The Development of Poetic Literacy during the School Years

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Abstract
There is growing consensus that, for trained readers, poetic-text processing involves a genre decision that triggers genre-based conventional expectations and directs attention to the textual devices. The present research examines how students recognize and process texts in poetic versus prose form, at different points during their literary education. The study compared 48 students, 16 in each of grades 4, 8 and 12 as they thought aloud when reading poems in the graphic shape of poetry as well as prose. Results showed that the 4th graders did not yet categorize a poem as a poem. The 8th graders made significantly more poetic-genre categorizations than the 4th graders, but only the 12th graders spent more time processing the texts in poetic form than prose, thinking aloud about their genre-based expectations and the textual devices. Developing the structure of knowledge needed for poetic literacy seems to require a long process of formal literary education.
For more than two decades, research on poetry was dominated by the often-bitter debate between the conventionalist stance that genre-related conventional expectations direct the reader to generate meanings (Culler, 1976; Fish, 1980; Schmidt, 1989) and the formalists, with their assumption that poetic interpretation is driven by the intrinsic textual features of a poem (Jakobson, 1987; Mukarovsky, 1964; Shklovsky, 1965). There is now evidence that poetic processing is both reader-driven and text-driven (Hanauer, 1998a, 1998b). Based on this evidence, Hanauer (2001) has hypothesized that readers, initially influenced mostly by the typographic features of the text, make a genre decision which in turn activates genre-based conventional expectations and directs attention to the textual devices (such as wordplay, rhythm or figures of speech) intrinsic to the particular text.

Reader-driven processes have been delineated by Culler (1976, 1994) in particular. He has proposed various genre-related conventions expected by the knowledgeable reader of poetry. These include the “rule of significance,” which is the expectation that the poem should be read as expressing a significant attitude to an issue that concerns humanity and/or one’s relation to the universe; the expectation that there should be “symbolic extrapolation”; “the convention of thematic unity” whereby all parts of the poem relate to create a unified whole; as well as readers’ anticipation that poetry, unlike prose, must “resist automatic understanding.”

With regard to the text-driven processes, literary theorists argue that it is textual features that differentiate literary from non-literary texts: For Shklovsky (1965) the defining characteristic of literary works involved the concept of “defamiliarization” whereby textual features or devices make the familiar “strange.” These unusual textual features call attention to themselves and force the reader to focus on the form or surface structure of the text rather than its content. Textual devices, often referred to as “foregrounding” or “foregrounding devices” Hakemulder, 2004; Mukarovsky, 1964; van Peer, 1986; van Peer & Hakemulder, 2006), have been seen broadly as either those of deviation, such as unusual word order and various tropes; or parallelism that claims attention through recurrence of similar features (e.g., assonance, repetition, and alliteration) or opposite features (e.g., binary oppositions). Textual devices might be present to some extent in other genres, such as advertisements or jokes or sermons, but is the dominant function of language in literature and most especially, in the language of poetry (Jakobson, 1960).

Although there is growing consensus that poetic-text processing involves genre recognition that triggers genre-related expectations and attention to textual devices (Hanauer, 2001; Carminati, Stabler, Roberts & Fischer, 2006), Hanauer has theorized that this might only apply to trained readers. We do not yet know how this process emerges through the years that students are experiencing formal literary instruction. Even if school students do categorize a text as a poem, will this generate the conventional expectations associated with poetry, as outlined by Culler, and will students’ attention be directed to the textual devices in the texts? Studies across diverse disciplines suggest that the development of expertise involves the gradual build-up of a cohesive semantic network of concepts over a long period of deliberate practice (e.g., Ericsson, 2002; Sternberg & Horvath, 1995). In the following section a model of the development of poetic literacy will be outlined based on research on expertise, and framed by Hanauer’s (1999; 2007) theories about the acquisition of literary knowledge.

A Model of the Development of Knowledge in Poetic-Text Processing

Experts’ integrated network of representations, with their many strong links within and between them, allow the reader to see large and meaningful patterns (e.g., Bereiter & Scardamalia, 1993; Chi et al., 1988). For instance, in a study on expertise when reading very difficult period poetry (Peskin, 1998), one of the experts, an English PhD student, used such patterns which then directed what she noticed in the text: Noting that the poem (presented
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without the poet’s name) had “words like Manna, so it’s going to have a religious meaning,” she contextualized the poem as “Metaphysical” and commented, "I’m seeing an imaginary transparency (over the poem) which has Donne’s name at the bottom with notes in the margin" (pp. 243). This expert’s deep structure of knowledge provided a frame of reference that directed her attention.

For Hanauer (1999; 2007) this selective attention is central to literary processing and involves alertness, orientation and a conscious attempt at detection, its role being to select specific stimuli from the text being read. Some of the experts in Peskin’s study (1998) explicitly stated that they were engaged in selective attention, e.g., “I’m scanning up and down looking for words that sort of pop off the page. Manna... Orient…Coy…Is there a pattern?” (p. 249).

The above examples illustrate PhD students’ semantic network of representations when categorizing a poem in terms of historical period and/or author (Peskin, 1998), but the process by which categorization triggers interpretive schema applies also to readers’ categorization of a text as a poem, albeit too automatic for these experts’ conscious articulation. As hypothesized by Hanauer (2001) this recognition of a poem triggers genre-based expectations and observations of textual devices. A model of an expert readers’ structure of knowledge can be seen in Stage 4 of Figure 1. The initial representation is that of genre recognition, that is, the categorization of a text - with typographical and possibly linguistic characteristics of a poem - as a poem. This triggers a cohesive semantic network of representations. Firstly, there are conventions according to which both the reader and the author expect the genre of poetry to be read, and which require the reader to impose certain types of processing on the text. Secondly, trained readers have explicit representations of formal textual devices that might be foregrounded in any particular poem, for example, repetitions, alliteration and metaphoric language. Thirdly, the poetry reader also has an interrelated semantic network of representations based on historical periods and authors (Peskin, 1998) as demonstrated by the example of a poem being categorized as Metaphysical.

In addition to knowledge related to the poetic genre, the model incorporates world knowledge triggered by the literal words of the text. This would be similar to what Kintsch (1998) refers to as the action sequence level in literary reading. It can also be seen as little more than a paraphrase of the literal content with some inferences based on the reader’s real-world knowledge. Trained readers, however, have represented the convention of resistance to automatic understanding (Culler, 1976), and will expect to produce a multi-leveled or polyvalent interpretation (Schmidt, 1989), integrating their world knowledge representation with their poetic-genre knowledge in complex ways: An alternative symbolic interpretation might arise from the literal meaning, or they might observe how a textual device, part of the surface form, has an effect on the literal content.

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Stage 4 in Figure 1 pertains to English PhD students. Indeed, in Peskin’s (1998) study, while undergraduates in their first two years of studying literature had explicit representations related to the genre-based conventional expectations and to some textual devices, their knowledge of various historical periods was very limited. Various studies have explored the reading of poetry during the undergraduate years (e.g., Eva-Wood, 2004; Kintgen, 1989; Shimron, 1980; Viehoff, 1986), but only a few have examined the knowledge of students during the middle- and high-school years. For example, Harker (1994) found that tenth graders gave essentially prose translations when reading two poems. Similarly, Svensson (1987), focusing on the symbolic strategies of students aged 11, 14 and 18 as they read short poems, found little evidence of symbolic thinking even in the older age groups. This is somewhat perplexing as even
young children are perfectly competent on various measures of metaphoric ability (Winner, McCarthy & Gardner, 1980; Billow, 1975). At a very early age they can observe perceptual similarities, such as “the chimney is a house-hat” (Harris, 1982); by 9 years research using various task factors suggests that they show impressive understanding of figurative modes of thought (Cacciari & Levorato, 1989; Gibbs, 1994; 1996; Pearson, 1990); and at about 11 years they comprehend metaphors based on abstract relations (Billow, 1975; Gentner, 1988). Furthermore, in terms of conceptual metaphors, Johnson (1991) claimed that “metaphorical understanding is so pervasive…that we are virtually unaware either of its existence or of its metaphorical character” (p. 11). Lee (1995) describes how African American adolescents participate routinely in speech events involving “signifying,” a form of social discourse in which the symbolic function of language is manipulated. However, this easy comprehension and production of metaphors in our everyday, oral world is different from the effortful engagement with metaphor in formal literary interpretation. Only after Lee used “signifying” as a scaffold for literary interpretation in an effective intervention study did an academically underachieving set of high school seniors show significant improvement in attending to figurative language in literary narratives. It seems that the processing of metaphor in poems or narratives is an intentionally selected and effortful literary strategy as these texts frequently can be understood at the literal level without readers being aware that there is a metaphor at work (Gibbs, 1996; Steen, 1989).

Formal analysis of literary works is one of the goals and hallmarks of a secondary school education. What is the process by which students become familiar with these institutions of literature that guide our reading, and which are most prominent in the reading of poetry? I have drawn a possible hypothetical model of the stages involved in the development of poetic literacy in Figure 1. The first part depicts a stage in which students might not yet have conscious access to a representation of the text as part of the poetic genre. At this stage, understanding would incorporate only the reader’s real-world knowledge. The text would be read only in terms of its action or content or what it actually says or implies about the world. In stage 2 students are able to report on a genre decision. They might recognize a poem as a poem but this does not yet trigger any formal interpretive processing. In stage 3 there is both genre categorization as well as evidence of interpretive knowledge related to the reader’s conventional expectations and the textual devices intrinsic to particular poems. Stage 4 is that of the expert reader.

The aim of the present study is to examine systematic changes in what school students attend to and process when reading poetic texts in terms of stages 1 to 3 of the above model. As the interest is in the transition to formal analysis of poetic texts, three age groups will be sampled over the age spectrum in which students experience instruction in poetic literacy: students at the beginning of Grade 4 which, at the schools tested, was the first year in which there was a formal poetry curriculum; Grade 12, the final year of school; and Grade 8, the middle year.

With regard to the 4th graders, might these students who are at the beginning of formal poetry instruction not even make a genre decision? They may still be at Stage 1 in the model with no recognition of the kinds of features that older students use to recognize and categorize a poem, in particular, the typographic arrangement or layout (Culler, 1976; Hanauer, 1998). Books for young children often involve rhyming text and other poetic devices and little differentiation is made between such poetic or prose texts. However, a study on 10 Kindergarten through 4th grade teachers (Elster & Hanauer, 2002) found significant differences between how teachers share poems versus stories with very young children. Poem reading, as distinct from stories, involved multiple readings of each text; active participation by the children in reading along which means experience observing the graphic layout of a poem; and discussions that sometimes drew children’s attention to the linguistic features of the poems. This suggests Stage 2 of the model.
With regard to the 8th graders we might expect that after a few years of formal literary training, students will have absorbed at least some of the genre-related conventions and become aware of some textual devices used in our literary community. On the other hand, the development of expertise in diverse areas has been shown to be a slow process, and it might take many years of formal literary instruction before students’ structure of knowledge is developed enough for even the beginning of formal analysis.

The mental representation of genres plays a pivotal role in the cognitive processing of texts (Beebee, 1994; Kress, 1999), and the study therefore uses the well-known paradigm of presenting students with poems in their original form as well as in the shape of prose texts. In this way the study will be able to determine what students do at various points through the school years when they recognize a text as a poem which they might not do when reading a prose text. It must be noted, however, that in prose form the texts might be identified as either a passage from a newspaper or possibly a few lines from a narrative text, and that a novelist frequently uses textual devices. Even occasional passages from a newspaper might have “literary” features, and so the comparison with a poem is rather one of degree and density: As Jakobson notes, a poem is not the only genre where poetic effects such as parallelism or symbolism make themselves felt, however, it is the genre where the poetic function “changes from latent to patent and manifests itself most palpably and intensely” (1960, p. 373). Because the poetic function is so dominant in poetry, one would expect readers to spend more time thinking about the conventional expectations and attending to the textual devices if a text is identified as a poem than if a text was identified as prose, even if literary prose.

In addition to examining developing genre knowledge, the study will investigate whether there are any age-related changes in students’ literary experiencing of the texts, for instance in their enjoyment and in the emotions engendered while reading the works. Previous research has shown that textual devices positively correlate not only with increased reading time but with reported affect (Miall & Kuiken, 1994), and the present study will examine whether there might be age-related differences in students’ literary reading experience.

Research Questions
1. How do students recognize and process texts in poetic form as distinct from texts in prose form, at different points during their formal poetry training?
   Based on stages 1 – 3 in the hypothesized model this question will be addressed through several more specific questions:
   Compared to students’ readings of the same texts in prose form, are there systematic changes in
   1(a) students’ recognition of the genre of poetry?
   1(b) students’ awareness of the conventional expectations associated with poetry?
   1(c) students’ observation of the textual devices used in poetry?

2. Will students spend more time processing the texts in poetic form than prose form and will this be different at various ages?

3. Through the school years are there changes in the literary experience when reading poetry as compared to prose texts?
   It was predicted that, although the 4th graders were only just beginning formal instruction, after informal experiences reading poetry in the early grades (Elster & Hanauer, 2002) they would be able to recognize a text in poetic form as a poem. They would not, however, have knowledge of the conventional expectations or textual devices and therefore, would not spend any more time on the texts in poetic form than the prose texts. As the 8th graders would have had at least 4 years of formal poetry instruction it was predicted that they would display greater knowledge of the expectations and/or textual devices than the 4th graders and would also,
therefore, spend more time processing the texts in poetic form than in prose form. The 12th graders, with 8 years of training were expected to verbalize significantly more conventional expectations and observations of textual devices and were expected to spend longer processing the texts than the 8th graders. This would place the 12th graders clearly in Stage 3 of the model, the 8th graders at the beginning of stage 3, and the 4th graders in Stage 2.

Methodology

Participants

There were 48 participants altogether, 16 participants in grade 4, aged 9 to 10 years (9 females and 7 males); 16 in grade 8, aged 13 to 14 years (7 females and 9 males) and 16 in grade 12, aged 17 to 18 years (7 females and 9 males). Students were mostly from middle-class and upper middle-class backgrounds and those Grade 4s with reading difficulties were excluded.

As it was important to ascertain the level of instruction to which the students had been exposed and a pilot study found that self reports of previous instruction were most unreliable, it was decided to test students at two private schools (one for boys and one for girls) both of which had an explicit, detailed poetry curriculum, students ranging from grades 4 to 12, and extremely low student attrition rates so that almost all students had experienced this prescribed curriculum.

Discussions with the teachers as well as examination of the curricular documents adhered to at each school revealed clearly stated expectations and adherence to the curriculum. For instance, each year from grades 4 to 8 in one of the schools, the curriculum clearly stated, “Recognize and understand figurative language (e.g. similes, metaphors, alliteration, idioms, etc),” and “Use specific vocabulary to comment on and analyze poetry (line, couplet, stanza, rhyme scheme, etc).” Even the conventional expectations associated with the poetic genre were clearly delineated in the curriculum: “Show awareness that poems have layers of meaning and that they need to be read and reread, and questioned and reflected on to yield their meaning,” and “Be aware that poems are open to a range of interpretations.” In the second school the curriculum was as specific. For instance, in grade 6 a list of poetic elements such as “rhyme scheme, rhythm, simile and metaphor” were “to be covered in the first quiz” with a note that “iambic pentameter needs an individual lesson.” The second list “to be covered in the second quiz” included “symbol, imagery, alliteration, personification, repetition, oxymoron, hyperbole, onomatopoeia, and extended metaphor.” Examination of the curricular documents at the two schools for students post grade 8 reveals a new set of elements. In grade 9, for instance, students were required not only to identify poetic devices, but also to examine their “effects,” connecting “form and content”; and in grade 10 students were expected to provide “an individual close-textual analysis of a given poem.”

Grade 4 students were tested in October as they were about to begin formal poetry instruction. The 8th and 12th graders were tested in November and December and had experienced at least 4 and 8 years respectively of the above-stated poetry curriculum.

Materials

Two poems were chosen, one by William Carlos Williams and one by Robert Creeley. Both poems could also be read as prose passages. In addition to these two authentic poems, as Culler (1994) had hypothesized that even a one-sentence “statement” shaped as a poem would trigger genre-based conventional expectations and interpretive operations, the present researcher composed two texts that were essentially prose sentences. These sentences were based on Culler’s (1994) one-line example, “Yesterday I/ Went into town and bought/ A lamp” (p. 290), but were slightly longer, and pilot testing showed them to be plausible when also shaped as a poem. The eight texts, four in poetic- and four in prose-form can be seen in Appendix A. A grade 4 teacher judged that the language used in all texts would be understood by the 9- to 10-year-olds.
Procedure

“Think aloud” methodology (Ericsson & Simon, 1993) was used as it is conducive to tapping the vast amount of knowledge that the reader brings to the reading of literature. Sainsbury (2003) and Gu, Hu and Zhang (2005) used this methodology successfully with young children, and Robinson (2001) assessed the validity of this method in a developmental study in grades 1, 3 and 5 and found few effects on task performance. Participants were given the following instructions:

"I’d like you to think aloud as you try and make sense of each of these texts. Say everything that you are thinking. It’s just as if you are ‘turning up the volume’ on your associations, inferences, your struggles to understand, or any minor thoughts as they flit through your mind. Don’t censor anything even if it seems silly. Take as long as you want and tell me when you are finished."

Following Ericsson and Simon's (1993) conclusion that subjects do not require training to think aloud but need reminders during the process, the subjects began immediately, but if the subject paused for more than three or four seconds the experimenter provided prompts such as, “Remember to think aloud.”

An additional measure to assess whether students would expend more effort processing a text when presented in poetic than prose form, was the amount of time spent thinking aloud about a text. For ecological validity each text was presented on a separate page rather than on a computer screen. The pages were stapled together and the subject told to turn over a page only when instructed. The experimenter, sitting to the side of the subject, unobtrusively began timing when each page was turned over, and stopped timing when the subject announced completion.

As reading poetry is personal and idiosyncratic, to rule out the confound of content (Many, 1991; Purves, 1975) subjects were given both the prose and poetic form of each of the texts. However, there was a concern that reading a prose text before its poetic counterpart might facilitate recognition of poetic genre, particularly for the younger students. The order was therefore counterbalanced so that half of the students read all four texts in prose form first, and half read all four texts in poetic form first.

To measure age differences in literary experiencing, after students had completed their readings of all eight texts they were asked to glance through each text again and rate them on Likert-type scales adapted from Levorato and Nemesio (2005) and Hilscher and Cupchik (2005). The first item required participants to “Rate your enjoyment of this reading on a scale from 1-10, 10 being 'I greatly enjoyed reading this' and 1 being 'I did not enjoy this' and tell me why you gave it that rating.” The next items assessed emotion (“whether you felt any emotion when reading the passage”), imagery (“whether reading the passage made you create images or pictures in your mind”) and difficulty (“how easy or difficult you found the passage”). A visual representation of the scales was provided.

Coding

To answer the three parts of Research Question 1, protocols were segmented into units typically associated with the T-unit, defined as a single clause plus any subordinate clause attached to it or embedded within it (Hunt, 1977; Langer, 1986; McKeough, 2000).

With regard to recognition of the genre of poetry, initial examination of transcripts suggested that some students thought aloud about the typographic arrangement of sentences broken into short lines and stanza structure (Kamberelis, 1999), but did not explicitly verbalize that it was a poem. Others explicitly categorized the text as a poem without verbalizing typographical observations, and a few did both. The coding for Research Question 1(a) was therefore divided into two subparts: observation of typographical features and categorization of
Establishing a coding scheme for students’ awareness of conventional expectations was more difficult. Initially the transcripts were read for evidence of three conventions proposed by Culler (1976, 1994) and used as a point of departure in a study on poetic meaning by Svensson (1987) and later operationalized in a think aloud study (Peskin, 1998): Evidence for the Rule of Significance included either a comment that the reader was expecting the poem to be making a “point,” that is, a metacomment about trying to grant the poem importance, even if the actual point was not verbalized; or the reader actually coming up with something significant that the poem might be stating about man’s relation to the universe or about the human condition. Evidence for the convention of Symbolic Extrapolation were comments showing an expectation that poetry often calls for a strategy of metaphoric processing (Gibbs, 1996; Steen, 1994). Perhaps because these poems were short and could be simply paraphrased, there appeared to be no metacomments about the third convention, Thematic Unity, and as it was difficult to objectively determine whether students had this explicit representation it was excluded from the coding scheme. However, it was noticed in the pilot study that students made frequent metacomments - revealing a clear expectation - that a poem should Resist Automatic Understanding (Culler, 1976) and this convention was then included. Schmidt’s (1989) “Polyvalence” convention, as opposed to the “Monovalence” convention in non-literary reading, is similar to Culler’s convention that poetry resists automatic understanding, and Steen and Schram (1996) operationalized polyvalence as the reader appearing to verbalize two competing representations. However, this was problematic in that it is difficult to separate an alternative representation from a mere elaboration. It was, therefore, decided only to count metacomments showing that the reader expected to represent the poem in different and/or more complex ways than the non poetic reading, as in verbalizations that you “can fit (poetry) in different ways” or that the reader should look for “more meaning,” or a “deeper meaning” than may be apparent.

For the next research question, evidence for the recognition of textual devices was obtained by reading through the protocols using a "two-pass" approach similar to Chi (1997). Segments which seemed to allude to foregrounded textual elements were marked. A list was then made of the various types of parallelisms and deviations in the texts. The protocols were reread and the previously marked parts were categorized according to the list. Students alluded to only five categories: repetition, alliteration, binary oppositions, metaphoric language, and a broad category of verbalizations about particular graphic deviations, such as the effects on sound of an unusual breakup of a word across two stanzas, or the effect of placing two words on their own line. Although most of the comments on textual devices elaborated on the aesthetic effect of the feature, mere observations of a device, such as noting alliteration, were included in the frequency tallies. An exception was made for verbalizations about graphic deviations. For this category the actual effect of the specific deviation was required in order to distinguish such comments from participants’ general comments on the typographical layout relevant in genre recognition.

When the coding scheme had been established, two coders rated 25% of the protocols. Discrepancies were resolved in discussion with the primary investigator, and noted on the coding scheme. The remaining 75% were then coded accordingly by both coders. At this stage the agreement rate was 82%. Inconsistencies were again resolved in discussion and all protocols re-examined to ensure that coding conformed to these agreed-upon guidelines.

The number of think-aloud units coded in each category was tallied. If the same idea was repeated in more than one think-aloud unit it was coded as such and only the first instance was counted. For each category each child had a score for each of the 8 texts.

Results
Because of distributional problems nonparametric tests were used for the analyses of all parts of the first research question, and because of the number of tests the .01 alpha level was chosen. As there were no differences between participants’ responses to the two authentic poems and the two made up poems (other than one difference in text enjoyment to be described under Q.3 below), for each category the scores on all four texts in poetic form were summed and compared to the scores on all four texts in prose format.

Research Question (1a): Genre Recognition

Observation of Typographical features

Analysis of typographical features was restricted to the four texts in poetic form, since there were no observations when texts were in prose format. In addition, 4th graders were excluded from the analysis due to zero observations. A Mann-Whitney test was used to compare 8th and 12th graders. Grade 12 students made significantly more observations of typographical features than the grade 8s (U = 57.00, Z = -2.80, p < .007). Evidently, both grade 8 and grade 12 students made more observations of typographical features than grade 4 students although the zero incidence among the 4th graders made statistical testing inappropriate (See Table 2).

Genre categorization

The differences between the grades in terms of number of references to a text in poetic form as a poem, as well as the number of references to a prose text as prose, were compared using the Kruskal-Wallis test and results were highly significant for both poetry (χ² (2, N=48) = 22.14, p < .001) and prose (χ² (2, N=48) = 17.54, p < .001). Follow-up Mann-Whitney tests compared the grades pair-wise. When reading the texts in poetic form 8th graders made significantly more categorizations in terms of genre than the grade 4s (U = 44.00, Z = -3.427, p < .001) but the grade 12s did not make significantly more of such categorizations than the grade 8s. Similarly, when reading the prose versions the 8th graders made significantly more genre categorizations than the 4th graders (U = 44.50, Z = -3.63, p < .001), but there were no significant differences between the grade 8s and 12s. The Wilcoxon paired test showed that students did not categorize the four texts in poetic form any more than the prose texts in terms of genre. Mann-Whitney tests showed no significant order or gender differences for either observation of typographical features or genre categorization.

Research Question (1b): Conventional Expectations

The Wilcoxon paired test showed that students made more comments alluding to their conventional expectations when reading the four texts in poetic form than the prose counterparts (Z = 2.87, p = .004). Separate analyses were carried out comparing the difference in frequency of conventions when reading the four texts in prose versus poetic form within Grade 8 and Grade 12 using the Wilcoxon paired test. Grade 4 was not included since there was zero frequency for prose. The comparison was not significant for the 8th graders, but for the 12th graders there were significantly more allusions to the conventional expectations (Z = 2.88, p = .004) when reading the texts in poetic rather than prose form. Means and SDs can be seen in Table 2.

The differences between the grades on conventional expectations when reading the texts in poetic form were compared using the Kruskal-Wallis test and results were highly significant (χ² (2, N=48) = 30.30, p < .001). Follow-up Mann-Whitney tests compared the grades pair-wise. Grade 12 students had significantly higher scores than both the grade 8s (U = 23.50, Z = 4.12, p < .001) and the grade 4s (U = 11.00, Z = 4.74, p < .001). The difference between the grade 8s and grade 4s was not significant. Analysis of differences between the grades on conventional expectations when reading the texts in prose form was restricted to a comparison of Grades 8 and 12 as there was zero frequency in Grade 4. A Mann-Whitney test showed no significant difference.
With regard to gender and order effects, when reading the texts in poetic form the Mann-Whitney test showed no significant differences. However, when reading the texts in prose format, students made significantly more comments alluding to conventional expectations when they read the four texts in prose format after their poetic counterparts than when they read the four texts in prose form first ($U=195.50$, $Z=2.69$, $p<.01$).

Research Question (1c): Textual Devices

The Wilcoxon paired test showed that participants made more references to textual devices when reading the four texts in poetic form than when reading the prose counterparts ($Z=3.50$, $p<.001$). When frequencies were compared within grades, grade 12 students verbalized significantly more observations when reading the texts in poetic format than the prose versions ($Z=2.94$, $p=.003$), but for the grade 8s, the difference between these formats was not significant. (Grade 4 scores were not compared because of a zero frequency).

The difference between the grades when reading the four texts in poetic form was examined using the Kruskal-Wallis test, and the results were highly significant ($\chi^2(2, N=48)=17.20$, $p<.001$). Follow-up Mann-Whitney tests were used to compare the grades pair-wise. Grade 12 students had significantly higher scores than both the grade 8s ($U=58.00$, $Z=2.83$, $p<.005$) and the grade 4s ($U=43.00$, $Z=3.69$, $p<.001$). The difference between grade 8s and 4s was not significant. Means and SDs can be seen in Table 2.

The Mann-Whitney test showed no significant gender or order differences in number of references to textual devices.

Research Question (2): Processing Time

Time taken by participants to read and think aloud about the four texts in poetic format was summed and compared to the time taken to process all four prose counterparts. A repeated measures ANOVA was performed, with the repeated factor being Format and the grouping factor being Grade. The time variables had good dispersion but were very skewed. Accordingly, analyses were performed on both transformed and untransformed data. Since the results were the same, the analysis of the raw data is presented below. Distributional and equality of variance assumptions of ANOVA were met with the logged version of the data.

The Format by Time interaction was significant ($F(2,45)=15.67$, $p<.001$, partial $\eta^2=.41$). Given the high level of significance and effect size for the interaction, a simple effects analysis was performed. The Format effect was examined within each grade and was not significant for grade 4 or grade 8. The grade 12s, however, spent significantly longer reading the poems in poetic format than the prose counterparts ($p<.001$). The Format main effect was significant ($F(1,45)=16.25$, $p<.001$, partial $\eta^2=.27$), as was Grade ($F(2,45)=10.27$, $p<.001$, partial $\eta^2=.32$). Means and SDs can be seen in Table 3.

Processing time was also compared by gender and by order using t-tests with an alpha of .01, but there were no significant differences.

Research Question (3): Ratings of the Literary Reading Experience

Although participants’ ratings of Enjoyment, Emotions and Imagery were significantly correlated, the rating of Difficulty was not significantly related to the others. These ratings were ordinal but well distributed, and accordingly the decision was made to use ANOVA. The four ratings were entered into a repeated-measures multivariate ANOVA, the repeated factor being Format, and the grouping factor was Grade. The Box M test for equality of covariance matrices was not significant; the multivariate distributional assumptions were met. Multivariately, the Format and Format by Grade effects were significant ($F(4,42)=4.06$, $p=.007$, partial $\eta^2=.28$) and ($F(4,42)=3.29$, $p=.003$, $\eta^2=.24$) respectively, while the Grade effect was not.
Given the significant multivariate interaction, simple effects tests were carried out comparing the format effect within each grade. While the grade 12s enjoyed the texts in poetic format significantly more than the prose counterparts (p<.001), for both grade 8s and 4s there was no difference in the Enjoyment ratings when reading the texts in poetic form versus prose. For Emotion, while the grade 12s gave the texts in poetic form significantly higher ratings (p<.001), there was no difference in the grade 8 ratings, and the grade 4s actually rated the texts in prose form significantly higher (p<.01). For Imagery, again grade 12s gave the texts in poetic form significantly higher ratings (p=.008), but for the grade 8s and 4s there was no significant difference. For Difficulty the format effect was not significant within any grade. Table 3 shows the mean ratings and SDs.

All eight ratings were also compared by gender and by order using t-tests with an alpha of .01. There were no significant differences between participants by order. However, females gave higher ratings for emotion whether the texts were in poetry or prose form. Finally, when ratings of the two made up poems were compared to the two authentic poems, the only significant difference was that participants enjoyed the authentic texts more than the made up texts (F(1,45)=88.09, p<.001, partial $\eta^2 = .66$).

Examples of students’ verbalizations at three different age groups

To illustrate the difference between the poetic processing of students at each of the three age groups, abbreviated examples will be provided, one representative of a 4th grader and one representative of an 8th grader, followed by short extracts illustrating 12th graders’ conventional expectations and observations of textual devices. All extracts are from students’ readings of Robert Creeley’s poem, the first text provided in the Appendix.

After reading the Creeley poem a Grade 4 student thinks aloud:

So…somebody sat down, like it seems like it’s spring or summer, when there’s grass and woodpeckers and stuff. And she sat by it and she disturbed the woodpeckers, two woodpeckers and it looks like the two woodpeckers were very happy and it looks like they were mating or something but she disturbed them. I don’t know why she’s really saying why not, I thought to myself… it’s a nice kind of little paragraph, and you can tell a lot about this thing, this story.

Most of this student’s protocol involves verbalizations about the real-world situation to which the poem refers. She intersperses what is almost a paraphrase of the poem with inferences - based on her world knowledge - about the seasons or the woodpeckers mating. In terms of the research questions, she does not even correctly identify the poetic genre, referring to the poem as a “little paragraph” or “story.”

A representative example from an 8th grader is the following:

…disturbed by my presence, presence, well, why is he there? Why is he watching two woodpeckers and if he’s already disturbed them, why didn’t he leave? Maybe he liked watching things get disturbed – I mean the two woodpeckers. I don’t know what why not means…Maybe underneath the tree is where he likes to sit and think. The one part I don’t understand is why not, I thought to myself, why not …Maybe I’m not seeing the poem right.

This 8th grader shows a more advanced ability to question rather than just paraphrase, but with regard to the research questions in the present study, differs from the 4th grader only in the categorization of the text as a poem. However, at this stage the categorization does not result in any evidence of conventional expectations or observation of textual devices.

For the Grade 12 students there was not only genre categorization but selective attention to the textual devices, in particular, awareness that graphic deviation can have an effect on meaning. For instance, twelfth graders frequently commented on the effect of splitting the word
“dis-/turbed” across two stanzas such as, “The woodpecker is dis-turbed…maybe the poet is indirectly disturbing the reader by cutting the word in half,” or it’s “almost like hiccupping…very fragmented.” Another twelfth grader re-read the first line of Creeley’s poem and thought aloud, “It says, ‘Underneath the tree on some soft grass I sat, I.’ The next ‘I’ starts after that ‘I’ just so you can see the two ‘I’s together…I think the author does want the reader to take note of how it’s broken up, because it is very, very unusually broken up…”

These are examples of what Russian formalists call “disordering the rhythm” (Shklovsky, 1965, p. 24), the kind of intrinsic textual deviation that drives poetic interpretation.

The Grade 12 students also demonstrated many of the conventional expectations, for instance that the poem should be making a significant point concerning the human condition. As one Grade 12 commented when the text was in poetic form:

This sounds like someone…sort of criticizing I guess the way that humans are treating the environment. You know...like I... we shouldn’t be encroaching on nature’s place.

Another thought aloud,

I feel the theme of the poem is something I can relate to myself, and there is some sadness in this: the sense of wanting to belong and…feeling like an outsider in the situation.

A third student commented, “I’m trying to figure out the point…what’s the poet trying to say?…I can’t think of any bright conclusions.” Although he struggles with an interpretation, he clearly demonstrates that he has the expectation that the poet will be making a significant point.

Discussion

Results showed systematic changes in how students in grades 4, 8 and 12 process a text in poetic form compared to prose format. These changes were in accord with the hypothesized model, but not always at the predicted time. Although Grade 4 students have had informal experiences with poetic texts, without formal poetry instruction the students in the present study showed little evidence of genre recognition. They did not appear to have a conscious representation of a text in poetic form, as a “poem” and some of them even incorrectly categorized the poems as prose extracts, such as a “paragraph.” They were at Stage 1 in the model, in that their processing was confined to their real-world knowledge.

By 8th grade there was evidence of genre recognition when reading both the poetic and prose forms, but little evidence of conventional expectations or observations of textual devices. Although the 8th graders had been exposed to four to five more years of formal poetry instruction than the 4th graders, like the 4th graders they spent no more time processing the texts in poetic format than the prose counterparts and commented no more often on the conventional expectations and literary devices. They were essentially at Stage 2 of the model.

Only at the 12th grade in this study was there both genre recognition as well as verbalizations demonstrating conventional expectations related to poetry and the directing of attention at the textual features, as seen in Stage 3 of the model. Furthermore, the 12th graders spent significantly more time processing the texts in poetic form as compared to prose format. Interestingly, it made no difference whether the texts in poetic form were the two authentic poems or merely a prose sentence shaped as a poem. The 12th graders accepted the sentences in poetic form as “poems” and demonstrated the conventional expectations and attention to textual devices (albeit sometimes unintended by this researcher). The only significant difference between the authentic and made up texts was that participants as a whole rated the authentic texts higher in terms of enjoyment.

Hanauer (2001) suggested that, for trained readers, genre recognition triggers conventional expectations and a focus on literary devices. The comparison between the 12th graders’ performance when reading texts in poetic versus prose form is an indirect test of his hypothesis.
Results showed that when reading the texts in poetic format, the grade 12 students thought aloud about the genre-based expectations and textual devices more often than when reading the prose counterparts with their identical wording. This suggests that, for readers at the end of high school, the recognition of a text as a poem did, indeed, call forth interpretive schemas.

The development of expertise involves incremental increases in knowledge that result from the extended effects of time spent in goal-directed deliberate practice guided by a coach or teacher (Ericsson, 2002), and by grade 12, although far from experts, the students in the present study were showing clear evidence of time spent in such “deliberate practice.” However, as in research on the development of expertise in other domains, the present study demonstrates that becoming a trained reader of poetry is a long, slow process.

Karmiloff-Smith’s (1992) notion of representational explication is also helpful in interpreting these results. In this theory implicit representations of knowledge gradually become explicit representations which are accessible to conscious reflection, verbal report and attentional control. For instance, the texts used in the present study could be understood in a literal sense, unless the reader has developed explicit genre-related expectations that poems resist automatic understanding and that exploring metaphoric content enriches reading, as well as knowledge about the kinds of metaphoric patterns frequently encountered in literary texts. Plaut & Karmiloff-Smith’s description of an “increasing capability in using and generating symbolic representations that are sufficiently well elaborated to override the otherwise compelling interpretations generated by direct experience” (1993, p. 70) is relevant to metaphoric processing when reading poetry. This “elaboration” of representations is a very gradual process and teachers of English frequently comment on how difficult it is to engender symbolic interpretations of poetry in their students (personal communication). One teacher noted the difficulty in having his students even accept his symbolic interpretations, for instance, that in Keats’s forlorn poem, La Belle Dame Sans Merci, the final line, “And no birds sing,” might suggest more than just an absence of bird sounds. Although the curricula of the 4th to 8th grade students in the present study emphasized the recognition and understanding of figurative language as well as the awareness that poems have “layers of meaning,” and are “open to a range of interpretations,” there was little evidence of such knowledge in the 8th graders’ interpretations. It will take a few more years of the high school curriculum, where students will examine the “effects” of poetic devices, connect “form and content” and provide “individual close-textual” analyses of a poem, before the representations of poetic conventions and literary devices are explicit enough for the conscious reflection and attentional control required for formal interpretation of poetry.

The development of such literary competence is tied up with the acquisition of societal practices through enculturation (Gee, 2001), and literary education involves guiding students to develop genre-related expectations and attend to the stylistic elements that make up the poetic craft (Langer, 1995). Hanauer (2007) examined the extent to which direct and indirect forms of literary education enhanced the interpretive abilities of 12th graders and found that literary patterns entered the cognitive system more effectively when presented directly, for instance when the teacher provided lists of relevant elements, rather than when teachers merely facilitated small group discussions and personal readings. The participants in the present study were from schools where there was a detailed and demanding curriculum for poetry education. With lists of literary elements to be covered in quizzes, poetry instruction at these schools would be categorized as explicit or direct. Although explicit teaching enhanced the interpretive abilities of the 12th graders in Hanauer’s research (2007), the 8th graders in the present study had been exposed to such formal instruction for more than four years yet their performance was little different from the 4th graders. With regard to educational implications, this suggests that explicit instruction may not
The development of poetic literacy 15

provide notable benefits until at least ninth grade. For younger students an approach that is more reader-centered or “text experiencing” (van Schooten & de Glopper, 2003; van Schooten, de Glopper, & Stoel, 2004), where students spend class time reading poetry for themselves, discussing poetry in small groups, and providing personal reactions, might be more suitable.

With regard to students’ personal responses to the texts, 12th graders enjoyed the poems more than the prose versions and rated them higher on emotion and imagery. Their greater understanding of the culturally attuned conventions and their observation of the textual devices may have contributed to their more positive personal responses to the poetic texts. The 8th graders did not rate the texts in poetic format significantly higher on any of the measures. The 4th graders not only did not rate the poems higher, but actually rated the prose versions higher than the poetic counterparts in terms of emotion engendered. A possible explanation for the grade 4 students feeling more emotion when reading the prose is that these young students may have found the poems more difficult than the prose versions. Table 3 shows that, while not reaching significance, the scores of all the grades when rating the poems were in the direction of greater difficulty than their ratings of the prose passages, and this might have dulled the younger age group’s emotional response to them. Previous studies suggest a possible inhibiting effect that text difficulty has on reading experience (Many, 1991) and evaluation (Dixon & Bortolussi, 2006).

One concern in the present study had been that of order effects. However, while it was anticipated that the younger students would perform at a higher level when receiving the texts in poetic format after the prose counterparts, as they would be alerted to the same words but different typography, the analysis of the poetic versions showed no order effects. The 4th graders rarely commented that these texts were now in poetic form; the 8th graders showed evidence of genre recognition regardless of order, but this did not activate genre-specific processing; and grade 12s made interpretive comments no matter whether the poems were first or last. However, analysis of the prose texts showed that participants who read the prose versions after the poetry, referred to genre-based conventional expectations more often than those who read the prose versions first. This seemed to be because many of the older students who had read the poetic texts first continued to elaborate on, for instance, the significant point the author might be making. There were no other order effects in any of the other analyses.

Another concern was the potential influence of the think-aloud methodology and its interaction with age. Although it has been argued that the think aloud technique provides rich descriptions which are not accessible using other methods (Chamot & El-Dinary, 1999), might the results of the present study reflect developing verbal fluency in addition to developing knowledge about poetry? Indeed, when processing the texts in poetic form the 4th graders’ and 8th graders’ mean word counts were 200 and 270 words respectively, compared to 645 words for the 12th graders. However, similar to the results for processing time, while the 12th graders used a mean of 222 more words when reading the texts in poetic than prose form, the 4th graders used almost the same no of words when processing the poetic and prose texts, and the grade 8s used a mean of 23 fewer words when reading the texts in poetic format.

In addition, a planned measure of validity for the procedure was the obtaining of processing times. Theoretically one would expect students who have explicit representations of knowledge related to the poetic genre, to spend time selectively attending to deviations and parallelisms, thereby engaging in more deliberate and effortful processing of the poetic texts. The 12th graders’ significantly longer processing times on the poetic than the prose texts, and the lack of time differences for the 4th and 8th graders were in line with this expectation and provide further validity for the think aloud methodology.
In summary, this study has shown that there are systematic changes in what students process and attend to when reading a text in poetic versus prose format through the school years, and that these changes seem to involve a long process of formal literary education. Prior to beginning formal poetry instruction, children at the beginning of Grade 4 did not even appear to categorize a poem as a poem. Even after more than 4 years of literary training, 8th graders provided genre categorization, but did not verbalize the conventional expectations and literary devices associated with poetry or spend any more time processing the poem-shaped texts. Only the 12th graders spent significantly longer processing the texts in poetic form than prose, thinking aloud about their expectations, and observing textual devices associated with the genre of poetry.

Fifteen years ago Zwaan (1993) suggested that we examine literary prose rather than poetry because the greater amount of empirical knowledge about prose “means that a cognitive approach to literary prose is more likely to be on solid theoretical and empirical grounds than a study of poetry would be” (p. 5). However, a different approach is to build up our empirical knowledge of poetry interpretation. The present study is a step in this direction.
References


Appendix A

Sets of texts

Text 1: Poem by Robert Creeley

a) Poem form

Underneath the tree on some soft grass I sat, I watched two happy woodpeckers be disturbed by my presence. And why not, I thought to myself, why not.

b) Prose form

Underneath the tree on some soft grass I sat, I watched two happy woodpeckers be disturbed by my presence. And why not, I thought to myself, why not.
Appendix A (continued)

Text 2: Poem by William Carlos Williams

a) Poem form

This is just to say

I have eaten
the plums
that were in
the icebox

and which
you were probably
saving
for breakfast

Forgive me
they were delicious
so sweet
and so cold

b) Prose form

This is just to say I have eaten the plums that were in the icebox and which you were probably saving for breakfast. Forgive me they were delicious, so sweet and so cold.

Appendix A (continued)

Text 3: Made up one-sentence prose text

a) Prose form

Yesterday a drug addict was found in the dark shadows behind the beach homes.

b) Poem form

Yesterday a drug addict
was found in the
dark shadows
behind the beach homes.

Text 4: Made up one-sentence prose text

a) Prose form

The fresh-faced soldier, John Flowers, 25, kissed his newborn daughter goodbye.

b) Poem form

The fresh-faced soldier,
John Flowers
25
kissed
his newborn daughter
goodbye.
Table 1
**Coding Scheme for Research question 1: Students’ 1(a) Genre Recognition; 1(b) Conventional Expectations; and 1(c) Recognition of Textual Devices used in Poetry**

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Description</th>
<th>Subset of Two Illustrative Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(a) Genre Recognition</td>
<td>Comments about the graphic layout of the texts</td>
<td>“The sentences are split up.” “It’s divided into stanzas.”</td>
</tr>
<tr>
<td>Genre Categorization</td>
<td>(i) Poetic form as a poem. (ii) Prose form as prose or specific type of prose.</td>
<td>(i) “I’m assuming that this is a poem.” (ii) “This looks like it could be just a part of an article in the newspaper.”</td>
</tr>
<tr>
<td>1(b) Conventional Expectations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule of Significance</td>
<td>(i) Reader expects poem to make a point. (ii) Reader makes significant point.</td>
<td>(i) “…sort of getting to the root message is not so clear.” (ii) “He’s talking about the environment versus the human race.”</td>
</tr>
<tr>
<td>Symbolic Extrapolation</td>
<td>Reader might need to engage in a strategy of symbolic processing</td>
<td>“…you definitely have to think twice about metaphors and symbolism and all that stuff.” “I’m just going over possible reasons…like could it be symbols?”</td>
</tr>
<tr>
<td>Resists Automatic Understanding</td>
<td>Reader expects to represent poem in different/complex ways</td>
<td>“You can fit (poetry) in different ways” “Ok, it’s open to two suggestions for everything...you can think outside the box.”</td>
</tr>
<tr>
<td>1(c) Textual Devices</td>
<td>A phrase or word that is repeated</td>
<td>“the way she repeats the ‘Why not… Why not?’ it’s like she is trying to show something happened to her and she is upset.” “A few parts are very repetitive, but I don’t find it redundant…it actually emphasizes it.”</td>
</tr>
<tr>
<td>Alliteration</td>
<td>Alliteration</td>
<td>“I like the ‘fresh-faced’ obviously alliteration.” “There’s alliteration – “drugs” and “dark””</td>
</tr>
<tr>
<td>Binary Oppositions</td>
<td>Contrasts or Juxtapositions</td>
<td>“There’s ‘dark shadows’ contrasted with ‘bright beach homes.’” “…evokes a bleak image of somebody dead maybe, something ugly, in a luxurious, pretty setting showing the distinction or contrast.”</td>
</tr>
<tr>
<td>Metaphoric Language</td>
<td>Language which could be taken as metaphoric</td>
<td>“His name, John Flowers...creates like an image of his life being like a flower, it has so much left, like it hasn’t fully bloomed.” “The way the words use ‘dark’…that kind of implies ugliness and maybe evil”</td>
</tr>
<tr>
<td>Graphic Deviations</td>
<td>Graphic deviation and its <em>effect</em> on meaning</td>
<td>“‘John Flowers’ and ‘25’ years is indented… this separation of (his) identity recognizes he’s an individual and part of the army simultaneously.” “The woodpecker is dis-turbed…maybe the poet is indirectly disturbing the reader by cutting the word in half.”</td>
</tr>
</tbody>
</table>
Table 2
Means and Standard Deviations of Genre Recognition (References to Typographic Features and Genre Categorization); References to Conventional Expectations; and References to Textual Devices when Students Read Four Texts in Poetic Form and the Matching Texts in Prose Form

<table>
<thead>
<tr>
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<th>Grade 4</th>
<th>Grade 8</th>
<th>Grade 12</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
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<tr>
<td>Genre Recognition</td>
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<td></td>
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<tr>
<td>Typographical Features</td>
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<tr>
<td>Poetic form</td>
<td>0.00</td>
<td>0.00</td>
<td>0.63</td>
</tr>
<tr>
<td>Prose form</td>
<td>0.00</td>
<td>0.00</td>
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</tr>
<tr>
<td>Genre Categorization</td>
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<tr>
<td>Poetic form</td>
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<td>Conventional Expectations</td>
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<tr>
<td>Poetic form</td>
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<td>0.25</td>
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<td>Prose form</td>
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<td>Textual Devices</td>
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<td>Poetic form</td>
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<td>Prose form</td>
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Table 3
Means and Standard Deviations of Processing Time and of Ratings of Literary Reading Experience when Students Read Four Texts in Poetic form and the Matching Four texts in Prose Form

<table>
<thead>
<tr>
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<th>Grade 4</th>
<th>Grade 8</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Processing Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poetic form</td>
<td>121.81</td>
<td>40.35</td>
<td>136.13</td>
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<tr>
<td>Prose form</td>
<td>111.38</td>
<td>31.90</td>
<td>144.19</td>
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<td>Ratings</td>
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<tr>
<td>Enjoyment</td>
<td></td>
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<tr>
<td>Poetic form</td>
<td>23.06</td>
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<td>26.78</td>
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<td>25.03</td>
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<td>Prose form</td>
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<td>5.74</td>
<td>11.72</td>
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Figure Caption

*Figure 1.* A model of the developing structure of knowledge in poetic-text processing.