10-1-1987

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# TEXT TYPE AND TEXT STRUCTURE:
# AN ANALYSIS OF THREE
# SECONDARY INFORMAL READING INVENTORIES

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Reading educators (Cheek & Cheek, 1983; Roe, Stoodt, & Burns, 1978) urge secondary teachers to use informal reading inventories (IRIs) in order to diagnose students' reading problems and to place students in textbooks at appropriate levels to optimize instruction. Advice of this nature is surely well-intended; nevertheless, educators have reservations about the merits of available IRIs. For example, readability levels of IRI passages (Gerke, 1980), passage dependency of questions (Marr & Lyon, 1980; Tuinman, 1971), classification of questions (Shell & Hanna, 1981), scoring criteria (Bormuth, 1969), validity (Cooper, 1952; Powell, 1971), and allowable errors or miscues (Ekwall, 1971; Harris & Sipay, 1980) have been the focus of serious questions by reading researchers.

A further source of concern is the IRI graded paragraphs. These passages should reflect current research findings on text type, text structure, and comprehension. For example, researchers have investigated readers' difficulties with narrative and expository text types (Berkowitz & Taylor, 1981; Olson, 1985). These studies consistently document narrative texts as easier for readers to understand than expository texts.

Expositions represent the predominant text type at the secondary level; therefore, we would expect to find expository passages rather than narrative passages in secondary IRIs. If this is the case, the expository IRI passages would more appropriately assess students' reading ability for placement in secondary textbooks. If this is not the case and the secondary IRIs contained many narrative passages, students would find these passages less difficult. Consequently, teachers might place students at an inappropriately high level for the more difficult expository

reading required in the secondary schools.

Researchers have also identified the organizational structure inherent in well-formed texts (Mandler & Johnson, 1977; Meyer, 1975; Stein, 1979) and the comprehension difficulties these structures pose for readers (Englert & Heibert, 1984; Fitzgerald & Spiegel, 1985; Hansche & Gordon, 1983; Meyer, Brandt, & Bluth, 1980). It is the organizational structure that provides a framework to convey the content of the text to the reader. Narrative text structure is described in terms of story grammar categories (Stein, 1979). Narratives that are well-formed include a setting and one or more episodes. Moreover, well-formed narratives are understood better than narratives that are fragmented or require readers to infer missing categories (Baker & Stein, 1981).

On the other hand, expository text structure is described in terms of organizational, or rhetorical, structures that writers use to convey the relationships among ideas in the passage to the readers (Meyer, 1981; Niles, 1965). For example, Meyer (1981) describes five rhetorical structures in expository texts: causation, response, comparison, collection, and description. More organized structures, such as causation and comparison, appear to facilitate the understanding of content while content presented as a collection or description is more difficult to remember (Meyer & Freedle, 1984).

We would suggest, therefore, that the organizational structure among the ideas presented in both narrative and expository passages is crucial to fair and accurate appraisal of students' reading abilities. For instance, if secondary IRIs contain narratives, then the narratives should be well-formed so that poor performance by students is not a function of passage structure. Conversely, if the text type is expository, it too should be clearly structured. Expository passages with a discernable rhetorical structure would be more likely to yield accurate information about the student. Furthermore, the particular rhetorical structures of the IRI passages would be of interest to teachers because some structures seem easier to comprehend than others.

Despite the current interest in text type and text structure, secondary IRIs have not been analyzed for the text type of the passages. Neither has it been determined

if narrative passages are well-formed or if expository passages have identifiable rhetorical structures. The purpose of this study, therefore, was to evaluate three secondary IRIs: the Advanced Reading Inventory (Johns, 1981), Content Inventories (McWilliams & Rakes, 1979), and the Informal Reading Assessment (Burns & Roe, 1985) in terms of text type and text structure.

Specifically, we wanted to know (1) if the passages in each secondary inventory were expository or narrative; (2) if the passage was a narrative, was it a well-formed narrative? (3) If the passage was an exposition, would the rhetorical structure be classified as description, causation/contrast, problem/solution, sequence, or definition/example? (4) Were there any passages with no discernable structure?

## Method

### Raters
Eleven teachers training to be reading specialists and enrolled in a graduate secondary reading course served as raters of the inventories. These teachers had already completed a reading methods course in which they learned to map stories (Beck & McKeown, 1981); therefore, they were familiar with narrative structures.

### Training
One of the researchers conducted a three-hour training session to teach the raters to differentiate between text types and to identify text structures. Raters first learned to differentiate between narrative and expository texts. A narrative by definition is a story of events or experiences that may be long or short, that may happen in the past, present, or future, and that may be factual or fictitious. An exposition is a detailed statement or explanation, an explanatory treatise. A finer distinction of discourse was not deemed necessary. "Narrative" referred to a story of events: "exposition" referred to factual explanations.

The researcher provided model passages and discussed how each passage met the criterion for a specific text type.
Raters then practiced with five passages and identified the text type of each passage. Finally, an alternate form

of an IRI that was not being used for this study was analyzed for text type. Any disagreement was discussed until consensus was reached for the practice passages.

Raters then learned to identify a well-formed narrative according to Stein's categories (1979). Specifically, a narrative was judged a well-formed narrative if it contains information about a setting, an initiating event, a goal, attempts to attain the goal, consequences of the attempts, and a reaction. Finally, raters learned to identify the rhetorical structures of expository passages based on Meyer's system (1975). The structures taught: description, definition/example, cause/effect, sequence, contrast/compare, and problem solution. Teaching methods followed previous practices.

## Procedure

The inventories were assessed using the criteria established during the training session. Raters first analyzed grades seven through twelve/college, Form A or 1, of the inventories for text type. Five inventories were actually analyzed because the Content Inventories contains independent inventories in English, social studies, and science. Eleven raters analyzed Content Inventories and Advanced Reading Inventory. Nine raters analyzed Informal Reading Assessment.

To reflect organizational structure, the ratings branched under passages judged narratives to well-formed or not well-formed and under passages judged expositions to one of six rhetorical structures. A narrative passage was judged to be well-formed if it contained information according to Stein's categories. If the passage was judged exposition, the raters then classified its rhetorical structure.

## Analysis and Results

Interrater reliability was calculated using Hoyt's procedure to estimate the reliability of measurements as described by Winer (1971) for each group of raters per inventory. Reliability coefficients for Advanced Reading Inventory and Content Inventories, English, were .94 and .93, respectively. On Content Inventories, Social Studies and Science, agreement levels were so high that the variance was estimated in excess of .99. The interrater

reliability, however, for the Informal Reading Assessment was .42.

Overall, the raters judged the secondary IRI passages to be narratives 18% of the time and expositions 82% of the time. If the analysis of the Informal Reading Assessment is omitted, the remaining IRIs were judged narratives 9.8% and expositions 90.2% of the time.

The reliability coefficients for narrative and expository text structure per inventory could not be computed because of the branching methodology, which resulted in an excessive number of empty cells for the reliability ANOVA. For example, after the raters determined text type on the Advanced Reading Inventory (r = .94), the branching that occurred as they evaluated passages for structure created the empty cells that prevented reliability measurements. On the Informal Reading Assessment raters were not consistent in determining text type (r = .42). Since there was no passage on which all raters agreed as to text type, empty cells again occurred as raters' responses branched in their attempt to identify the text structure for both narratives and expositions. When the eleven raters of the three inventories in the Content Inventories judged a passage narrative (which they did for a total twelve times of a possible 198 decisions), they then had to determine if the narrative was well-formed or not well-formed. In this case there were too few passages judged narrative to compute reliability.

When the raters considered the expository passages to determine their rhetorical structure, the branching methodology provided seven choices. The raters were unable to discriminate among the choices consistently. They were in many cases unable to identify any structure for the passage. In fact, raters were unable to identify any kind of rhetorical structure for 37% of the passages in the Informal Reading Assessment. Even across the five inventories, 22.3% of the passages had no discernable structure.

Discussion

Analyses of the inventories indicate that some current secondary IRIs have been constructed with some consistency of text type. A clear picture, however, of text

structure for secondary IRIs failed to emerge.

We argued that expository passages are more appropriate for secondary reading assessment since this text type is more representative of the secondary textbooks. The Content Inventories and the Advanced Reading Inventory contained predominently expository passages; however, the raters were unable to identify text types for the Informal Reading Assessment. The high interrater reliabilities for the former inventories contrasted with the low interrater reliability for the Informal Reading Assessment suggest that the passage in the latter inventory are of indeterminate type.

Students evaluated with the Content Inventories or the Advanced Reading Inventory would thus use an IRI with appropriate text type for placement in expository texts. On the other hand, if a shift between text types across levels occurred or passages with indeterminate type used, erratic student assessment scores might result. Students might score high on a narrative at level eight, low on an exposition at level nine and high again on a narrative at level ten. In this case, scores might be a function of text type rather than reading ability. If students were evaluated with passages with indeterminate text types, scores might be a function of an inconsiderate the text rather than reading skill.

As mentioned earlier, if narratives are used to assess reading skill, then we should expect them to be well-formed so that good readers could use their schema for story structure and poor readers could make use of emerging story schema to comprehend the passage. We do not, however, have a clear picture whether the few narratives found in secondary IRIs are well-formed. Since students' scores could be a function of the organization of the text or reading ability, further study of narrative text structures in IRIs is needed.

When we consider the passages judged to be expository, we note that teachers may be assessing students' reading abilities with many passages with no identifiable rhetorical structure. Certainly, raters were unable to assess rhetorical structure consistently. Whether this resulted from poor training procedures or from passages which lacked a clear rhetorical structure is not known. If the latter is the

case, good readers would not be able to use their knowledge of text structure effectively. Poor readers' chances for a good performance would be even less. Further study of expository text structures is therefore necessary.

These findings suggest several recommendations for teachers who assess secondary students' reading abilities. First, if an IRI is to be used for assessment, check the passages for text type. At the secondary level, expository passages represent the real world of secondary school reading. If few expository passages are used in the IRI, consider constructing them from the textbooks the students are to read or use a different IRI.

Second, if the IRI does have expository passages for students to read, decide if the passages have a discernable rhetorical structure. If not, rewrite the passages or find other passages. If the passages have an identifiable rhetorical structure, look for a representative sample of the structures identified by Meyer and others. An overabundance of descriptive passages would not be desirable.

Third, if it is appropriate to assess with narrative passages, check to be sure that they are well-formed narratives. If the narratives are fragmented or have parts missing, rewrite them. Make complete, coherent stories.

Fourth, if students' scores fluctuate widely, consider the text as the cause of variability. An assessment instrument should reflect the text type most often used at the students' level in school. At the very least, it should contain coherent passages with identifiable organizational structures.

These recommendations do not consider prior topic knowledge, interest, or the questions asked after the students read the passages. These issues have not been addressed in terms of secondary informal inventories. Since assessment instruments exert such an influence on students' instruction, educators and researchers should continue to examine IRIs.

Table 1

PERCENTAGE OF SECONDARY PASSAGES CLASSIFIED
AS NARRATIVE AND EXPOSITORY
BY INVENTORY AND LEVEL

| Inven-tory** | | ARI r=.94 | | IRA r=.42 | | CS r=.99* | | CSS r=.99* | | CE r=.93 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *** **** | N | E | N | E | N | E | N | E | N | E | |
| 7 | 9 | 91 | 56 | 44 | 0 | 100 | 9 | 91 | 0 | 100 | |
| 8 | 27 | 73 | 56 | 44 | 9 | 91 | 27 | 73 | 0 | 100 | |
| 9 | 9 | 91 | 33 | 67 | 9 | 91 | 9 | 91 | 18 | 82 | |
| 10 | 91 | 9 | 56 | 44 | 0 | 100 | 0 | 100 | 18 | 82 | |
| 11 | 0 | 100 | 44 | 56 | 9 | 91 | 0 | 100 | 0 | 100 | |
| 12 | 9 | 91 | 56 | 44 | 0 | 100 | 0 | 100 | 0 | 100 | |
| Col. | 0 | 100 | | | | | | | | | |

EXPLANATION

All figures given in percentages

* Estimated Reliability Coefficient

** ARI - Advanced Reading Inventory
IRA - Informal Reading Assessment
CS - Content Inventory - Science
CSS - Content Inventory - Social Studies
CE - Content Inventory - English

***N - Narrative
E - Expository

**** Ist col. - Levels from 7 through College

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