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Predictors of Quality Verbal Engagement in Third-Grade Literature Discussions

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Abstract

This study investigates how reading ability and personality traits predict the quality of verbal discussions in peer-led literature circles. Third grade literature discussions were recorded, transcribed, and coded. The coded statements and questions were quantified into a quality of engagement score. Through multiple linear regression, the researcher sought to determine the best predictors of verbal engagement in literature circle discussions. Results indicated that higher reading ability and extroversion along with lack of conscientiousness were significant predictors of quality verbal engagement in literature circle discussions. The researcher suggests that understanding literature circles through a lens of complexity may serve to promote more productive discussions. Finally, implications for instructional design are discussed.

Keywords: Literature Circles, Book Discussions, Personality

Introduction

Literature circles are generally understood as peer-led, student groups reading the same text with an opportunity to discuss content (Daniels, 1994). The goal of literature circles is to enhance the comprehension of text in a motivating and authentic manner (Almasi, 1996). Although there are many forms of literature circles (Almasi, O'Flahavan, & Arya, 2001; Bond, 2001; Brabham & Villaume, 2000; Burns, 1998; Clark, 2009; Daniels, 2002), most versions share some common features. In many cases, the groups are formed based on individual reading preferences. This initial choice of text is a key feature of literature circles that presumably promotes reader engagement (Daniels, 2002; Flowerday, Schraw, & Stevens, 2004; Peralta-Nash & Dutch, 2000). The opportunity to discuss the text is another integral element when implementing literature circles. The discussions provide an avenue for learning through social interaction (Vygotsky, 1978). Beyond these key features of choice and discussion, the forms of literature circles bifurcate and manifest themselves in many different forms.

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Daniels (1994) introduced a version of literature circles that possessed the key features described above, as well as structural roles for discussion. Roles, such as discussion director, word wizard, connector, summarizer, or illustrator were given to students in preparation for the literature discussion. In fact, many interpretations of literature circles, or book clubs, assigned roles to participants (Pearson, 2010; Sandmann & Gruhler, 2007; Tompkins & Tompkins, 2001). In support of this perspective, research indicated that students prefer some sort of preparatory work prior to discussion (Evans, 2002). However, preparatory methods varied in implementation. The structures ranged from rigid roles (Miller, 2002; Tompkins & Tompkins, 2001) to completely open discussion (Li et al., 2007). The differing structures might be attributed to varying teacher philosophies, grade level, student population, goals for literature circles, or a teacher's past experience with literature circles.

Pearson (2010) argued that designating students to roles in literature circles inhibited the discussions. Assigned roles limited the free-flowing aspect of the discussion. Pearson's class of 28 students served as the subjects in a study that used roles for discussion. The teacher implemented literature circles with mini-lessons and assigned roles including discussion director, summarizer, connector, and word wizard. Pearson hoped to see more exploratory talk (Mercer & Wegerif, 1999), but the found the roles to be too restrictive. The goal was to have children elaborate reasoning, use personal anecdotes, and back up their claims with text evidence. However, discourse analysis revealed that students only exhibited these desired behaviors when conversation switched from school discourse to an informal discourse. In other words, when students abided by the structured roles, the discussions were less likely to go beyond the minimum expectation. However, when students abdicated the roles, they were able to discuss freely. Pearson found that the less-structured instances produced more exploratory talk and thinking together. Pearson desired exploratory talk characterized by speculation and conversational tangents over the contrived discussions produced by limiting students to roles. The conversations permeating from restricted discussions were pedantic, contrived, and lacked the motivation originally sought by literature circles. A new direction of literature circles emerged with the aim to deviate from traditional discursive patterns in classrooms between teachers and students (e.g., initiate, respond, evaluate), to preserve the motivational aspect of the activity, and move towards more authentic conversations (Goatley, Brock, & Raphael, 1995).

Although most research agrees on some common tenants of literature circles, such as small groups reading the same text independently with an opportunity to discuss, providing choice, and preparing students for discussions, teachers and researchers are still seeking better ways to implement literature circles. Teachers have varied literature circle designs by delivering mini-lessons, changing preparatory methods, and offering support with conversational discourse. Researchers in turn measured the effectiveness of the new designs, and made practical suggestions to maximize the positive effects of literature circles on student learning. The related research, (Wood et al., 1976) however, indicates that when instructional scaffolding is removed from literature circle discussions, the complexity of the task increased.

In some ways, literature discussions are complex adaptive systems (Holland, 1992) in that the teacher creates a "container" (Eoyang, 1997) in which students are encouraged to discuss the text. Within a container however, chaos ensued because of the discussion's open format (Trygestad, 1997). Chaos was actually desired in discussions because chaos is evident when the unexpected is birthed from an occurrence, much like a fractal (Caine & Caine, 1997). The fractal is constant iterations of itself, but never the same. It starts with a basic configuration, but changes based on the situation. It will never be the same again. A conversation can be understood similarly, in that once it begins, the process is indeterminate, and the paths are

endless. (Boal & Schultz, 2007). Productive conversations are often nonlinear, so teachers and literature circle design should not try to fit a dynamic process into a linear structure (Cziko, 1989) such as providing an order for speaking, or assigned jobs in discussions. In the beginning, conversations may seem disorganized. However, as the discussion moves toward the edge of chaos (Caine & Caine, 1997), it begins to self-organize (Boal & Schultz, 2007). Discussants build off each other's knowledge and contributions to work towards coherence or a better understanding. The experience and interpretations of others can greatly enhance private understandings (Rumelhart, 1994). Conversational variables, such as a simple utterance of a personal connection to text are often unpredictable, but are necessary when engaging in a productive conversation. The product might be intangible; discussants not sure of where they are headed, because their destination is unseen in the beginnings of conversation. The destination might be thought of as resolution. This arrival, in chaos theory, is called emergence—the moment when all of the variables impact each other in a way that something new emerges. It can also be thought of as the "Ah-hah" moment, when disorganization suddenly completes reorganization. Eoyang (1997) argues the nonlinearity and constant bifurcations are additional variables in conversations that serve as the means for a new understanding.

Because literature circles are complex, there is a possibility for off-track discussions. Structure, modeling, scaffolding, and the transfer of learning help keep students focused and provide boundaries for discussion; otherwise, talks of birthday parties, video games, and recess can prevail (Dixon-Krauss, 1996). There is also potential for negative and interactions unrelated to the text (Clarke & Holwadel, 2007). Discussions are social processes, and it is important for literature circle discussions to have social norms, mutual respect, and students should be well versed in collaborative skills (Wiencek & O'Flahavan, 1994). Conversations inevitably go somewhere according to Chaos Theory, however if conversational skills are instilled prior to discussion, the likelihood of the discussion being more productive and positive may increase.

Different academic subjects have varying complexity, and research indicates that language arts' complexity might be due to the ill-structured domain in which it resides. Cognitive flexibility theory (Spiro, Coulson, Feltovich, & Anderson, 1988) posited that in order to understand ill-structured domains such as free-flowing discussions, one could not simply rely on intact schemata to demonstrate advanced knowledge; the learner or discussant must apply various schemata from the self and others, so discussions are inherently complex.

Krol's study (2004) measured the effects of a national cooperative learning initiative in the Netherlands. Up to this point, collaboration was rarely observed in the Dutch classrooms because whole-group teaching dominated. The Krol study measured cognitive development during a math and language arts task. In a pre/post-test design the treatment groups collaborated on a task, and the control completed the task alone. The group that collaborated in math did not perform significantly differently from the independent group according to the post-test. However, there was a high effect size (.70) in the language arts group. The researchers recognized the possibility that more than one interpretation of the selected passage could have accounted for the cognitive restructuring. In such a context, private knowledge was made public, discussed, and internalized again in a different way. The discussion of the reading fell into an ill-structured domain, an instructional activity that lacked structure; therefore, cognitive flexibility was needed (Spiro, Coulson, Feltovich, & Anderson, 1988).

Because literature circles are complex, they must be implemented carefully (Chan, 2010; Clarke & Holwadel, 2007; Day & Ainley, 2008). The instructional design of literature circles has

been researched extensively (Day & Ainley, 2008), but a gap exists in the research when considering group configuration. Researchers (Clarke & Holwadel, 2007) reported that changing pre-teaching methods, instilling positive conversational discourse, and providing a less structured preparation process created a context for discussion and enhanced literature circles. Still, little research exists that considers the intentional placement of students in the groups.

Understanding more about personality factors that influence individual participation in literature circle discussions could provide information to educators on how to organize literature circles for more optimal interaction. The related literature rarely discusses the intrapersonal factors that likely impact the students' social interaction. Intrapersonal factors such as individual leadership qualities have influenced student engagement (Li et al., 2007) and should be considered during social learning situations. Because literature discussions are considered social learning situations, the influences of human factors like personality are worthy of investigation (Chan, 2010).

Over the past century, personality theorists have struggled to create a personality structure that can house all attributes of individuals. Some argued that labeling personality based on a few factors is potentially limiting or reductionistic (Emmerich, 1968). Others believed that the power of language cannot be removed from connotative factors (Dingman, 1989). For example, different cultures and beliefs valued particular descriptors differently, thus self-rating or that of others was influenced by varying negative and positive connotations. Regardless of critique, however, some personality structures remained viable in the 21st century (Goldberg, 1990).

In 1884, Galton estimated that 1,000 adjectives were commonly used to describe people. In 1934, Thurstone empirically shortened the list to 60 adjectives. These adjectives were identified by asking 1,300 people to describe a well-known individual. After the 60 most common adjectives were identified, the researcher utilized multiple factor analyses and found five independent factors. The five factors independently encompassed the 60 adjectives. Goldberg (1990) conducted a similar validation study using over 1,700 trait terms. The research employed five different factor analysis procedures, all of which confirmed the five-factor model.

The Five Factor Model, referred to as the "Big Five", was established by Fiske in 1949 and remains a common measure of personality (Anusic, Shimmack, Pinkus, & Lockwood, 2009). The Big Five personality traits are extroversion, agreeableness, conscientiousness, emotional stability (also referred to as neuroticism), and openness. According to this model, extroverted students were enthusiastic and energetic. Agreeableness was understood as compassion and the ability to cooperate. When a student was efficient and organized, he/she was described as conscientious; therefore, a lack of conscientiousness could be characterized by disorganization, carelessness, and spontaneity. Emotionally stable students were secure and confident. Openness measured a student's propensity to enjoy new experiences or the level of curiosity a student exhibits (Anusic et al., 2009; Barbaranelli, Caprara, Rabasca, & Pastorelli, 2003). These classifications have been used to rate personality in a variety of fields, such as sociology, psychology, marketing, entrepreneurship, and education (GoslingLab, 2012). The model has been studied extensively and has yielded high coefficients (.90) of relatedness across studies (Kaiser, Hunka, & Bianchini, 1971). Other researchers (Norman, 1963; Tupes & Christal, 1992) corroborated Fiske's (1949) original study and personality research contended that no matter how large or broad a personality inventory, the items could be categorized in a few robust factors (Dingman, 1986; Goldberg, 2001).

Although there are other personality models, the Big Five model is the most dominant in personality research (Donnellan, Oswald, Baird, & Lucas, 2006). Attempts have been made to expand the model into six or seven factors, but research (Digman & Inouye, 1986) indicates that five are sufficient. One of the largest collections of child personality data comes from the Hawaiian Islands. It includes 88 teachers' reports on 2,572 elementary students. Using this large data pool, Digman and Inouye (1986) found a weak sixth dimension of creativity, but ultimately contended that five dimensions were sufficient in capturing personality traits. Other research sought to downsize the model into two or three factors (Marsh, Craven, Hinkley, & Debus, 2003; Ng, Cooper, & Chandler, 1998), but again, the model remains a reliable means for measuring personality traits in children and adults (Digman & Inouye, 1986).

Some researchers prefer a shortened assessment rather than asking participants to fill out thick packets to measure personality, especially when the researcher wishes to reduce the burden on the subjects (Muck, Hell, & Gosling, 2007). The Ten Item Personality Inventory (TIPI) (Gosling, Rentfrow, & Swann, 2003; GoslingLab, 2012) is a reliable measure of the Big Five personality factors (Donnellan et al., 2006; Gosling et al., 2003). The brief TIPI can be used when larger assessments might be cumbersome to young students or when time is limited. Research contends that the TIPI is a valid compromise between efficiency and reliability (Jonason, 2011), and is an efficient approximation of larger inventories measuring the Big Five character traits. (Muck et al., 2007).

Although the TIPI has never been used with young children in published research, other brief measures of the Big Five have been validated with children as young as five. Measelle, John, Ablow, Cowan, & Cowan, (2005) assessed 91 children ages five to seven and claim that children as young as five can self-report measures of personality. Children rated themselves on a brief measure of the Big Five while parents and teachers served as external raters. The children's self-reports were compared to the external ratings provided by the parents and teachers. The results include a correlation coefficient of .60. Therefore, it is reasonably safe to assume that children beyond the age of five years are aware of and can reliably report their personality traits through brief measures.

Other assessments of the Big Five have been used to study other phenomena in young children. In a study (Jensen-Campbell et al., 2002) of middle school children, two of the Big Five personality factors: extraversion and agreeableness predicted acceptance among peers in middle school. In addition, higher ratings of agreeableness also predicted that students were less likely to be victimized. Another study (Lay, Kovacs, & Danto, 1998) using the Big Five inventory correlated procrastination and lack of conscientiousness among 280 students in grades 3-5. The study utilized teacher reports of students and students' self-report data. The researchers were able to reliably predict higher observed procrastination in students who lacked conscientiousness (Lay, Kovacs, & Danto, 1998). Beyond the import of such studies, this research reiterates the ability of children to self-report measures of personality, as the personality reports were consistent among the students and teachers.

It is important to consider group configuration and monitor the interaction of students in literature circles because the interactional dynamics of the groups change when a teacher is removed. In a study involving 29 ethnically and socioeconomically diverse third graders, Maloch (2002) noted difficulty when transitioning from teacher-led to peer-led discussions. As cited previously, Maloch studied third graders for five months as they transitioned from teacher-led to peer-led literature circles, and she found the peer-interactional component of literature circles problematic. Students responded positively to teacher's scaffolding of conversations through facilitation and mediation, yet some students struggled in the

absence of the teacher. Students were off task, negative, and were less likely to discuss the text deeply. However, in other studies, when teachers did not intervene, students were observed assuming leadership roles (Li et al., 2007). Students interact differently in peer-led discussions, but the interactions are not always for the better (Clarke & Holwadel, 2007). The challenge includes identifying the students who might emerge as leaders and who might facilitate the discussions. Such students might facilitate the social construction of knowledge and groups can be configured accordingly. One might also speculate whether certain combinations of personality traits or ability are less likely to develop students' thinking about text. Examining factors that may predict strong verbal engagement may help extend the extant research related to literature circle implementation. In other words, perhaps text choice and reading ability should not be the only criteria that teachers use to determine the configuration of literature circles.

Teachers often spend a large amount of time preparing students for literature circles, and typically the instructional activity is used throughout the year (Miller, 2002); therefore, it is not unreasonable to utilize personality inventories as an additional consideration when grouping students. It is also helpful to consider whether highly engaged students facilitate the participation and understanding of other students during literature circle discussions. If literature circles are to be maximized, then discussions should be analyzed for quality of individual participation and whether students enhance the quality of the conversation or the depth of textual understanding. If students are leading one another to deeper textual understanding, perhaps the facilitative behaviors can be identified and taught to all students. Investigating student facilitation and group configuration of literature circle groups aligns with the belief that instruction should be effective and efficient (Mohr, Dixon, & Young, 2012). The current study aims to answer the following question: To what extent did personality factors, reading proficiency, and gender explain the quality of verbal engagement in literature circle discussions?

Method

This research was conducted in a suburban school district in the southwest. The elementary school is located in a middle class neighborhood serving 18% economically disadvantaged students. Student demographics in the school are 58% white (non-Hispanic), 19% Hispanic, 14% black (non-Hispanic), 8% Asian/Pacific Islander, and <1% Native.

The research participants were students in the first author's third grade class. All students were invited to participate in the research. In the end, a total of 27 students consented to the study, but only 25 were included in the analysis due to attrition. There were 10 females, and 17 males, none of which were identified as English language learners.

The students were given three choices of books to read. Students were called up strategically, as the choices varied slightly with ability levels. Student reading levels were based on their Developmental Reading Assessment (DRA; Beaver, 1991) scores in conjunction with current running records and MAP percentile scores. The books were leveled based on the Fountas and Pinnell system (Pinnell & Fountas, 2007). The book readabilities ranged from end of second grade level to beginning of fifth grade. Students were allowed to read the backs of the novels, thumb through them, and skim the pages to determine their interest level. Although the teacher controlled student choice by students' zone of proximal development, student interest was responsible for group formation. See table 1 for group descriptions.

Table 1. *Literature Circle Groups*

Group	Text DRA Level	Males	Females
Dinosaurs Before Dark (1)	28	1	2
They Came from Center Field	40	3	2
Dinosaurs Before Dark (2)	28	3	0
Holes (1)	50	2	1
Chocolate Touch	30	2	3
Dinosaurs Before Dark (3)	28	4	1
Holes (2)	50	2	1

Assessing Quality of Verbal Engagement

Students engaged in literature circles every day for 35 minutes—30 for reading, and five for discussion. Students typically read one chapter per day. Some groups decided to read more because their book contained shorter chapters. After completing their reading, they read independently until it was time to discuss. This gave groups with longer chapters, or slower paced readers, time to complete their reading before the discussion. After 30 minutes, students convened in their groups and discussed for approximately five minutes.

The primary researcher filmed each group twice, thus collecting seven to ten minutes of discussion for each group. The students were not told when their groups were to be filmed, as the teacher simply followed a rotation schedule. Some days were skipped due to student absences, school wide functions, or early release. The researcher followed a filming schedule created with the participating classroom teacher. The goal was to film video-record discussions that occurred during the beginning and the end of the text because the content of discussions varies at different times in the book. For example, a discussion at the beginning of the book might focus on character analysis as readers get to know the characters. However, a discussion at the end of the book may focus more on the plot. In the end, the researchers analyzed a total of 27 minutes. The researcher then transcribed the video.

In order to render a quality of engagement score, the transcribed discussions were coded based on the quality of student contributions (see Table 2). The quality score assignment was based on the three-story intellect (Costa & Kallick, 2000). Statements and questions were awarded 1, 2, or 3 points based on students' contributions. The first level is an input level that focuses on recall of text information. Some examples of level-one contributions include: recall, describe, name, or identify. The next level, processing, required higher-level thought from the reader. The reader was required to summarize, compare, sequence, infer, or analyze. The third level required output. Some examples of this level included: evaluating, speculating, predicting, generalizing, or judging. The researcher coded all utterances, such as statements that evidence higher-level thinking. In addition, students' questions were coded according to the elicited cognitive processes. For example, if a student asked, "What do you think the character will do next?", then a score of 3 was assigned because the question expected a prediction. Although the student was not making a prediction himself, he was using higher-level questioning to extend the discussion (Figure 1). Moreover, some may argue that predicting is a form of inferring, and this research agrees with the argument. However, when students infer to predict, the students enter the hypothetical realm associated with the third level intellect. All discrepancies were scored in favor of the student. For example, a prediction (level 3) was also considered an inference (level 2); however, a score of 3 was assigned because the student hypothesized based on their inference. The

scores were totaled into a Quality of Verbal Engagement (QVE) score. Finally, a graduate student coded a percentage of the statements to determine inter-rater reliability.

Table 2. *Discourse Coding Scheme*

Score	Level	Descriptors
1	Input	Name, Recall, Restate, Reread, Locate, Describe, State, Inform, Define, Identify, List
2	Process	Compare, Contrast, Classify, Distinguish, Explain (Why), Infer, Sequence, Analyze, Synthesize, Make Analogies, Reason
3	Output	Evaluate, Generalize, Imagine, Judge, Predict, Speculate, If/Then, Apply a Principle, Hypothesize, Forecast, Idealize

Matt: What is A.G.? [Infer = 2] This solicits an inference.
Jeremy: Yeah, what does that mean? [Speculating = 3] This solicits speculation.
Julie: Well, it didn't really say that—it just said it was on the suitcase. [Recall = 1]
Jeremy: Well, first, Stanley just thought it was probably a word. [Recall = 1]
Julie: Maybe it's like initials. [Infer = 2]
Jeremy: He thought it was Adgy. [Recall = 1]
Matt: It's probably initials. [Infer = 2]

Figure 1. *Coded Example from Holes (Sachar, 2001; 1998) Transcription*

The researcher did not employ an additional comprehension measure because of the purpose of the three-story intellect (Costa & Kallick, 2000). The three-story intellect was created to teach educators how to help their students think (Fogarty & McTighe, 1993). When the researcher observed students contributing at the varying levels, it was assumed the students were thinking at differing levels. The researcher assumed that students demonstrated comprehension through dialogue on one of the three levels.

Assessing Personality

The Big Five personality traits were measured with the Ten Item Personality Inventory (TIPI) (Gosling et al., 2003). The inventory was administered to each student who participated in the study. The profiles indicated levels of extroversion, agreeableness, conscientiousness, emotional stability, and openness. Because the language used on the survey was potentially difficult to comprehend for an intermediate grade student, synonyms and the example sentences from the *American Heritage Children's Thesaurus* (Houghton-Mifflin, 2007) were read in conjunction with each of the 10 items (Figure 2). The example sentences aided students in understanding the meanings of the items. The inventory was a self-reported measure and was also used in the author's pilot study, and the teachers agreed to 100% of the self-reported responses; therefore, this study did not require teachers to confirm the student responses.

Disagree Strongly - No way! That is not like me!
Disagree Moderately – That is not like me.
Disagree a little – Not really
Neither agree nor disagree – I don't really have this trait
Agree a little – This is a little like me
Agree moderately – A lot like me
Agree strongly – That's definitely like me!

Figure 2. *Prompt Key for the Ten Item Personality Inventory*

Synonyms and sentences from the American Heritage Children's Thesaurus (Houghton-Mifflin, 2007) used to help kids understand each personality trait.		
Trait	Synonyms	Sentence
Extraverted, enthusiastic	Passionate, excited	My dog always gives me an enthusiastic welcome when I get home.
Critical, quarrelsome	Judgmental, disapproving	The librarian was critical of the plan to save money by ordering fewer books.
Dependable, self-disciplined	Trustworthy	A dependable friend will always be there in a time of need.
Anxious, easily upset	Worried	Ross was anxious about his visit to the doctor.
Reserved, quiet	Shy	He did not act out much, he was quiet and reserved.
Sympathetic, warm	Concern for others, understanding	My friends were very sympathetic when I had my tonsils removed.
Disorganized, careless	Unorganized, forgetful	It was careless of the circus performer to leave the tiger's cage unlocked.
Calm, emotionally stable	Unworried	Danielle was the only one who remained calm when the fire alarm went off.
Conventional, uncreative	Standard, normal, regular	My parents thought about getting married in a hot air balloon, but they settled on a more conventional wedding in a church.
Open to new experiences, complex	No synonym	We went skydiving because we liked new experiences.

Figure 2 (Cont.). *Prompt Key for the Ten Item Personality Inventory*

Assessing Reading Ability

Data from the spring administration of the Measure of Academic Progress (MAP; (Northwest Evaluation Association, 2011) were used to determine students' reading achievement. The Reading MAP test is a computer assessment that assesses student reading achievement and progress based on grade-level norms. The MAP provides a percentile score based on the normal performance of students at the same grade level. The test is an adaptive test based on item-response theory where the test reacts to student responses, thus becoming more difficult or easier as students answer items. In the end, the assessment produces a variety of reading measures including the percentile score that was used in this study. The MAP test-retest reliability ranged from .76-.93. Ideally, reliability should not fall below .80, but the researchers explained that the reported range was due to the test question sets being different at each administration. The reported average Pearson correlation coefficient was .85, with a range of .69-.80, statistically demonstrating the test's acceptable reliability and validity (Northwest Evaluation Association, 2011).

Results

The data were analyzed through multiple linear regression in R (R Development Core Team, 2010). QVD score is the dependent variable, and the predictor variables are 1) MAP percentile 2) Extroversion 3) Agreeableness 4) Conscientiousness 5) Emotional Stability and 6) Openness. A global test of model assumptions (global statistic, skewness, kurtosis, heteroscedasticity, and link function) were all met. No outliers were detected by the Bonferonni test with a significance of $p < 0.05$. The variance inflation factor was examined to

test for multicollinearity and returned false; therefore, predictors can be analyzed individually. Descriptive statistics are summarized in table 4.

Table 4. *Descriptive Statistics*

Measure	*Mean*	*Min*	*Max*	*SD*
QVD	18.24	4	37	10.34
MAP Percentile	64.68	21	97	23.43
Extroversion	4.6	2.5	7	1.16
Agreeableness	5.02	2.5	7	12
Conscientiousness	5.58	3	7	1.53
Emotional Stability	4.66	1.5	7	1.53
Openness	5.46	3.5	7	1.24

To what extent do personality traits and reading proficiency explain the quality of verbal engagement in literature circle discussions? According to table 5, several factors predicted QVD. Reading proficiency (MAP percentile) significantly predicted QVD scores, $b = .27$, t(18) = 3.92, $p < .01$. Extroversion also significantly predicted QVD scores, $b = 2.97$, $t(18) = 2.16$, $p < .05$. However, the estimate was negative. Finally, conscientiousness significantly predicted QVD scores, $b = -4.03$, t(18) = -2.72, $p = .01$. The negative slope suggested that a lack of conscientiousness predicted higher QVD. These factors also explained a significant proportion of variance in QVD scores, $R^2 = .49$, $F(1, 18) = 4.816$, $p < .01$.

Prior to the regression, a power analysis for linear multiple regression was conducted. The upper bound degrees of freedom was 6, the lower bound 18, effect size (F^2) of 0.15, and significance was set at 0.05. The resulting power statistic was 0.19. The researcher was seeking an R^2 that would be higher than 0.19. The adjusted R^2 was 0.49, indeed higher than 0.19, therefore significance was assumed.

Table 5. Summary of Regression Model

	Estimate		Std. Error		*t* value	*Pr*(>|*t*|)[a]	
(Intercept)		27.48	11.48	2.40		0.03 *	
MAP Percentile	0.27	0.07		3.92		0.001 **	
Extroversion		2.97	1.37		2.16		0.045 *
Agreeableness		-1.70	1.47		-1.15		0.26
Conscientiousness	-4.03	1.48		-2.72		0.01 *	
Emotional Stability	-0.63	1.06		-0.60		0.56	
Openness	-1.18	1.42		-0.83		0.42	

[a]Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Discussion

This study examined QVD in an open ended version of literature circles. The aim was to explore personality factors and reading proficiency in relation to the QVD in peer-led literature discussions. The results indicated that higher reading ability and extroversion along with lower conscientiousness predicted 49% of the variance in QVD. Perhaps personality factors should not be ignored when configuring literature circle groups.

Although the results seem intuitive, this study was important because it empirically introduces new factors to account for when implementing or assessing literature circles. If the true purpose of literature circle discussions is to increase the quality of understanding, then the design should focus on the environment in addition to preparatory methods and use of comprehension strategies.

Because personality factors are beyond the control of the teacher, literature circle design should strive to make the personality factors insignificant. This could be done by establishing group norms that foster inclusion. For example, students should be taught to notice students not participating, and specific protocol for inclusionary methods could be initiated. A simple inquiry such as, "What do you think, Danny?" Or, specific questions could be directed to more introverted students, "Hannah, why do you think the character was afraid?" The protocol could be taught explicitly, and coached during literature circle meetings.

In addition, alternative methods of assessment should be employed. Highly introverted and conscientious students may not project their true understanding of text during discussion. This could be accounted for by allowing students to journal their personal understanding of the text, and new understanding based on the discussion.

The use of writing prompts could help students juxtapose their personal understanding with the meaning derived from discussion. For example, "I thought…" would prompt personal reflection, but "My group thought…" or "A group member helped me understand…" prompts meaning established in the group discussion.

It is warranted to reiterate the importance of quality reading instruction from the teacher (Mathes et al., 2005). Reading ability, the strongest predictor, is under the control of the teacher. Literature circles alone are not a sufficient reading program. While they provide ample time for practice in an authentic context, specific reading skills and strategies should be taught in other aspects of the balanced literacy program.

This study corroborated the contention that more proficient readers are typically more proficient discussants (Almasi, O'Flahavan, & Arya, 2001). However, because the groups were heterogeneous, the social interaction with knowledgeable others potentially benefited all students involved in the discussion (Vygotskiĭ & Cole, 1978). This study did not examine this aspect; therefore, the extent of learning through social interaction was unclear. Future research could explore quality of comprehension after the discussion.

This study had several limitations. First, the sample size was small. Although the power analysis revealed an acceptable statistic and assumptions for multiple linear regression were met, an increased sample size would have strengthened the study. Next, the quasi-experimental design utilized a convenience sample. The researcher only included students in his third grade class. Finally, no other studies exist that used similar coding for QVD, therefore no comparative analysis could be conducted.

However, future research could investigate different forms of literature circles with a similar coding mechanism. Other instructional episodes such as teacher-led grand conversations could also be analyzed. The research could compare the QVD in peer-led and teacher-led literature discussions. Teacher could also intentionally place students in groups based on personality inventories and evaluate the quality of the discussions.

Conclusion

This method of literature circles is in constant state of construction. The main focus in redesign is to improve students' quality of understanding text. Viewing literature circle discussion through a lens of complexity may help teachers promote an exploratory method

for negotiating meaning in groups. In essence, the teacher needs to create conditions for emergent comprehension in a complex adaptive discussion. Exploring additional factors in literature circle discussions should help teachers frame the design in a manner that maximizes successful engagement of all students.

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