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ABSTRACT

A study investigated the roles of particular cultural exemplars and more abstract cultural schemata in the acquisition of genre knowledge. Subjects, 16 kindergarten children, 20 first-grade children, and 18 second-grade children from one intact classroom at each grade level, were interviewed about their knowledge of various textual and structural aspects of three school-based genres (stories, poems, and science reports), produced written texts designed to instantiate these three genres, and were asked a series of questions about their texts. While results indicated strong evidence for a U-shaped relationship between prototypicality and exemplar-based versus schema-based texts and between overall rhetorical effectiveness and exemplar- versus schema-based texts, it yielded only partial evidence that the U-shaped patterns were systematically related to children's grade level. Findings suggest that: most prototypic texts and the most rhetorically effective texts were largely informed either by particular cultural exemplars or abstract schematic cultural knowledge about narrative, poetic, and expository texts; and the texts that were the least prototypic and least rhetorically effective were often informed by a combination of exemplar-based and schema-based knowledge and discourse strategies. (Two figures and one table of data are included; 18 references are attached.) (RS)

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Running Head: Exemplars and Schemata

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The Roles of Particular Cultural Exemplars and Abstract Cultural Schemata  
in the Acquisition and Use of Genre Knowledge

One of the hallmarks of a sophisticated speaker or writer is the ability to produce forms of discourse that adhere to cultural conventions, that are appropriate for particular social occasions, and that accomplish specific rhetorical or literary goals. These forms of discourse are typically referred to as genres. Genres are cultural templates that consist of complex constellations of linguistic and discourse-level features. Knowledge of these templates, albeit tacit knowledge in many cases, is a critical component of communicative competence, which involves the packaging of messages in culturally appropriate and socially expected ways. An understanding of the discourse features and uses of different genres allows children to participate as full members in a variety of social settings including school.

Although a good deal of research on perceptual and symbolic dimensions of writing development in young children has been conducted during the past couple of decades (e.g., Clay, 1975; Ferreiro & Teberosky, 1982; Sulzby, Barnhart, & Hieshima, 1989), much less research has been devoted to understanding more discursive and cultural dimensions of writing development such as genre. However, these dimensions are beginning to receive more attention (e.g., Dyson, 1989; Hicks, 1990; Hudson, 1986; Langer, 1985; Newkirk, 1990; Pappas, 1990). Building upon this relatively new area of research, we have been engaged in a program of research designed to explore several aspects of the development of genre knowledge in kindergarten, first-, and second-grade children. In this article we report results from a developmental investigation of the roles of particular cultural exemplars and more abstract cultural schemata in the acquisition of genre knowledge.

#### Background and Purpose

Theory and research in developmental psychology have suggested a U-shaped function in the development of a variety of concepts and abilities, including certain grammatical forms (Brown, 1962; Pinker, 1984), metaphoric understanding (Gardner & Winner, 1982; Winner, 1988), and logico-mathematical knowledge (Karmiloff-Smith & Inhelder, 1974-5). Across all of these domains, change

has been characterized by correct (or high-level) performance in the beginning phase (phase 1) and the end phase (phase 3) of a developmental process with incorrect (or low-level) performance in the middle phase (phase 2). The most plausible explanation for this developmental pattern has been that children operate with qualitatively different representational structures and performance strategies in phase 1 and phase 3 of the process, and that during the shift between these two phases, they operate with relatively unstable transitional knowledge structures and performance strategies. In relation to this shift in representational means, most theorists and researchers have posited that early in development, children's knowledge is closely tied to particular cultural exemplars; later in development their knowledge consists of a combination of knowledge qua exemplar and more abstract or schematic knowledge; even later, children's knowledge is largely abstract or schematic, and children begin to view exemplars as specific cases of more general structures. Theory and research have also suggested that the transition from reliance on exemplars to reliance on more general knowledge structures is problematic for children and often results in degraded performance on tasks both in natural and experimental situations.

We hypothesized that the ontogenesis of genre understanding would follow a similar developmental path. More specifically, we suspected that children's early understanding of different genres (stories, poems, and science reports) would be closely tied to specific cultural exemplars and that children would depend heavily on particular exemplars in the production of texts designed to instantiate specific genres. For example, when asked to create a fictional story, a child might reproduce a well known children's story (e.g., The Three Little Pigs) more or less verbatim, although perhaps in shortened form. Moreover, we suspected that, because texts of this sort would be close copies of well formed cultural artifacts, they would themselves be highly prototypic and rhetorically effective.

Later in development, we thought that children's understanding of genres might become somewhat more abstract or schematic and less tied to particular exemplars and that children would attempt to integrate both concrete and abstract genre knowledge during text production tasks. At this point in development, if a child were asked to create a fictional story, he or she might produce a synthetic story through a process of transforming and/or combining particular features from one or

more exemplars. A child might, for example, borrow a plot line from one well known exemplar, import characters from another, and construct a theme to fit the developing synthetic text. In this transitional period (from exemplar-based knowledge and discourse strategies to schema-based knowledge and discourse strategies), we suspected that the prototypicality and rhetorical effectiveness of children's texts might become degraded.

Even later in development, we suspected that children's genre understanding might become even more abstract and that children might have developed a fairly rich meta-discursive understanding of the relationship between schemata and particular instantiations of schemata, viewing specific cultural artifacts as exemplars of certain text-forming possibilities or more general text structures. Moreover, we thought that these children would use their abstract and meta-discursive understanding of different genres in text production tasks, creating texts that were relatively original, albeit perhaps synthetic. Thus, a child might respond to the task of writing a fictional story by creating a relatively novel narrative with a plot, characters, themes, content, etc. that did not closely resemble those from any particular well known cultural artifacts. This is not to say, of course, that the child would not rely at all on exemplar-based knowledge. Rather, it is to say that the child would exhibit a sophisticated ability to transform and recombine both concrete information about particular texts and abstract narrative knowledge in constructing a relatively original text. In relation to this point, it is worth noting that some of the most remarkable texts in western literary history (e.g., Joyce's Ulysses, Nabokov's Pale Fire, Hurston's Their Eyes Were Watching God) are notable for, among other things, their creative intertextuality (i.e., the extent to which they embody transformed and recombined elements from various texts and conventionalized text-forming possibilities). To return to our hypotheses, we also thought that the schema-based texts produced by the children in our study would be highly prototypic and rhetorically effective, due largely to the children's abstract and meta-discursive understanding of different genres and genre conventions.

To summarize our expectations about the development from exemplar-based to schema-based knowledge about genres, we thought that children would produce the most prototypic texts and the most rhetorically effective texts when they relied either on particular cultural models or

relatively well developed schematic knowledge. During the transition from using particular cultural models to more abstract cultural knowledge, we expected to see a degradation in the prototypicality and rhetorical effectiveness of the texts produced. We tested this hypothesis by engaging children in a variety of genre-writing tasks and interviewing them about where they got their ideas for their texts, how they went about constructing their texts, and how much abstract knowledge they possessed about stories, poems, and science reports.

### Description of Methods

#### Setting, Subjects, and Conditions of Data Collection

This cross-sectional study was conducted in one school with 16 kindergarten children, 20 first-grade children, and 18 second-grade children from one intact classroom at each grade level. All classrooms were culturally and economically diverse and reflected the population of the community at large. Fifty-seven percent of the children were Caucasian; thirty-two percent of the children were African American; and eleven percent of the children were Asian. About half of the children were from working-class backgrounds; the other half were from middle-class backgrounds.

Data were collected in the spring of the school year. We had worked in all three classrooms throughout the year conducting classroom observations, reading with children, talking with children about their journal writing and their other classroom writing, and keeping records of the books children read. Therefore, when we collected the genre data, children were very familiar with us. Also, as part of a larger study, we had collected a storehouse of the children's writing that was produced in less formal situations than the one in which we collected the genre data. This storehouse was used to gauge the representativeness of the data collected in the more formal situations.

No formalized explicit instruction about any of the genres under investigation was part of the language arts curriculum in any of the classrooms. However, all teachers occasionally engaged children in discussions of some of the characteristic features of different types of texts. Additionally, children were sometimes asked to construct texts similar to ones that they had read during shared reading experiences. In connection with these activities, more discussion and writing occurred in relation to stories in comparison with all other genres.

### Tasks and Data Collection Procedures

All children were interviewed about their knowledge of various textual and structural aspects of three school-based genres: stories, poems, and science reports. Several weeks later, children were asked to produce written texts designed to instantiate these three genres. Each of the genre-writing tasks was executed on a different day, and the order of the task presentation was counterbalanced. The topic about which the children wrote was the same across the three genre-writing tasks. All children wrote a story, a poem, and a science report about animals. This general topic had constituted the science focus of the classrooms just prior to data collection. Children had received instruction and engaged in a variety of activities that focused on different classes of animals, animal habitats, animal life cycles, and pets. Narrative, expository, and poetic texts had been included in reading activities.

After writing their texts, children were asked to read them. Children were also asked a series of questions about why their texts could be characterized as representing one genre rather than another, why their texts were good representatives of the genres they were supposed to instantiate, whether or not their texts resembled other texts with which they were familiar, and where they had gotten the ideas for their texts.

### Coding and Analysis

Following Berman et al. (1986), children's texts were segmented by clause. According to this segmenting procedure, any stretch of extended discourse containing a verb phrase is counted as a clause. Once the texts were segmented, they were coded for a variety of textual and structural features that tend to be associated with particular genres. For example, stories tend to be cast in the past tense; cohesion in stories is achieved by linking co-referential tokens; and the structural core of stories is a problem/attempt(s)/ solution complex. In contrast, science reports tend to be cast in the present tense; cohesion in science reports is achieved by linking co-classification tokens; and the macro structure of science reports includes a topic introduction, descriptions of attributes, and characteristic activities. Poetic texts are a bit more complex. Distributions of cohesive devices and verb tenses vary in poems as a function of content and theme. However, most poems have the



following structural features: distinct line structure, distinct stanza structure, and meter. In addition, poems tend to have more tokens of various tropes such as rhyme, alliteration, and metaphor.

After all texts had been coded for textual and structural features, ratios of features per clause were determined, and prototypicality scores based on these ratios were computed for all texts. In constructing prototypicality scores, features for each text type that were considered obligatory and/or extremely common in the text grammar and discourse analysis literature were weighted more heavily than features that were considered to be optional and/or less common. (For a discussion of obligatory and optional features of genres, see Pappas, Keifer, & Levstik, 1990). Prototypicality scores ranged from 0 (lowest possible score) to 20 (highest possible score). Inter-judge agreement in computing prototypicality was 95%.

All texts were also scored holistically for their rhetorical effectiveness by a different set of researchers using a seven-point Likert scale similar to that developed by the Educational Testing Service for scoring SAT essays. According to this scale, 1 is the lowest possible score and 7 is the highest. Inter-judge agreement for holistic scoring was 92%. Nearly all disagreements constituted differences of one point on the seven point scale. These differences were resolved by negotiation until consensus was achieved. Texts were coded both for prototypicality and for rhetorical effectiveness because we wanted independent measures of conventionality and aesthetic value.

Finally, all texts were coded for the degree to which they reflected a dependence on particular cultural exemplars versus more abstract cultural knowledge. An elaborate coding scheme was devised that allowed us to rate texts on a seven-point Likert scale. In connection with stories, the continuum ranged from "wholesale borrowing of a familiar cultural exemplar" (e.g., The Three Little Pigs), which would receive a score of 1, to "relatively original story based largely on abstract or schematic knowledge of stories," which would receive a score of 7. Texts falling in the middle of the continuum represented hybrids that reflected, in various but fairly obvious ways, a mix of concrete elements from exemplars as well as an attempt to be original in some way. For example, one such text might employ a well known plot with different characters or theme or some other combination of borrowed and "made-up" text elements. These texts received scores between



2 and 6 depending on the degree to which they reflected exemplar-based versus schema-based knowledge and discourse strategies. Similar scales were constructed for poems and science reports. Coding decisions were made interpretively by analyzing many sources of data in concert with one another. These data included (1) children's written texts, (2) children's responses to interview questions about where they got the ideas for their texts and whether their texts "were like" any other texts they knew about, (3) children's responses to questions about what they knew about the textures and structures of different text types, (4) records of the books that children's had read both at home and at school, (5) field notes from classroom observations of reading and writing activities and instructional input, and (6) field notes about children's responses to classroom literacy activities. While coding decisions were sometimes difficult, in 89% of the cases, judges were within one point of each other using the seven-point scale. All disagreements were discussed by the two judges and the first author until consensus was reached.

Descriptive and comparative statistical analyses were conducted to examine differences in prototypicality and rhetorical effectiveness as a function of grade and genre, to examine differences in the reliance on specific cultural exemplars versus reliance on more abstract schematic knowledge as a function of grade and genre, and to investigate the relationships among these variables.

### Results

As a first step in the analyses, we examined the relationships between prototypicality and exemplar-based versus schema-based texts and between rhetorical effectiveness and exemplar-based versus schema-based texts. These analyses were done with the entire sample, with no attempt to determine differences as a function of grade level. As predicted, the most prototypic texts produced by children in this study were grounded either in specific cultural exemplars or quite abstract cultural knowledge of genres. This was also true for the texts that were most effective rhetorically. Moreover, interview responses from most of the children who produced the most prototypic and the most rhetorically effective texts also suggested that they were operating either with exemplar-based knowledge or relatively abstract schematic knowledge about stories, poems, and science reports. Less prototypic texts and texts that were less effective rhetorically were characterized by an amalgam

of elements from different exemplars and sometimes an amalgam of structural features from different genres. Interview responses from most of the children who produced less prototypic texts and least rhetorically effective texts also suggested that they were operating with a blend of concrete and abstract knowledge about the three genres central to the study. This pattern of results was true for all text types, but it was most striking for science reports and poems. Graphic representations of the relationships between prototypicality and exemplar-based versus schema-based texts and between rhetorical effectiveness and exemplar-based versus schema-based texts for all three text types appear in Figures 1 and 2.

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Insert Figure 1 and Figure 2 about here

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Separate chi-square analyses were conducted for each genre to determine significance levels in the relationships between prototypicality ratings and exemplar/schemata ratings and between rhetorical effectiveness ratings and exemplar/schemata ratings. Using median splits, texts were categorized as being either high or low in prototypicality and rhetorical effectiveness; texts were also categorized as being either exemplar-based (score of 1 or 2), schema-based (score of 6 or 7), or exemplar/schema hybrid (score of 3, 4, or 5). Results from the chi-square analyses are shown in Table 1. As these results demonstrate, significant differences were found for all comparisons of all text types. In most cases (8 out of 12), larger than expected values were found in cells characterized as high prototypicality/ exemplar-based, high prototypicality/schema-based, high rhetorical effectiveness/exemplar-based, and high rhetorical effectiveness/schema-based. In all cases (6 out of 6), larger than expected values were found in cells characterized as low prototypicality/exemplar-schema hybrid or low rhetorical effectiveness/exemplar-schema hybrid.

Many of the exemplar-based and schema-based texts that received low prototypicality scores were written by kindergartners who did not instantiate the genre they were asked to instantiate. In most cases, these children wrote stories no matter what kind of text they were asked to write.

Hence, when their texts were supposed to instantiate poems or science reports, they received low prototypicality scores.

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Insert Table 1 about here

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Individual one-way analyses of variance and Sheffe' post hoc comparisons were also conducted for each genre to determine whether there were differences in prototypicality, rhetorical effectiveness, and exemplar-based versus schema-based texts as a function of grade level. There were no differences in prototypicality as a function of grade level for stories. There were, however, significant differences in prototypicality as a function of grade level for poems,  $F(2, 51) = 5.46, p < .008$ , with both first- and second-grade children receiving significantly higher scores than kindergartners. There were also significant differences in prototypicality as a function of grade for science reports,  $F(2, 51) = 16.56, p < .001$ , with both first- and second-grade children receiving higher scores than kindergartners.

With respect to the rhetorical effectiveness of children's texts, significant grade level differences were found for all text types. For stories,  $F(2, 51) = 3.68, p < .03$ ; second graders scored significantly higher than kindergartners. For poems,  $F(2, 51) = 4.04, p < .03$ ; second graders scored significantly higher than kindergartners. And for science reports,  $F(2, 51) = 13.77, p < .001$ ; both first and second graders scored significantly higher than kindergartners.

Finally, with respect to the exemplar-based—schema-based continuum, grade level differences were found for poems alone,  $F(2, 51) = 10.76, p < .001$ , with both first- and second-grade children writing significantly more schema-based texts than kindergartners. For science reports, there was a tremendous range at each grade level in the extent to which children's texts were exemplar-based, schema-based, or a combination of the two. For stories, most children produced texts that were largely schema-based. In relation to this point, it is worth repeating that there were no differences in prototypicality for stories across grade levels, as well as noting that, on average, all children's stories received higher prototypicality scores ( $\bar{x} = 14.48$ ) than either their poems ( $\bar{x} =$

12.35) or their science reports ( $\bar{x} = 10.39$ ). This finding is not surprising given the wealth of reports on the early development of narrative knowledge and competence in young children (e.g., Hicks, 1990; Nelson, 1986), as well as the research documenting that children have much greater exposure to and familiarity with narrative texts as compared with poetic and expository texts (e.g., Newkirk, 1989; Pappas, 1990). Vastly greater exposure to narratives may well account for the greater textual and structural knowledge of this genre that the children possessed in comparison with textual and structural knowledge of the other genres they were asked to instantiate.

Perhaps more importantly, finding both that children's stories were considerably more prototypic than either their poems or science reports and that many more children's stories were schema-based as compared to their poems and science reports suggests a positive relationship between the use of abstract schematic knowledge and both a more sophisticated understanding of genres and genre conventions and enhanced performance on text production tasks. Combining this inference with the fact that children's developmental trajectories for narratives tend to be advanced relative to their developmental trajectories for poems and informational reports (Bruner, 1986; Egan, 1986; Langer, 1986) provides modest support for the hypothesis that children's knowledge of genres and generic conventions develops from being more exemplar-based to more abstract and schematic.

#### Summary, Conclusions, and Implications

While this study yielded strong evidence for U-shaped relationships between prototypicality and exemplar-based versus schema-based texts and between overall rhetorical effectiveness and exemplar- versus schema-based texts, it yielded only partial evidence that the U-shaped patterns were systematically related to children's grade level.

Results from the study warrant several conclusions and suggest several implications. First, finding that the most prototypic texts and the most rhetorically effective texts were largely informed either by particular cultural exemplars or abstract schematic cultural knowledge about narrative, poetic, and expository texts was an important discovery. Equally important was finding that the texts that were least prototypic and least rhetorically effective were often informed by a combination of exemplar-based and schema-based knowledge and discourse strategies. Based on these findings

we may infer that, whether development proceeds more or less linearly from the use of more concrete to more abstract knowledge structures and discourse strategies, when children are betwixt and between using concrete and abstract knowledge and strategies in text production tasks, they encounter cognitive difficulties.

In connection with these assertions, results from this study in no way discount the possibility that the U-shaped patterns of findings are systematically related to age or grade level. First, results from the analyses of poems and stories provided modest support this hypothesis. Second, yielding only weak evidence in support of this hypothesis may be partly explained by the fact that our design was cross-sectional rather than longitudinal. Indeed, longitudinal studies are needed to determine whether individual children's representational structures for different genres develop from more particularistic to more general and, if this turns out to be the case, whether the transition is problematic, which could be inferred if U-shaped developmental trajectories such as those found in this study were also found within individual children's performances over time.

A second conclusion that may be drawn from this study is that, for some children some of the time, relying heavily on particular cultural exemplars in text production tasks is important and productive, as indicated by the high prototypicality scores and rhetorical effectiveness scores for children's exemplar-based texts. In connection with this point, we are reminded of the critical function, for some children, of copying from environmental print in their developing understanding of conventional forms of symbolic aspects of writing (Goodman, 1986; Sulzby, Barnhart, & Hieshima, 1989). It may be that when a child writes a text and responds to a question about where he or she got the ideas for the text with something like "I thought it up in my head; it's called "Chicken Soup with Rice," the child betrays the important role of symbolic play in his or her development as a writer. In other words, play may provide an "as if" framework that constitutes an appropriate zone of proximal development within which a child is able to "behave beyond his average age, above his daily behavior; in play it is as though he were a head taller than himself. As in the focus of a magnifying glass, play contains all the developmental tendencies in a condensed form, and is itself a major source of development" (Vygotsky, 1978, p. 102). In producing other

people's texts "as if" they were their own, children may be able to operate as novelists, poets, and scientists. In doing so, they may be displaying knowledge and discourse strategies relevant to different texts and text-forming possibilities over which they will soon have much more cognitive control. In relation to this point, we may be wise to question the insistence of some teachers and language arts programs that children be discouraged from just imitating well known cultural artifacts and that they always strive to be creative. The paths from (and perhaps back to) concrete exemplar-based thinking to critical thinking, originality, and creativity may be many and diverse.

A final conclusion that may be drawn from this study is that children seem to have trouble moving between concrete exemplar-based knowledge and discourse strategies and more abstract schematic ones. Recall that most texts with the lowest prototypicality scores and the lowest rhetorical effectiveness scores were also texts that were grounded in a combination of exemplar-based and schema-based knowledge and discourse strategies. This conclusion suggests the potential usefulness of instructional activities that scaffold the movement between these two kinds of knowledge and strategies. But such scaffolding probably ought to be gentle, flexible, open-minded, and open-ended. There are several reasons for this caveat. First, results from the study suggest that, for some children at some times, concrete exemplar-based knowledge and discourse strategies may play important developmental functions, especially in the early stages of learning about the rhetorical forms of different genres. Thus, we would want always to pay close attention to the children we teach and study for cues about the appropriateness and utility of particular instructional activities. Second, whether the ontogenesis of genre understanding and use proceeds more or less linearly from a dependence on more concrete to more abstract knowledge structures and discourse strategies remains an open question. Therefore, it would be wrong to assume a unidirectional development trajectory in planning instructional activities. Related to this point, we would want to think about multiple and multi-directional ways to scaffold the integration of more exemplar-based and more schema-based knowledge and discourse strategies. Third, there may be considerable differences in the development of genre knowledge and discourse strategies both across children and across genres. So, we would want to create open-ended instructional activities



that allow us to learn as much about children's development and learning as the children learn about different genres and genre conventions.

All of these conclusions, implications, and speculations suggest that charting the ontogenesis of genre understanding in young children is an important research frontier in the field of early literacy development. Surprisingly, we know very little about discursive and cultural dimensions of writing development such as genre. Yet genre-specific communicative competence is critically important for children's long-term success vis à vis the kinds of tasks that they will be expected to do as they progress through the grades and move into the work place. Greater understanding of the development of genre knowledge in young children should help us to design classroom activities that enhance both children's developing communicative competence and our ability to be instrumental in the process.

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Table 1

Relationships between Prototypicality and Exemplar-based Texts versus Schema-based Texts versus Exemplar/Schema Hybrids and Between Rhetorical Effectiveness and Exemplar-based Texts versus Schema-based Texts versus Exemplar/Schema Hybrids

	Stories	Poems	Science Reports
High or Low Prototypicality By Exemplar-Based, Schema-Based, or Exemplar/Schema Hybrid	$\chi^2 (1, N = 54) = 8.07$ $p < .02$	$\chi^2 (1, N = 54) = 9.70$ $p < .008$	$\chi^2 (1, N = 54) = 10.14$ $p < .007$
High or Low Rhetorical Effectiveness By Exemplar-Based, Schema-Based, or Exemplar/Schema Hybrid	$\chi^2 (1, N = 54) = 9.54$ $p < .009$	$\chi^2 (1, N = 54) = 9.44$ $p < .009$	$\chi^2 (1, N = 54) = 6.71$ $p < .04$

Figure 1\*

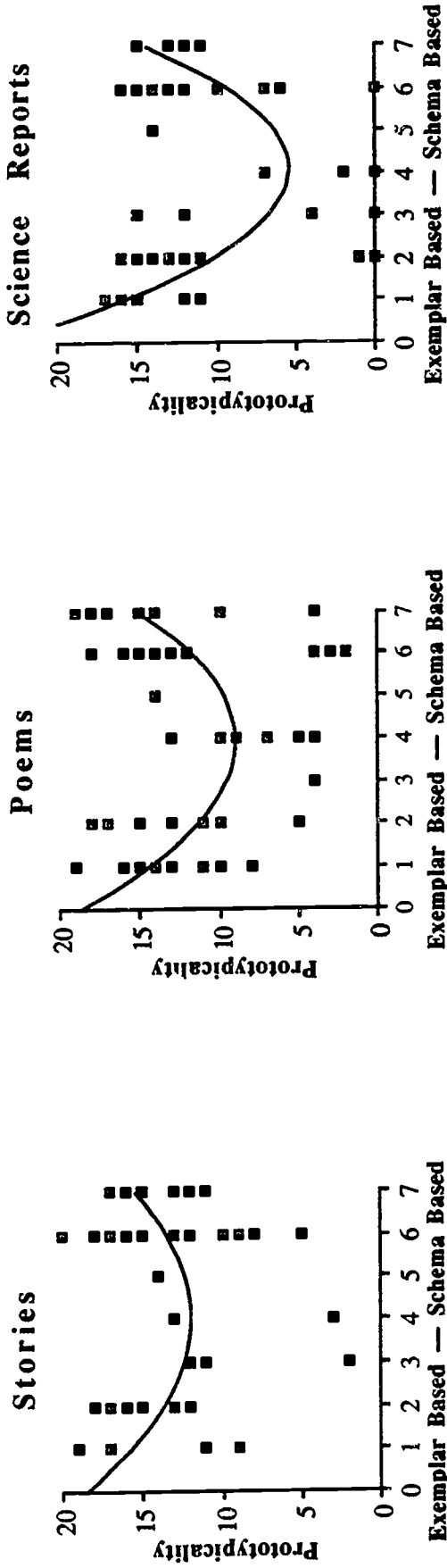
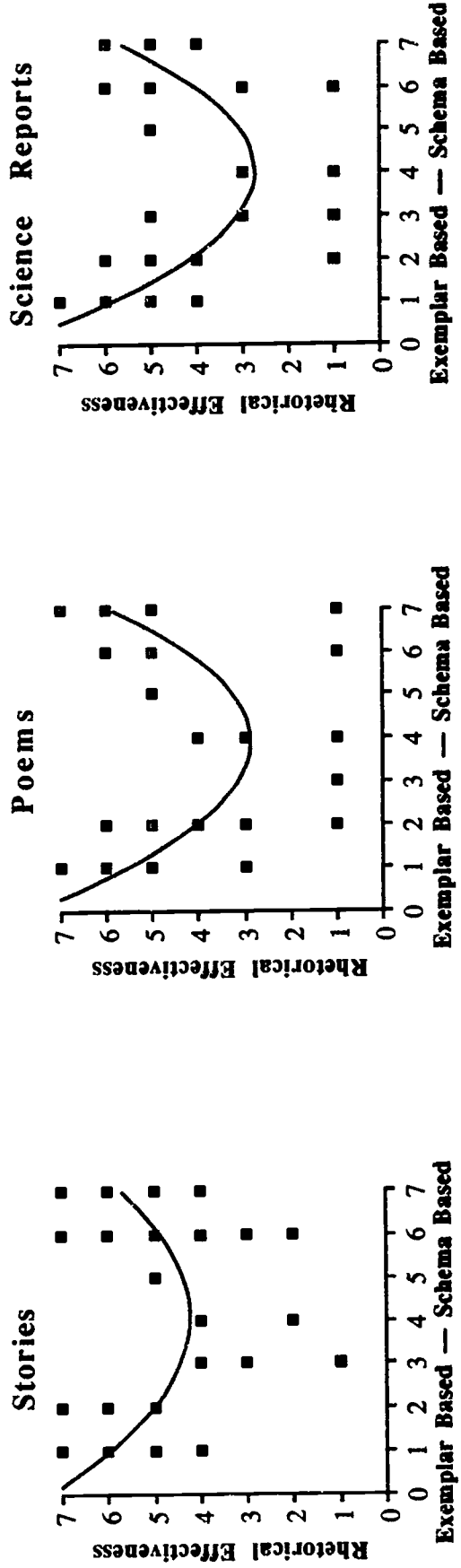


Figure 2\*



\*Not all data points are visible because those with identical coordinates are superimposed.

Figure Captions

Figure 1. Relationship between prototypicality and relative dependence on exemplar-based and schema-based knowledge and discourse strategies.

Figure 2. Relationship between rhetorical effectiveness and relative dependence on exemplar-based and schema-based knowledge and discourse strategies.