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ABSTRACT

A study focusing on teacher conceptions of reading as they influence instructional practice and pupil outcomes required the development of an instrument to use in selecting teachers possessing various beliefs about reading. Teacher beliefs about reading can be viewed both in terms of standard models (such as basal text, linear skills, natural language, interest-based, and integrated curriculum models) and in terms of dimensions of teacher decision-making as revealed by field observation. The Propositional Inventory, the instrument developed to assess teacher beliefs, yields data relative to both perspectives, measuring both the theoretical and practical domains of a teacher's belief system in reading. The instrument went through a two-year evolution before reaching its final form. It can be used to ascertain consistency of professed beliefs with classroom practices, to determine if teachers with particular reading beliefs share dimensions of decision-making with other belief systems, to investigate the relationship between beliefs and demographic characteristics, and to monitor change in reading beliefs over time. (The instrument is included.) (TJ)

THE DEVELOPMENT OF AN INSTRUMENT TO MEASURE TEACHER BELIEFS ABOUT READING

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Abstract

One of the studies being conducted at the Institute for Research on Teaching at Michigan State University focuses on teacher conceptions of reading as they influence both instructional practice and pupil outcomes. To conduct this study, it was necessary to select for observation teachers possessing various beliefs about reading. The study reported here describes the instrument used to make this selection.

Teacher beliefs about reading can be viewed both in terms of standard models (such as basal text, linear skills, natural language, interest-based and integrated curriculum models) and in terms of dimensions of teacher decision-making as revealed by field observation. The instrument described in this paper, a proposition inventory, yields data relative to both perspectives, measuring both the theoretical and practical domains of a teacher's belief system in reading.

Five aspects of the instrument are discussed: The two year evolution of the measurement concept, the principles reflected in its final form, the procedures and results from validity and reliability measurement efforts, instrument application and current results. Suggestions are offered regarding uses of the instrument both in future research and in teacher development.

As part of the research being conducted at the Institute for Research on Teaching at Michigan State University, the Conceptions of Reading Project (CORP) is attempting to determine whether teachers possess beliefs about reading and, if they do, whether these beliefs influence instructional decision-making and pupil outcomes. The study is currently in its second year of observing teachers holding various beliefs about reading.

To select teachers for classroom observation, it was necessary to ascertain teacher reading beliefs. Consequently, one of the major initial efforts of CORP was the development of an instrument designed for this purpose. This paper describes the two-year development of a reading propositional inventory.

Early Conceptual Development

A search of the literature (Belli, et al.) indicated that virtually no research had been conducted on teacher beliefs about reading. Consequently, the early efforts in instrument development focused both on the conceptualization of beliefs about reading and a strategy for assessing such beliefs.

Conceptualization of Beliefs About Reading. Since the research staff was composed of a number of reading specialists, attempts to conceptualize reading beliefs initially focused on theoretical models of reading. However, such models were difficult to adapt to field research in classroom sites because of their abstractness. More concrete and pragmatic ways of conceptualizing reading beliefs were needed.

Subsequently, two literature searches of standard reading methods texts were conducted. From these, five general categories of beliefs about reading were identified: Basal textbook, linear skills (such as Wisconsin Design), interest-based (as described by writers such as Fader and Veatch), natural language (including both psycho-linguistics and language experience) and integrated curriculum models (such as the CORE curriculum). The literature searches were used to establish the content validity of the items incorporated in the instrument.

Assessing Beliefs. The first substantive attempt to assess beliefs was adapted from Cadenhead's (1970) previous work in wich propositions about reading were written on cards, with each subject being asked to examine the individual propositions and to place in one pile the five s/he most agreed with and to place in another pile those five s/he most disagreed with. In the first CORP trial, propositions were used reflecting the five conceptual categories described above, others which appeared in Cadenhead's original sort, and others generated to reflect a "confused/frustrated" category for teachers having no clear beliefs. A seventy-item propositional card sort resulted.

This early form of the instrument was subjected to three types of field testing. First, various researchers within the Institute for Research on Teaching were asked to complete the instrument and to identify items which lacked face or content validity. Second, students in two advanced graduate classes in reading instruction were administered the instrument and were asked to identify any problematic items. On the basis of both the recommendations of the subjects and the results of an

item analysis of subject responses, the number of propositions was reduced from seventy to thirty-six items. This form was then administered as a third pilot to more than 300 graduate students enrolled at Michigan State University during Summer, 1977.

Subsequent Development

Following the initial pilot tests described above, the Propositional Inventory was subjected to a series of statistical analyses and subsequent revisions which ultimately resulted in the final form of the instrument. These are described in three stages.

Stage One: The First Revision. The initial pilot work with the instrument had indicated that the sorting format was clumsy and inefficient, especially for use with large numbers of subjects. Consequently, to facilitate both administration and statistical analysis, the instrument was converted into a five-point Likert scale. The six conceptual categories (the five reading positions and the "confused-frustrated" category) remained unchanged, as did the individual items.

During Fall, 1977, the new format of the instrument was administered to 124 graduate students from Michigan State University and from the State University of New York at Albany and the scale items were factor analyzed and checked for reliability within the conceptual categories. The factor analysis indicated that the sub-scales grouped themselves together into three clusters: A basal text and linear skills cluster, a cluster including interest-based, natural language and integrated curriculum models and the "confused-frustrated" category. The reliability coefficients (Cronbach's Alpha) within the sub-scales ranged from .52 to .70.

Stage Two: The Second Revision. Two minor changes were made in the instrument. First, poor or nondiscriminating items were revised or replaced. Second, the "confused-frustrated" category was eliminated because it could not be validated in terms of either face or content validity.

The major revision at this stage, however, reflected the analysis of initial CORP field data collected in more than 150 observations of classrooms in three states. These observations revealed dimensions of teacher decision-making in reading; not only did teachers make decisions in terms of belief categories such as basal text, there also appeared to be common dimensions within each category upon which teacher decisions were made. For instance, one such dimension was the criteria for judging pupil success; all teachers reflected this dimension but their particular criteria depended upon their belief system. Hence, a teacher with a basal text conception of reading tended to judge pupil success by the affective response to books. The other dimensions identified included: Criteria for forming instructional groups, allocation of time to reading activities, allocation of time to ability groups, favored word recognition prompts, comprehension emphasis and instructional role.

Consequently, the Propositional Inventory was revised to incorporate these dimensions. Within each conceptual category, a proposition was included for each of the seven dimensions; i.e., in the basal category, at least one proposition was included for each dimension. In addition, some of the strongest items from the previous edition were retained,

regardless of whether they reflected a particular dimension or not. The result was a fifty-item, Likert-scale inventory which reflected both the more theoretical conceptions reflected in the literature and the more practical concerns gleaned from observational data.

This form of the Propositional Inventory was then administered to 116 graduate students enrolled in reading classes at Michigan State University. The sub-scale reliability coefficients ranged from .59 to .74 while a factor analysis continued to indicate that the basal and linear skills subscales loaded on a separate factor from that of natural language, interest-based and integrated model sub-scales.

Stage Three: The Final Revision. After examining the above data, two additional revisions were made to improve instrument reliability. First, the items for the dimension on teacher allocated time to ability groups were eliminated. Apparently, these items failed to discriminate because they suggested a conscious time injustice to particular reading groups. In reality, the observational data may have been reflecting teachers' less conscious time allocation decisions. Second, individual items were rewritten to improve their discrimination.

Following these revisions, the new form of the Propositional Inventory was administered to 178 graduate and undergraduate students enrolled at Michigan State University during Summer, 1978. The reliability coefficients are as follows: .78 for basal text; .71 for linear skills; .67 for interest-based; .71 for natural language and .62 for integrated curriculum models. A factor-analysis using a varimax rotation was conducted on the five sub-scales and on the individual scale items, with a three-factor rotation showing the clearest solution among the items. As

on previous forms of the instrument, the interest, natural language and integrated curriculum items loaded on a single factor ($\geq .30$). The basal text and linear skills items loaded strongly on two separate factors but shared some variation on both. That is, the two approaches had a factor complexity of two. When a three-factor solution of the five sub-scales was applied, the basal text and linear skills conceptions loaded on a single factor. As before, the interest, natural language and integrated curriculum conceptions loaded on a common, but separate, factor.

Results of the Statistical Analysis

The development of the Propositional Inventory has resulted in two types of products. The first, of course, is the instrument itself. As the data described above indicates, the Propositional Inventory provides an efficient and reliable means for assessing teachers' generalized reading beliefs.

Further, the statistical data provides two interesting insights regarding teacher belief systems. First, while the literature indicates that standard reading methods textbooks tend to be categorized in terms of the five belief systems, teachers seem to consistently group themselves into two or more general categories: A "structured" conception which includes both the basal text and the linear skills conceptions and a more "unstructured" conception which includes interest-based, natural language and integrated curriculum models.

Second, to the extent that teachers do make distinctions among belief systems, they tend to distinguish more between the basal text and linear

skills conceptions than between the more unstructured conceptions. Apparently, teachers make fewer distinctions among the pupil-centered, humanistic approaches to reading while they are more discriminating between the structured approaches.

Potential Future Uses

CORP has used the Propositional Inventory primarily for selecting teachers for classroom observations. The classroom observations have predominately shown that the teachers professed reading beliefs to be consistent with their classroom practices. While it has proved valuable when used for this purpose, other uses are envisioned.

For instance, analysis of data collected with the instrument can help researchers determine if teachers with particular reading beliefs share particular dimensions of decision-making with other belief systems. The data reported above suggests that the distinctions made by various reading theoreticians are apparently not as clear to the practitioners, as indicated by the clustering into three, rather than five, conceptual categories.

Further, the instrument can be used to investigate the relationship between teachers' beliefs and demographic characteristics. For example, one might expect that the more educated and experienced teacher to have broader, more ecelctic beliefs than new and inexperienced teachers. These and other characteristics would provide descriptive and predictive knowledge about how teacher characteristics are related to conceptions.

Finally, the instrument has potential for monitoring change in reading beliefs over time. For example, reading methods instructors or

in-service coordinators may be able to determine the impact of instruction by using the inventory on a pre- and post-instruction basis.

Conclusion

The Propositional Inventory described here is an efficient and reliable tool for assessing teacher beliefs about reading. It can provide useful teacher data for the researcher and has potential for use in teacher education at both the pre-service and in-service levels.

Table 1. Three Factor Matrix of Scale Items

Scale	Items	Factors		
		I	II	III
Basal Text	1	-	-	.33
	6	-	-	.67
	11	-	-	.60
	16	-	.35	.56
	24	-	.36	-
	27	-	.33	.28
	32	-	-	.43
	36	-	-	.65
	41	-	-	-
Linear Skills	2	-	-	-
	7	-	.36	-
	12	-	.38	-
	17	-	.60	-
	21	-	-	.48
	25	-	.45	-
	28	-	.45	-
	37	-	.67	-
	42	-	.63	.29
Interest	4	.28	-	-
	7	.30	-	-
	14	.39	-	-
	19	.40	-	-
	22	.31	-	-
	30	.30	-	-
	34	.40	-	-
	39	.39	-	-
	44	.42	-	-
Natural Language	5	.31	-	-
	10	.42	-	-
	15	.28	-	-
	20	.34	-	-
	23	.50	-	-
	31	.40	-	-
	35	.55	-	-
	40	.42	(-.50)	-
	45	.26	(-.66)	-
Integrated Whole	3	.37	-	-
	8	.30	-	-
	13	.60	-	-
	18	-	-	-
	26	.40	-	-
	29	.60	-	-
	33	.28	-	-
	38	.55	-	-
	43	.29	-	-

Table 2. Four Factor Matrix of Scale Items

Scale	Items	Factors			
		I	II	III	IV
Basal	1	-	-	.39	-
	6	-	-	.68	-
	11	-	-	.64	-
	13	-	-	.61	-
	24	-	.34	-	-
	27	-	.30	.31	-
	32	-	-	.50	-
	36	-	-	.65	-
	41	-	-	-	-
Linear Skills	2	-	-	-	-
	7	-	-	-	-
	12	-	.39	-	-
	17	-	.60	-	-
	21	-	-	.41	-
	25	-	.49	-	-
	28	-	.45	-	-
	37	-	.64	.31	-
	42	-	.57	.40	-
Interest	4	-	-	-	-
	9	.31	-	-	-
	14	.31	-	-	-
	19	.43	-	-	-
	22	.33	-	-	-
	30	.31	-	-	-
	34	.37	-	-	-
	39	.41	-	-	-
	44	.44	-	-	-
Natural Language	5	.34	-	-	-
	10	-	-	-	.71
	15	-	-	-	-
	20	.32	-	-	-
	23	.43	-	-	-
	31	.37	-	-	-
	35	.52	-	-	-
	40	.40	-	-	-
	45	.26	-	-	-
Integrated Whole	3	.43	-	-	-
	8	.37	-	-	-
	13	.64	-	-	-
	18	-	-	-	-
	26	.33	-	-	-
	29	.54	-	-	-
	33	.36	-	-	-
	38	.52	-	-	-
	43	-	-	-	.40

Table 3. Two Factor Matrix of Reading Subscales

Scale	Factor	
	I	II
Basal	-.26	.49
Linear Skills	-.18	.93
Interest	.74	-.26
Integrated Whole	.74	-.14
Natural Language	.67	-.36

Table 4. Three Factor Matrix of Reading Subscales

Scale	Factor		
	1	II	III
Basal	-.22	.71	-.07
Linear Skills	-.15	.61	-.54
Interest	.71	-.27	.16
Integrated Whole	.73	-.15	.09
Natural Language	.67	-.14	.55

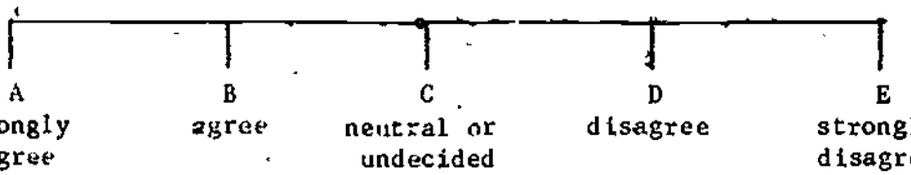
Reference

Belli, G., Blom, G., & Reiser, A. Teachers' Concerns and Conceptions of Reading and the Teaching of Reading: A Literature Review (Occ. Paper No. 1) East Lansing: Institute for Research on Teaching, Michigan State University, 1977.

PROPOSITIONS ABOUT READING INSTRUCTION

May, 1978

Directions: For each of the following 50 items, please indicate your level of agreement (or disagreement) by circling one of the five letters. In all cases, A means strongly agree, B agree, C neutral or undecided, D disagree and E strongly disagree. IMPORTANT: If you cannot decide upon a response to a particular item after 30 seconds, you should circle C for undecided and go on to the next item.



1. I believe that pupil success in reading should be determined primarily by noting progress from easier basal readers to harder basal readers.

A B C D E

2. I believe that teachers should directly teach the basic skills of reading to those pupils who need them.

A B C D E

3. I believe that the best reading materials are those which help children solve problems of importance to them.

A B C D E

4. I believe that an important indicator of reading growth is how often a pupil voluntarily uses reading in his daily life.

A B C D E

5. I believe that contextual clues are the most important word recognition aids and should receive more instructional emphasis than sight words or phonics.

A B C D E

6. I believe that basal textbook materials are an important part of good instructional programs in reading.

A B C D E

7. I believe that primary grade reading should emphasize decoding skills more than comprehension.

A B C D E

8. I believe that reading success should be measured primarily by noting how well the pupil uses his reading ability for other classroom activities.

A B C D E

9. I believe that the teacher's role is to help children learn to love reading by allowing frequent free reading and by conducting individual book conferences.

A B C D E

10. I believe that reading instruction should focus heavily on comprehension, even at the beginning stages of reading.

A B C D E

11. I believe that an important criteria for grouping pupils is the level basal textbook each is able to read.

A B C D E

12. I believe that all children should be systematically taught to use phonics skills.

A B C D E

13. I believe that the goal of developing comprehension is best achieved by giving pupils realistic reading problems which they see as meaningful in their lives.

A B C D E

14. I believe that reading instruction should emphasize the higher-level comprehension processes typically found in good children's literature.

A B C D E

15. I believe that a very important measure of reading success is the degree to which pupils use reading as a communication process.

A B C D E

16. I believe that considerable instructional time should be devoted to conducting guided reading lessons using selections such as those found in basal textbooks.

A B C D E

17. I believe that a carefully structured skills guide should be used when teaching reading to insure that each separate skill is mastered.

A B C D E

18. I believe that reading groups should be formed as the need for them arises and should be disbanded when the need has been met.

A B C D E

19. I believe that we should spend less time teaching pupils how to read and more time in getting him interested in reading.

A B C D E

20. I believe that reading materials should help children learn to read in a natural manner similar to the way they learned to speak.

A B C D E

21. Children who have similar skill deficiencies should be grouped together for instruction

A B C D E

22. I believe that reading groups should be based on the pupils' interests.

A B C D E

23. I believe that teachers should spend more instructional reading time on helping children use language as a communication process.

A B C D E

24. I believe that word recognition should emphasize the new vocabulary words associated with each basal text story.

A B C D E

25. I believe that a significant part of a teacher's time should be spent in teaching basic reading skills.

A B C D E

26. I believe that word recognition instruction should not become more important than involving pupils in real-life reading tasks.

A B C D E

27. I believe that comprehension should be taught by asking questions about the basal text story being read.

A B C D E

28. I believe that one effective way to determine pupil reading success is to note how many skills he has learned.

A B C D E

29. I believe that a significant amount of the instructional time in reading should be spent on purposeful, real-life projects and activities which call for the use of reading.

A B C D E

30. I believe that word recognition instruction is not as important in reading as providing children with stimulating, interesting materials to read.

A B C D E

31. I believe that if grouping is used, pupil assignment to groups should reflect more emphasis on meaning cues in reading.

A B C D E

32. I believe that the teacher's role in reading is to assign pupils to appropriate basal materials and direct them as they complete the material.

A B C D E

33. I believe that fewer children would have difficulty learning to read if we stopped teaching reading during self-contained reading periods and, instead, taught it as a part of all subjects.

A B C D E

34. I believe that children should be allowed to choose the stories and books they want to read during the regular reading period.

A B C D E

35. I believe that the teacher's role is to emphasize the communication aspects of reading more than the skills.

A B C D E

36. I believe that a basal text should be used to teach reading.

A B C D E

37. I believe that reading is a difficult process which must usually be taught in a step-by-step sequence if we are to develop good readers.

A B C D E

38. I believe that the teacher's role is to involve pupils in realistic reading tasks which illustrate the functional utility of reading.

A B C D E

39. I believe that reading is not difficult for most children to learn if they are provided with stimulating and lively materials to read.

A B C D E

40. I believe that reading instruction should focus more on the use of meaning cues and less on skill instruction.

A B C D E

41. I believe that I should spend equal amounts of time with the low, middle and high basal text groups.

A B C D E

42. I believe that reading is composed of a series of hierarchical skills which must be taught sequentially and then used in combination if one is to read successfully.

A B C D E

43. I believe that reading instruction should be taught so that pupils can use reading successfully in all curricular areas.

A B C D E

44. I believe that reading would not be such a problem today if we made greater efforts to interest children in the reading of good children's literature.

A B C D E

45. I believe that too much emphasis is being placed on skills (especially decoding skills) in reading programs today.

A B C D E