How Proficient are Class V Students in Language?

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Abstract

National Council of Educational Research and Training conducted the National Achievement Survey at Class V in the year 2010 to find out the achievement level of students in different subjects (Language, Mathematics and Environmental Studies). In this paper the achievement of students in language especially in reading comprehension has been presented. The tests used for measuring the achievement consisted of three booklets containing different kinds of reading texts with multiple choice items on each text. The items were spread across the whole range of cognitive processes involved in reading comprehension. The responses of students to the various items were analysed using Item Response Theory.

The paper shows how the Class V students performed on the reading comprehension items of various different levels and testing various reading abilities. It was found that Class V students in India are at different levels of language proficiency and that the teachers need to work on developing the competence of their students in reading different varieties of texts.

Introduction

This paper is based on the findings of the National Achievement Survey (NAS) of Class V students conducted in 2010 by the National Council of Educational Research and Training (NCERT) through its Department of Educational Measurement and Evaluation (DEME) (Singh, et al., 2012). The final report was published by NCERT and supported by SSA– Technical Cooperation Fund in 2012. The survey was conducted through tests and questionnaires administered to a

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sample comprising 1,22,543 students in 6,602 schools across 31 States and Union Territories (UTs). The subjects covered were Mathematics, Language (including Reading Comprehension) and Environmental Studies (EVS). In this paper the achievement of students in Language especially in Reading Comprehension has been focused.

Reading Comprehension

The reading comprehension tests given to Class V students consisted of three test booklets, each containing four reading passages with five multiple-choice items on each passage. The passages were chosen to represent a range of text types including informational passages, tables, public notices, and stories (Bhaduri and Singh, 2011). Three reading passages were common across all test forms. These served as 'anchors' so that the different test booklets could be linked together and, hence, all items could be placed on a common scale. In addition, each test form contained an extra, unique passage. Thus, altogether the reading comprehension instruments used in the survey comprised six passages with thirty items based on them.

The items were designed to test a range of relevant cognitive processes or 'reading skills'. These are classified as 'locate information', 'grasp ideas and interpret' and 'infer and evaluate' as defined in the box given below:

Cognitive Processes for Reading Comprehension

Locate information: In items testing this process, students need to find and extract a specific piece of information explicitly stated in the text. 'Locating' requires students to focus on a specific element of the given piece.

Grasp ideas and interpret: In items testing this process, students need to demonstrate that they have understood an idea being conveyed in the text and have interpreted it correctly. For example, students may need to identify the text's main idea and/or the sequence of events and/or relationships between ideas, events, or characters across the text. In addition, students may need to draw simple conclusions based on their interpretation of the text.

Infer and evaluate: In items testing this process, students need to demonstrate understanding beyond the information and/or ideas stated explicitly in the text. They are asked to read between the lines and, for example, make inferences about the qualities or actions of characters. They may be asked to identify the text's underlying theme and/or evaluate its title by examining the text from more than one perspective.

(Source: National Achievement Survey - Class V (2012))

Putting the reading comprehension items on a continuum of difficulty

The responses of students to the various items were analysed using Item Response Theory (Hambleton and Swaminathan, 1985). The three test forms were linked using the anchor items so that all items could be placed on a single reading comprehension scale comprising scores from 0 to 500. On this scale, the mean score was set at 250 with a standard deviation of 50. Calibrating the items according to their levels of difficulty places them on a continuum with the more demanding items at the top and the easiest items at the bottom. This continuum gave us a picture as to what students at different levels of language proficiency knew and could do.

The continuum for reading comprehension consisted of total thirty items. However, for the purpose of this paper only the scale values of fifteen anchor items are given. The scale score in the first column shows the level of difficulty for each item. The table also includes the cognitive process being evaluated and a brief description of what students needed to do to answer the item correctly.

Table 1 Continuum of Reading Comprehension

Scale Score	Mental Processes	Question Description
285	Grasp ideas/ interpret	Identify relationship between an abstract idea and a concrete phenomenon
279	Grasp ideas/ interpret	Use information from a notice to conclude timing of an event
279	Locate	Identify the correct place name from those given in the notice
274	Locate	Use information from a table to determine the frequency of an event
265	Grasp ideas/ interpret	Identify relationship between an object and its characteristics
264	Grasp ideas/ interpret	Determine the sequence of activities in a process
252	Grasp ideas/ interpret	Use information from the notice to derive the duration of an event
250	Locate	Use information from a table to determine the frequency of an event
246	Grasp ideas/ interpret	Use information to draw simple conclusion about the usefulness of an object

244	Grasp ideas/ interpret	Use information in the text to identify the ingredients of an object
244	Locate	Use information in a table to identify the most frequent event
231	Infer/evaluate	Use information from a notice to make a simple inference about the participation in a sport
217	Grasp ideas/ interpret	Recognise the text type as a notice from the format and the content
213	Locate	Use information in a table to identify the time for a phenomenon
203	Locate	Use information in a table to identify phenomena occurring at a particular time

(Source: National Achievement Survey - Class V (2012))

The table shows that Class V students demonstrate a wide range of ability in the domain of Reading Comprehension.

Students at the lower end of the scale i.e. those with scale scores in the range of, say, 200 to 240 can demonstrate all three cognitive processes–provided that the context is clear and the tasks non-complex. For example, they are able to use information from a table, to locate the time and the occurrence of a phenomenon and also recognise the text type.

Students performing in the intermediate range of the scale (say, 240 to 275) can do more. In addition to that described above, they can determine the frequency, duration and sequence of events described in a variety of texts. They can also identify relationship between an object and its characteristics, identify the ingredients of an object and can draw simple conclusions about the usefulness of an object.

Students performing at higher end of the scale i.e. those with scale scores above, say, 275 can do more. In addition to that described above, they can identify the correct place name and timing of an event from a notice and can also identify relationship between an abstract idea and a concrete phenomenon.

It may be mentioned here that the cognitive processes for reading comprehension as described above operate at all the three levels of language proficiency e.g. though locating information may be a very basic ability of reading, but it can also have a higher difficulty level depending upon the complexity of the reading text presented to the students. Similarly, inference is a higher reading ability but simple inference works at easy or basic level. Thus all the three cognitive

processes operate at all the three levels of difficulty i.e. basic, proficient and advance. The following table indicates that the item testing locating information with the scale value 279 is at a higher level of difficulty even though it just requires the students to locate a place name from the text. Similarly, the item testing inference with scale value of 231 is at the lower level of difficulty, though it requires the students to draw a simple inference about the participation in a sport.

What majority of students can and cannot do in different States of India?

It has already been mentioned what the students performing at different levels of the scaled scores of the reading comprehension items can do. One of the reading texts in the reading comprehension test was a notice which is generally put up in a school on the notice board. The purpose of this text was whether the Class V students were able to read and understand the information given in the notice. Five questions were asked in the test based on the notice. The questions tested various cognitive processes i.e., locating information, grasping ideas/interpreting, and inferring/evaluating. The performance of the students across the States/UTs on the five questions in terms of per cent correct is given in the following table.

Table 2: Percentage of Students doing the items correctly on Reading Comprehension
(A Notice) across the states/UTs

States/UTs	Locate	Grasp ideas/interpret			Infer/ evaluate
	Item No. 5	Item No. 1	Item No. 3	Item No. 4	Item No. 2
Andhra Pradesh	46	68	31	49	54
Assam	43	60	36	55	49
Bihar	26	52	32	38	45
Chandigarh	25	63	37	41	58
Chhattisgarh	36	58	39	33	44
Daman & Diu	49	75	29	49	64
Delhi	47	74	50	54	60
Goa	30	57	35	47	62
Gujarat	51	66	33	51	70
Haryana	42	60	38	39	57

Himachal Pradesh	42	60	37	40	55
Jammu & Kashmir	42	62	43	58	60
Jharkhand	39	61	36	42	48
Karnataka	53	65	49	61	67
Kerala	29	87	57	50	66
Maharashtra	54	70	48	61	72
Meghalaya	26	59	33	42	53
Mizoram	29	77	52	42	70
Madhya Pradesh	49	65	40	51	61
Nagaland	36	56	35	52	53
Odisha	44	53	35	60	51
Pudducherry	29	45	17	30	47
Punjab	34	53	43	42	62
Rajasthan	51	64	44	54	65
Sikkim	20	52	23	45	55
Tamil Nadu	62	69	44	65	68
Tripura	44	66	43	54	57
Uttar Pradesh	63	74	61	69	73
Uttarakhand	41	54	34	38	49
West Bengal	52	60	41	56	58
Average (%)	41	63	39	49	58

Locate Information

Locating information from the given text is one of the very basic reading abilities. However, from the data, it can be seen that Class V students found it difficult to locate the name of the town from the notice as overall only 41 per cent students could do this correctly. The range of per cent correct was from 63 per cent for Uttar Pradesh to 20 per cent in Sikkim. Only in the states of Uttar Pradesh, Tamil Nadu, Karnataka and Maharashtra more than 50 per cent students could locate the correct information. One of the reasons for students' inability to answer this item may be that they didn't know how to read the given address.

Grasp Ideas/ Interpret

The data indicates that under the cognitive process of grasp/interpret overall 63 per cent students could recognise the text type as a notice from the format and the content. As far as the performance across

the states is concerned the range on this item was from 45 per cent in Puducherry to 87 per cent in Kerala. Only in Delhi, UP, Daman and Diu, Maharashtra, Kerala and Mizoram more than 70 per cent children were able to do this item correctly.

In the cognitive process of grasp/interpret, one item was to know whether the students could derive the duration of an event from the given information. To this item overall 49 per cent students were able to respond correctly. As far as the states are concerned Uttar Pradesh had the highest per cent correct (69 per cent) and the lowest was 30 per cent for Puducherry. In the states of Uttar Pradesh, Tamil Nadu, Maharashtra, Karnataka and Odisha 60 per cent or more children could answer this item correctly.

To conclude, the timing of an event was another item in the cognitive process of grasp/interpret. This item proved to be quite difficult for Class V students as only 39 per cent students were able to answer it correctly. In Uttar Pradesh, however, 61 per cent students were able to do it. Besides in the states of Kerala, Delhi and Mizoram more than 50 per cent students responded to this correctly.

Infer/Evaluate

Inference is one of the higher reading abilities and there was one item in the test for testing simple inference about the participation in a sport. Overall 58 per cent students could infer the idea from the information given in the notice. In states like Uttar Pradesh, Maharashtra, Tamil Nadu, Karnataka, Mizoram and Gujarat more than two third of the students could do this item correctly.

Sum Up

It may be summed up from the above that Class V students in India are at different levels of proficiency in language. Whereas most students found it difficult to workout the timing of an event, to locate the place name from the given notice, more than 50 per cent of them were able to make simple inference about the participants in a sport. A large number of students (63 per cent) could recognise the text type as a notice. Overall, it may be concluded that the teachers need to work with their students to develop their competence in reading at different levels. This can be done by presenting the students with unseen texts of different varieties and asking them to read, understand and answer the given questions. The problems in reading occur due to the fact that most of the language testing in our country

is textbook based and only tests recall of information from the seen texts. As a result of the students have no opportunity to negotiate the unseen texts on their own. If they are made to read different kinds of reading texts often during an academic session, they would certainly been able to perform better on reading comprehension.

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