryout were arranged in descending order to their performance. The student getting highest marks ranked first, the student getting next higher marks, was ranked second and so on. Thus, the student getting lowest marks was ranked 50th. Students were classified in three groups, after arranging the students in descending order of their performance. The first group consisted of 13 students (higher group), which formed 27% of the total student. The second group consisted of next 24 students. The third group consisted of remaining 13 students (low group), which formed the bottom 27% of the total students. In order to find out the discriminative value of the various items, the two groups-higher and lower consisting of higher 27% of the students and bottom 27% of the students were compared. Table 2 shows the number of correct responses for the two groups, for each of the item respectively. The discrimination value was computed by the formulas.

DISCRIMINATION POWER = $\dfrac{\text{RH – RL}}{\text{Total no. of students in upper or lower group}}$

Table 2: Difficulty Value and Discrimination Power of the items

Items No.	No. of Correct responses	Difficulty Value	Disc. Power	Item No.	No. of Correct responses	Difficulty Value	Disc. Power
1	30	0.60	0.53	57	18	0.36	0.31
2	20	0.40	0.69	58	8	0.16	**0.23***
3	25	0.50	**0.15***	59	28	0.56	**0.23***
4	19	0.38	0.46	60	25	0.50	0.69
5	12	0.24	**0.08***	61	13	0.26	0.53
6	32	0.64	0.31	62	6	**0.12***	**0.15***
7	36	0.72	0.31	63	29	0.58	0.38
8	23	0.46	**-0.23***	64	17	0.34	0.84
9	10	0.20	**0.07***	65	8	0.16	**0***
10	31	0.62	**-0.07***	66	16	0.32	0.38
11	18	0.36	**0**	67	30	0.60	**0.15***
12	26	0.52	0.53	68	28	0.56	0.76
13	32	0.64	**-0.30***	69	15	0.30	0.46
14	6	**0.12***	**-0.07***	70	6	**0.12***	**0.08***
15	14	0.28	0.46	71	31	0.62	0.53
16	11	0.22	**0.23***	72	21	0.42	0.53
17	28	0.56	**0***	73	14	0.28	0.31
18	7	**0.14***	**-0.07***	74	30	0.60	**-0.08***
19	25	0.50	0.69	75	28	0.56	0.46

20	29	0.58	**0.07***	76	23	0.46	0.53
21	13	0.26	**-0.07***	77	21	0.42	0.61
22	24	0.48	0.46	78	14	0.28	0.31
23	16	0.32	0.38	79	32	0.64	**0.23***
24	32	0.64	**0.07***	80	26	0.52	0.46
25	34	0.68	**-0.3***	81	10	0.20	**0.23***
26	35	0.70	**0***	82	14	0.28	0.46
27	30	0.60	0.30	83	28	0.56	**0***
28	20	0.40	0.46	84	24	0.48	0.53
29	8	0.16	**0***	85	15	0.30	**0.23***
30	6	**0.12***	**0***	86	8	0.16	**-0.15***
31	34	0.68	0.38	87	29	0.58	0.31
32	22	0.44	**0.23***	88	32	0.64	0.31
33	7	**0.14***	**0.15***	89	26	0.52	0.69
34	13	0.26	**0.15***	90	3	**0.6***	**0.08***
35	26	0.52	0.30	91	20	0.40	0.54
36	23	0.46	**-0.30***	92	26	0.52	0.31
37	9	0.18	**0.15***	93	28	0.56	0.54
38	27	0.54	**-0.07***	94	30	0.60	**0***
39	26	0.52	0.46	95	26	0.52	0.46
40	34	0.68	**0.15***	96	21	0.42	0.53
41	37	0.74	**0.08***	97	6	**0.12***	**0.08***
42	28	0.56	**0.23***	98	32	0.64	0.38
43	19	0.38	**0.08***	99	24	0.48	0.46
44	8	0.16	**-0.08***	100	30	0.60	**-0.23***
45	31	0.62	0.31	101	30	0.60	**-0.15***
46	36	0.72	**0.08***	102	20	0.40	**-0.23***
47	28	0.56	**0***	103	22	0.44	**0***
48	6	**0.12***	**0.15***	104	31	0.62	0.23
49	34	0.68	**0.15***	105	35	0.70	0.46
50	29	0.58	0.85	106	17	0.34	0.38
51	32	0.64	**0.15***	107	30	0.60	**-0.8***
52	25	0.50	0.76	108	19	0.38	0.46
53	18	0.36	0.61	109	21	0.42	**-0.8***
54	7	**0.14***	**0.08***	110	26	0.52	**0.062***
55	28	0.56	**0.15***	111	36	0.72	**0.08***
56	24	0.48	0.38				

Items with difficulty value ranging from .16 to .84 and discrimination power ranging from 0.30 to 0.90 were selected in the final test. In this way, 52 items were selected for final draft.

METHOD TO ESTIMATE RELIABILITY

There are many methods for estimating the reliability such as:

1. Test-Retest
2. Parallel form of Method
3. Split Half Method
4. Rational Equivalence Method

Final draft of 52 items was administered on XI class Commerce students of MGN School, Jalandhar. The test items were arranged according to their difficulty level. Test was divided into two equal halves of odd number and even number items. Scores of odd number items were calculated separately. Reliability was estimated by applying Spearman-Brown Prophecy formula which was found to be .84.

METHOD OF VALIDATION

Content validity was ascertained by preparing blue print of test items. Due weightage was given to the objectives. Test items along with the objectives were given to the experts in the field of Commerce. Suggestions, comments and criticism on each item were used to modify and delete the items. The test items which had complete agreement among all the experts were kept in the test.

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