Jumping the shark: How to create a community of avid readers, one video at a time

The term ”jumping the shark” has become a television industry standard that refers to an episode of the TV show *Happy Days* in which its creators devised a stunt where the ‘Fonzie’ character jumped over a shark in a feeble attempt to revive failing ratings. We suggest that researchers and practitioners of reading education may have reached a similar point of desperation with regards to the failed methods that they have been using reach today’s media-centric, text-averse reluctant readers. We wonder why, that although they appear to have gained a genuine understanding of the factors that increase reading comprehension, this has not translated into concrete increases in reading scores of these students. We suggest that perhaps this is due to the fact that they have not adequately detected what actually motivates these individuals. Further, in those instances that they have identified many of the motivational factors, they seem to continually rely on those principles that are based on external rewards, rather than creating scenarios that intrinsically inspire them. When one analyzes what stimulates today’s media-centric students, it does not take long to realize that technology ranks high on a list. Today’s K-12 students may not know of a time when their leisure hours are not managed or manipulated by the Internet, computer games, videos, DVDs, and television (Fletcher, 2001, 2003; Gunter, Kenny, & Vick 2006; Honey, Pasnik & Saltrick, 2004; Kenny & McDaniel, 2010). We have found through a review of the literature and our own experience that the pervasiveness of digital media and technology drastically changes the way these individuals think, perceive, and learn. They appear to be highly attracted to interactive, visual media, have a tendency to overlook and/or denigrate the value of text, which affects their ability to develop their metacognitive reading skills (Dresang & McClelland, 1999; Kenny, 2005; Kenny & Gunter, 2006; Neiderman, Kenny, Sanchez, & Croft, 2005; Prensky, 2003; Rushkoff, 1997).

Even though most educators understand that motivation is at the heart of any successful instructional process, we believe that the educational system has generally failed to properly address this issue. Further, we agree with those who suggest that a failure to properly address motivation accounts for a significant portion of the K-12 drop out rate in the United States, a view that is backed by recent research. For example, over eighty percent of students surveyed during interviews conducted into categorize the most common reasons students drop out of school, indicated that believed their chances of staying in school would increase significantly if their classes were more interesting and provided more opportunities for real-world learning (Bridgeland, Dilulio, & Morison, 2006). These statements mirror the concerns expressed by the many reading teachers who reported in the literature that they rank motivation as a primary and overriding concern (Cole, 2002; Elley, 1992; Guthrie, Schafer, Wang, & Afflerbach, 1993; O'Flahavan, Gambrell, Guthrie, Stahl, & Alvermann, 1992; Miller, 2003; Purves & Beach, 1972; Rueda, Au & Choi, 2004; Veenman, 1984; Walberg & Tsai, 1985; Wixson & Lipson, 1991).

Newer technologies are making today’s learners less dependent on text-based media to express themselves and to acquire knowledge, resulting in these individuals questioning the need to develop their reading and writing skills (Coiro, 2003; Kinzer & Leander, 2003; Smolin, 2003). We further suggest that a failure to recognize this fact has lead to a lack of understanding that these media-centric students do not understand the value of learning how to process text-based information at the higher metacognitive levels required to fully comprehend and retain what they are reading. Expectancy-value theory is a common sense approach that tells us that, if someone does not see a value in a something, he or she is less likely to use it (Fishbein & Ajzen, 1974). It follows, then, that those who do not see the relevance of the learning the formalisms of sentence syntax and vocabulary will fail to effectively practice them and fall behind with them.

Motivating reluctant readers

Conversely, the value-expectancy continuum may also explain why many recent efforts to use technology to motivate reluctant readers have failed. Our research has shown that a considerable percentage of classroom teachers tend to be insecure about technology, which interferes with their ability to consistently and properly integrate it into their instruction. Our personal experiences and review of the literature has shown that many reluctantly introduce technology into their curriculum with a hope that their students will be motivated simply because media is present (Gunter, Kenny, & Vick, 2006; Kenny & McDaniel, 2010; Kenny & Gunter, 2007; Kenway and Bullen, as cited in Alvermann & Xu, 2003; Shaffer, Squire, & Gee, 2005). These factors cause us to wonder whether the real ‘digital divide’ I education is actually the gap in technical availability between teachers and their students.

Good story creators make better story consumers

**Our on-going work in the classroom and related research has also led us to believe that, today’s generation of students still love a good story, but they seem to lack a fundamental understanding of how stories are created (Gunter & Kenny, 2008; Gunter & Kenny, 2008). The study of narrative epistemology supports the belief that one’s skills in story creation directly correlate with general cognitive abilities, and overall academic performance (Bradt, 1997; Feuerstein, 1980; Joos, 1967; Payne, Devol, & Smith, 2000). Feuerstein, in particular, showed that students who lack an understanding of formal story structures do not know how to plan, which has significant ramifications in the learning cycle.** We suggest that a lack of understanding of story creation has had an additional negative effect on the ability of many reluctant and striving readers ability to comprehend what they are reading. It is our contention that, because these individuals do not understand the structural components of story creation, positive attributions towards reading can be severely threatened because they fail to see the relevance in what they are reading. And because they have developed a preference towards learning through pattern recognition, not understanding the basics of story constructs leaves them without a basis for understanding.

We have also found that this general inability to create stories cuts across all types of classrooms and academic skill levels. As we reported previously, approximately one quarter to one third of the high school students in reading remediation classes set up for those who had failed three times the statewide standardized reading tests were actually honors students. This caused us to wonder under what circumstance could cause these otherwise intelligent individuals to fail a fairly straightforward reading test? One possible cause surfaced during our informal interactions. Many students in gifted classes we worked with, when asked during confidential interviews, indicated that they, like their peers in regular and reading remediation classes, actually did not like to read because they found it ‘boring’. Upon further investigation we found that some of this negativity was a consequence of 1-their inability to extract the story context and 2-their inability to visualize the words they were reading, even though we found in cognitive style tests we administered that they were, by and large, visual learners (the authors, 2007).

Our work in the classroom over many years led us to determine that an instructional intervention that was based on increasing students’ skill in creating stories along with allowing them to do so through technology as a to mediator of self- expression would become a source of intrinsic motivation, a phenomenon that appeared to mirror the same self-determination factors that made video games so attractive, according to Deci et al (1971; 1985; 2000, 2010). Secondarily, we noticed that these students became better creating visual patterns out of the text they were reading, which, in turn, fostered the development of the metacognitive skills that many reading experts suggest can translate into long-term gains in reading scores (Baker & Brown, 2002).

Extrinsic versus intrinsic motivation

 A review of the literature supports our view that a function that serves one’s innate intrinsic needs is more sustainably motivating than one that is inspired by external factors, such as grades, rewards, prizes, and special treatments (Covington & Müeller, 2001; Deci, Koestner, & Ryan, 1997; Vansteenkiste, Lens, & Deci, 2006). An extrinsically motivated student is one who expects rewards or teacher praise, or attempts to avoid criticism. Incentive programs that are premised on an extrinsic rewards system that awards points for earning prizes for completing books and successfully passing quizzes have only demonstrated a modicum of success (Engwall, 1999). Some argue that the enthusiasm inspired by such a system often fades once the rewards are withdrawn (Biggers, 2001; Krashen, 2002). Others suggest that the results are confounded by the fact that the positive outcomes are a consequence of a Hawthorne or novelty effect rather than a validation of that particular strategy (Finkelman & McMann, 1995; Tierney, Kieffer, Whalin, Desai, Moss, Harris, et al., 1997).

By contrast, intrinsic motivation is based on a rationale that focuses on an inherent desire to participate in the process than the achievement of a result or winning a prize. It is this personal investment that acts as the driving force. Intrinsic motivation, by definition, is internal because the learning activity is rewarding or pleasurable because it transcends the need to obtain external praise. For example, when assessing the motivational needs of those who love to play video games, one realizes that getting a wrong answer is the factor that inspires them to apply the additional, corrective action (Gunter, Kenny & Vick, 2006; 2007).

Not everyone, however, is convinced of the validity of externally generated motivation. Some have expressed the belief that that differentiating between intrinsic and extrinsic motivation is actually a confound that does not really exist in reality (Reis, 2005). But research into the positive, long-term, positive effects of intrinsic motivation is well documented, not only by noted educators (Brandt, 1995; Chance, 1992) but also those who have a long history of investigating what induces video game players to remain engaged in spite of apparent failure (Deci, 1971; Deci, & Ryan, 1985; Ryan, Lynch, Vansteenkiste & Deci, 2010; Ryan & Deci, 2000). In fact, our review of Deci & Ryan’s work in self-determination theory became the catalyst to the for an evolving curriculum implemented with otherwise reluctant middle and high school students from several different types of classes. When we began this line of thinking, we hypothesized that participants’ motivation would be more enduring because it would be founded on a discovery that, like video games, they could utilize an appealing medium that responded to an innate need for story invention and self-expression.

Reinking’s (2005) research into the effects of using multimedia to increase comprehension of,, and motivation for, reading appears to conflict with these views. He contends that previous studies into the effectiveness of using technology in the classroom have not offered any newly discovered data. After delving further into these findings, we found that he outlined two rational explanations: 1-a lack of rigor, ambivalence on the part of teachers towards the use of technology, and 2- the fact that these teachers were too heavily invested in text-based methods. Most of the technology-mediated reading interventions that have been evaluated to date have been little more than drill and practice, and vocabulary attack programs (Coiro, Karchmer & Walpole, 2006; Leu, Kinzer, Coiro, & Cammack, 2004; Swenson, Rozema, Young, et al, 2005) whose effectiveness have been compromised by a failure to take into consideration a practical view about what motivates today’s text-averse, reluctant readers whose reading levels are not increased by simply forcing them to read more or by attempting to attract them with external rewards and/or dated, rote tactics.

Over forty years ago, Martin Fishbein (1967; 1968; 1974) proposed a theory that behavior is a function of personal expectancies. Value-expectancy theory predicts that one’s chosen behaviors will align with those that appear to have the largest opportunity for success. So, if a child begins to encounter serious difficulties with reading, his or her perceived self-efficacy will respond to this negative feedback beliefs by associating a general negativity towards it. The underlying solution, then, would be to identify mechanisms that they believe they can be successful with (i.e., technology & media) and use them to remediate their shortcomings (inventing stories and visualizing what they are reading).

Many of those who are fond of reading claim that being able to create a movie in their head while they read is at the heart of their being attracted to it. These are the exact requirements that de-motivates digital learners and makes them reluctant readers. In our experience, they have not been taught how to effectively create these visual images from the text that they read. The challenge is to get those who are used to (and prefer) interactive, narrative constructs to overcome their preconceived negative notions about the static nature of reading what they perceive to be non-engaging. We hypothesized that, if we could identify what would successfully and properly motivate and engage digital learners in the reading process, we would be able to develop in them the same sought-after creative, imaginative processes enjoyed by those who love reading. It had been our belief reluctant readers, who in essence, learned best through pattern recognition, would buy into the process if were introduced to an intervention that attracted them by introducing them to the patterns and constructs of story and allowed them overcome their visualization shortcomings so that they could more easily initiate an investment in it.

Implementation

We hypothesized that good, digitally mediated story creators could become more eager to consume stories. But we wondered how we could accomplish this with reluctant readers who were having trouble with creating visual images from the text they were reading and who, we found out, loved stories but did not know how to create them? Our efforts spanned a six-year period in which we worked with hundreds of middle and high school students in regular, gifted, and reading remediation classes. A series of interventions evolved that are all founded on the principle of inspiring them to become self-motivated by teaching them how to create stories and using various digital communicative forms and structures that helped them visualize what they were reading. We decided to target middle school students because it was this age group that the most dramatic increases in reluctance towards reading appeared to be occurring (Anderman & Maehr, 1994; Gutherie & Davis, 2003).

Our interventions begin with presenting the cognitive strategies commonly practiced by proficient readers. We also utilize as exemplars the engagement practices found in interactive performance, role-playing games, and reenactment activities (Kenny & Wirth 2009; Wirth, 1994). Students are first introduced to the observable narrative constructs found in movies and role-playing games. Participants are then asked to act out these concepts in story-telling circles, and through role-playing and other communicative methods that seemed to overcome their general weaknesses for and misunderstandings about vocabulary, syntax, and grammar. Next, they are asked to produce short, personal narratives (meStories) that are captured on video. These activities are especially attractive because the topic (a personal story) is meaningful and relevant to them.

This part of the activity is based on ideas about self-determination and intrinsic motivation (Deci, Koestner, & Ryan, 2001). We, too, found that our students had a natural desire to express themselves. Over time, three facts became apparent. The lack of motivation for reading and writing seemed to be based on 1-their lack of knowledge of formal text-based structures (syntax, vocabulary, etc), 2-their inability to visualize what they were reading, and 3-a lack of a feeling of relevance for the need to read. In other words, to paraphrase Brenda Laurel (1993), they did not appear to ‘suspend their disbelief’ in the process.

We focused our efforts using video because it is a favored medium because participants generally do not need in depth writing skills to accomplish the task of creating a story. The relaxed and flexible communicative syntax required to create fairly high quality videos affords student producers significant leeway in the story-telling process. Once they begin to learn the techniques involved with story invention and self-expression, we begin to build bridges from this more forgiving form of self-expression and translate their successes into creating the more formal text structures, --a process we call ‘screen to text’ (a reverse reference to the long-standing concept of’ text-to-screen’ utilized in film schools). Vocabulary and sentence construction are gradually introduced by asking participants write reflections and to describe what takes place in their videos. This process of gradually increasing difficulty in the reading and writing process is a basic component of generally recognized reading remediation strategies (Crawley & Merritt, 2004).

The second phase of instruction centers on introducing video book trailers. Students are taught the difference between reading a book and watching a movie about that book and learn how to compare these two modes of storytelling. We introduce our Web portal (http://www.digitalbooktalk.com) in which we present role model video book trailers created by other K-12 and university students. Participants were asked to imagine reading books and then making sort 2-3 minute movies (i.e. trailers) about what they have just read. Students are organized into teams. The same book is assigned to each team so that students can compare their trailers to tier peers’. This process tends to answer the perennial question as to why they need to read the book rather than simply watching a movie made from it. Team members share the responsibilities of being the director, the cameraperson, and on screen talent. They work collaboratively to make their choices as to which parts of the story are to be included and/or illuminated in the 2-3 minutes allotted for the video. Students act out on camera to demonstrate their interpretation of the essence/gist of the book. As such, there is no real ‘right’ or ‘wrong’ answer. Rather, creative differences are discussed as a way of getting to the desired outcome. Removing the fear of being wrong is at the heart of the attraction to the entertainment provided by interactive improvisation (Kenny & Wirth, 2009; Wirth, 2003) and self-determination theory (Ryan & Deci, 2000).

It should be pointed out that the book trailer concept that we invented has very specific goals and outcomes and differs greatly from iterations developed by others who have altered the concept to meet their personal agendas. Some teachers, for example, merely record themselves or their students talking about the books. Others videotape students presenting written book reports. Still others create commercials about the books.

Our conceptualization is that students reenact the books and utilize the four-step recipe for story invention introduced by Edward Branigan in his book: *Narrative Comprehension in Film* (1992). In this book because he concisely and conveniently breaks down the story invention into four easily teachable and demonstrable elements:

* TIME and PLACE -all stories need to have a setting or background, which in a film or video is shown visually.
* CAUSE & EFFECT -those all-important moments in which the central character faces decisions to succumb to the conflict or fight it. This is a key element of the story invention process because it introduces key moments of change/transformation and become the scenes that need to be included in the trailers. The ability to recognize change patterns is key to how stories acquire their cross-curricular epistemological characteristics.
* a CENTRAL CHARACTER who notices this potential and is required to make some judgment. A story is not a story without this confrontation between life and the character's limitations/strengths.
* because all stories need both a teller and a listener, students need to decide on how they are going to COMMUNICATE THEIR STORY/CONFLICT to their viewers.

It is the concept of cause and effecting particular that Feurstein, Joos, and Payne were referring to when they suggested the ties between story and academic achievement. Understanding the concept of change, cause, and effect are at the heart of narrative epistemology and make story a curriculum model of considerable power.

We found that we could easily demonstrate the use of these elements in examples from popular movies as well as relate how they are used in popular books. While the basics to the instruction remained the same, we tweaked our presentations and explanations over the course of several years. Overall, the activities did not change, although we did have to modify the schedule due to time constraints imposed by school schedules, etc. In the end, the program (as shown in Attachment A) takes about six weeks to implement.

Method

In order to validate our assumptions, a series of studies that examined our notions about the value of internally-triggered motivational factor s would be more positively impactful than those driven by external causes, the impact of not being able to visualize text, and the impact that instilling an understanding of story creation would have on consumption. In order to study these dynamics we created a pre and posttest questionnaire (attached) that we tweaked slightly over time. The results of those administrations follow.

Focusing questions

The following questions were studied:

* Does the intervention that evolved have a significant effect on overall motivation for reading?
* Does the curriculum correlate to positive changes in participants’ perceptions about their apparent ability to visualize what they read?
* Do improvements in participants’ story creation skills also increase their self-efficacy about their ability to read?

Because we administered the intervention over time to several different groups of students we also wanted to see if an interaction existed among any of the groups we studied. Therefore, we introduced a fourth alternate question:

* Does the model have a significant effect on one student group (regular, gifted, remediation) over another in terms of improving’ attitudes towards reading self-efficacy and motivation?

We utilized intact classrooms in all implementations of the intervention and related studies. Utilizing classical treatment and control groups were determined to be impractical and, in some cases, were not permitted by school administration. Instead, we decided to utilize a pre and posttest quasi-experimental research design in which the results of pre and test questionnaires (Attached) would become the “control’, a method that has been previously validated (Berg & Latin, 2004). We were satisfied that the construct validity of testing for gain scores using pre and post test scores has been accepted over time as a reasonable alternative to traditional treatment and control group studies (Bruning & Kintz, 1968; Fitz-Gibbon & Morris, 1987). Administering the program to students from different types of classes (i.e., regular, gifted and remediation) provided us the opportunity to determine if the curriculum model would be effective for students in differing classroom environments.

Direct questions on the surveys that were asked on the first part of the survey were supplemented with hinted and open-ended responses in the second part. We asked each participant on the posttest to indicate whether he or she felt that the activity had changed his or her attitude towards reading. We also asked for a response to an opened ended question that duplicated and further explained responses to one of the direct questions –whether the activity had changed their opinions about reading and why.

To further strengthen the results of the results that tested the hypotheses that the evolving instructional model would increase participants’ internal motivation, would augment their ability to visualize, and would lessen their anxiety toward reading, through data reduction, we aggregated the ten survey questions into four contextual categories using factor analysis. For example, we grouped together question three (*I feel anxious when asked to complete a reading activity)* with question five (*I feel comfortable telling stories in front of people*) and seven (*I get nervous when I think of trying to read something…*) to formulate one category (anxiety). We did the same type of categorization to arrive at other three groupings. To increase reliability, we intentionally asked certain questions repeatedly and in different form. A Cronbach Alpha analysis resulted in a score of .73.

Because we implemented the instruction in regular classrooms, gifted classes, and in a reading remediation class that was mandated for students who had failed a statewide standardized reading exam, we were able to calculate differences in means for responses to the questions among the different types of classrooms.

Participants

The program was administered to middle and high school students (*N*=163) in four different schools in the southeastern United States and who were enrolled in three different types of classes: regular, gifted, and reading remediation. Among the original 163 participants, sixteen cases had missing values for at least one pre or posttest question or who had not completed the program, resulting in a sample size of 147 individuals that were available for this consolidated data analysis. Of these 147 cases, 45% were girls and 55% boys. The demographic mix of the participants generally mirrored that of the general population in the subject school district: 40% Caucasian, 30% African-American, and 30% Hispanic, Asian and others.

Instrument

In each instance, participants were asked to complete an identical a pre and posttest survey that was adapted with the help of a panel of reading experts from the Motivation the Read Profile (MRP). The original instrument contained ten direct questions that utilized a 5-point Likert-­type scale with ‘1’ representing Strongly Disagree and ‘5’ representing Strongly Agree. The MRP has been shown in the literature to be a validated and reliable testing inventory (Gambrell, Palmer, Codling, & Mazzoni, 1996) that assesses motivation, perceptions, and attitudes toward the value of reading. The adapted questions were created and validated by a panel of reading specialists and educators familiar with identifying suspected causes for the apparent failures of previous reading interventions, which we believed would allow us to assume with confidence the face validity of the instrument.

As mentioned previously, the factor analysis resulted in four general contexts, which added strength and power to the analysis: general attitude towards reading, reading anxiety, and an indication of self-efficacy towards the ability to visualize the words that were being read, and general struggles with reading. The open-ended questions (some of which were hinted or prompted) inquired into which medium participants preferred to use to communicate ideas, their future plans and the importance and value of reading in relationship to those plans. Prompts and hints were used to minimize opportunity for outlying responses and to increase reliability of the responses to the direct questions. In order to triangulate the responses, we also followed up on the hinted questions with anecdotal observations and general comments made by participants and their teachers, which were recorded for later analysis. The open-ended and free responses were evaluated by identifying key phrases and repeated themes.

Before administering the pre test surveys, we obtained informed consent. After participating in the program (which took between three to six weeks, depending on the school we were working in), participants completed the posttest questions so we could compare the responses. For this review, we analyzed a composite of the responses for previous administrations of the program to identify emerging themes and trends.

Data Analysis

Results

For the purposes of this meta-analytical review, we calculated a consolidated paired sample *t*-test (Table 1) between the questions on the pre and posttests to determine which responses changed between the time the participants began the activity and when they finished. As can be seen in Table 1, responses to questions one, two, eight, nine, and ten changed significantly. These particular questions refer to participants’ views on the relative value of reading as an activity, whether they enjoyed reading, how well they perceived them selves as being able to

*Table 1 – Paired sample t-test for pre and posttest*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Paired Differences | t | df | Sig. (2-tailed) |
|   | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |   |   |   |
|   |   |   |   | Lower | Upper |   |   |   |
| Pair 1 | waste – waste2 | 1.872 | 2.034 | .167 | 1.543 | 2.202 | 11.235 | 148 | .000 |
| Pair 2 | enjoy – enjoy2 | -.195 | .991 | .081 | -.355 | -.034 | -2.397 | 148 | .018 |
| Pair 3 | anxious – anxious2 | -.101 | 1.070 | .088 | -.274 | .073 | -1.148 | 148 | .253 |
| Pair 4 | concept – concept2 | .107 | .953 | .078 | -.047 | .262 | 1.376 | 148 | .171 |
| Pair 5 | telling – telling2 | -.128 | 1.237 | .101 | -.328 | .073 | -1.258 | 148 | .210 |
| Pair 6 | watch – watch2 | -.121 | 1.133 | .093 | -.304 | .063 | -1.302 | 148 | .195 |
| Pair 7 | nervous – nervous2 | .007 | 1.075 | .088 | -.167 | .181 | .076 | 148 | .939 |
| Pair 8 | visualiz - 2visual | 1.275 | 1.635 | .134 | 1.010 | 1.540 | 9.519 | 148 | .000 |
| Pair 9 | picture – picture2 | -.376 | 1.165 | .095 | -.564 | -.187 | -3.937 | 148 | .000 |
| Pair 10 | underst – underst2 | -.262 | 1.159 | .095 | -.449 | -.074 | -2.757 | 148 | .007 |

visualize what they were reading, whether thoughts came to them in pictures or words, and whether they understood what they were reading even though they did not like the content.

As previously discussed, in order to determine the effect the instructional strategy had on participants regarding the four research questions, responses to the ten direct questions were consolidated into four categories: attitude towards reading (attitude), reading anxiety (anxiety), visualizing ability (visual), and struggling to read (struggle). As can be seen in Table 2, the intervention had a significant positive effect on students’ attitude overall towards reading (attitude), their ability to begin visualizing what they were reading (visual), reading anxiety (anxiety), and their struggle to read (struggle) even when they had difficulty with the vocabulary

*Table 2*

*Paired Samples t-Test Results for the Effect of UB the Director on Reading Preference*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | Paired Differences |  |  |  |
|   | MeanDifference | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | *t* | *df* | *p* |
|   |  |  |  | Upper | Lower |  |  |  |
| Pair 1 | attitude1 - attitude2 | 1.95 | 2.6 | .21 | 1.52 | 2.37 | 9.11 | 148 | .000 |
| Pair 2 | anxiety1 - anxiety2 | -.095 | 1.62 | .13 | -.36 | .17 | -.71 | 148 | .481 |
| Pair 3 | visual1 - visual2 | -.505 | 1.84 | .15 | -.80 | -.21 | -3.34 | 148 | .001 |
| Pair 4 | struggle1 - struggle2 | 1.645 | 2.28 | .19 | 1.27 | 2.01 | 8.79 | 148 | .000 |

P < .05 with 2-tails

and/or understanding the relevance of the assignment. The posttest mean scores for negative attitude significantly reduced compared to pretest scores with the mean difference Md = 1.95 (SD = 2.61). From the negative mean difference (M = -.50 (SD = 1.84) between pretest scores and posttest scores, we noted that participants’ self-efficacy for visualizing increased after the intervention. Struggles with reading also decreased significantly (Md =1.64 (SD = 2.28)).

To explore potential effects on student types, we conducted a two-way ANOVA test, which revealed that significant negative attitudes towards reading (*F* = 65.83, *p* < .001, *η²* = .32) and visualizing ability (*F* = 55.09, *p* < .001, *η²* = .28) (See Table 3) were significantly different among schools. Among student types only visualizing ability were found significantly different with *F* = 11.10 (*p* < .001, *η²* = .07).

An examination of pre-test results (Table 4 using pairwise comparisons (*p* < .001) revealed that remedial students (i.e., those attending reading remediation classes) had significant negative mean score differences for reading attitude prior to the treatment with

Table 3

*Tests of Effects between Schools and Student Types*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
| School | attitude2 | 156.38 | 1 | 156.38 | 65.83 | .00 | .318 |
| visual2 | 2.66E-01 | 1 | 2.66E-006 | .00 | .999 | .000 |
| anxiety2  | 4.00 | 1 | 3.99 | 1.849 | .176 | .013 |
| struggle2 | 105.26 | 1 | 105.26 | 55.09 | .000 | .281 |
| Student Type | attitude2 | 1.216 | 1 | 1.21 | .510 | .476 | .004 |
| visual2 | 4.27 | 1 | 4.27 | 1.56 | .214 | .011 |
| anxiety2 | .237 | 1 | .237 | .11 | .743 | .001 |
| struggle2 | 21.20 | 1 | 21.20 | 11.10 | .001 | .073 |
| Error | attitude2 | 334.93 | 141 | 2.38 |   |   |   |
| visual2 | 386.96 | 141 | 2.74 |   |   |   |
| anxiety2 | 304.24 | 141 | 2.16 |   |   |   |
| struggle2 | 269.39 | 141 | 1.91 |   |   |   |

P < .05 with 2-tails

Table 4

*Estimates Mean Differences Among Student Types*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable | Stu-Type | Mean | Std. Error | 95% Confidence Interval |
|   |   |  |  | Lower Bound | Upper Bound |
| attitude2 | Regular | 10.28(a,b) | 0.40 | 9.48 | 11.08 |
|   | Gifted | 9.19(a,b) | 0.19 | 8.81 | 9.56 |
|   | Remedial | 7.14(a,b) | 0.34 | 6.47 | 7.82 |
| pictell2 | Regular | 4.43(a,b) | 0.44 | 3.57 | 5.29 |
|   | Gifted | 5.15(a,b) | 0.20 | 4.75 | 5.55 |
|   | Remedial | 4.68(a,b) | 0.37 | 3.95 | 5.41 |
| anxiety2 | Regular | 7.00(a,b) | 0.39 | 6.23 | 7.76 |
|   | Gifted | 7.06(a,b) | 0.18 | 6.71 | 7.42 |
|   | Remedial | 7.07(a,b) | 0.33 | 6.42 | 7.72 |
| visconcept2 | Regular | 10.57(a,b) | 0.36 | 9.85 | 11.29 |
|   | Gifted | 10.97(a,b) | 0.17 | 10.63 | 11.30 |
|   | Remedial | 10.57(a,b) | 0.31 | 9.96 | 11.18 |

a. Covariates appearing in the model are evaluated at the following values: \attitude1 = 10.3490,

anxiety1 = 7.0537, visconcept1 = 12.0268, pictell1 = 4.4832.

b. Based on modified population marginal mean.

remedial students of lower mean scores of 7.14 (SD = .34) than regular student mean score of 10.28 (SD = .40) and honor students mean score of 9.19 (SD = .19). The results also showed that for these students, attitudes towards reading improved significantly after participating in the program.

Discussion

The results show a generally significant increase in positive attitudes towards reading in all student groups who were assessed over the four-year period. The results of the paired sample *t*-test show that the students’ attitude towards reading was generally negative when they started but significantly improved after participating in the activities. More than forty-five percent of the students expressed newly found enjoyment for reading and/or no longer thought reading was a waste of time. Based on a review of the open-ended responses, we were able to infer that this occurred because participants believed that the activity provided a purpose for reading that they perceived to be relevant and meaningful. Participants also confirmed this in anecdotal discussions, indicating that they enjoyed reading critically in order to discuss the context of the books with team members and produce better trailers to show to their peers.

On the posttest a majority (65%) indicated in both the direct and prompted questions that, although their preferred communicative medium was video, they discovered a newly found purpose for reading. Words were beginning to emerge as having meaning to them because the process of producing the videos required them to learn how to translate the text they read into pictures. We believe that the activity provided them an intrinsic motivation to make these translations because it provided a relevant reason/incentive for them to do so in context instead of in the abstract. These results confirmed our hypothesis that the intervention would at least partially be responsible for these kinds of improvements.

These same ideas were confirmed in conversations we had with the participants’ teachers several months after we left the schools. Many indicated that their students continued being noticeably more descriptive in their depictions of events, had a much broader understanding of the concepts of cause and effect, which they were able to extrapolate and utilize in other classroom situations. These teachers indicated that, previously, when asked to describe scenarios their student would merely state facts. Now, they were beginning to add descriptive adjectives to relate the events, insert their opinions, and were told by their colleagues that they were showing signs of a broader understanding of significance of events being introduced during other classes, such as social studies and science. Teachers of both regular and gifted students made these comments repeatedly. Some of the participants validated these observations, explaining that the story creation activities made them think more critically about their reading and helped them to learn how to picture in their minds things like how they might play leading roles in movies that might be made about the books, and would look for appropriate locations to shoot the scenes for trailers about the books that began to play in their heads as they read the stories.

These informal discussions are noteworthy and support the responses on the surveys. For example, students were asked on the questionnaires if they could readily comprehend and recall content, even if they did not particularly care about the subject matter. On the pre-test, approximately 60% of the respondents indicated that they could or would not. This reduced to less than 30% on the posttest. These results seem to validate that our assumption that participation in the activity would ameliorate general negative attitudes towards reading.

We submit that this is a self-efficacy issue. Students indicated that they felt empowered and more confident to the tackle assigned readings. It is interesting to note that differences in responses for those enrolled in gifted and remedial classes changed for the positive more than those enrolled in regular classes. We deduced that gifted students had a tendency to respond in open forums with answers that they expected their teachers wanted to hear but privately were willing to divulge their real feelings. These suspicions were also verified by the way in which they responded to questions about their preferred medium for communicating. Similar to their counterparts in regular and remediation classes, the same number of gifted respondents (almost sixty percent) indicated that they also ranked video as their favored medium. The results correlate to studies into intrinsic and extrinsic motivation conducted by Lepper, Corpus and Iyengar (2005), and Vansteenkiste, Lens, and Deci (2006), who suggested that extrinsic and intrinsic motivation were orthogonal dimensions and that , of the two, the latter was impactful and enduring as an impetus to sustained comprehension and internalization of information. Intrinsic motivation appeared to correlate favorably to results on standardized tests, whereas extrinsic motivation negatively correlated to them, explaining that self-efficacy played an important role. These authors further identified that extrinsic motivational inducements reduced significantly from third to eighth grade, further supporting our decision target the middle grades with our intervention. We suggest that that the intervention creates an intrinsic motivational pull because participants actually stated in writing through the questionnaires and verbally that they enjoyed reading more –something that we cannot find in the studies that reviewed interventions based on external inducements such as award systems and grades. These results provide us hope that long-term reading gains can be gained once reluctant readers are properly motivated and empowered by strategies that teach students how to visualize text and to create stories. This is something we will continue to study over time.

The Lepper et al and the Vansteenkiste et al studies also support our notions about the role contextual relevance plays in the process of teaching reading. No longer can those who love to read simply infer that all students have the same natural desire to do so using the same rationale. Ruth Bettelheim, noted psychotherapist, recently more or less indicted the current ‘assembly line approach’ used by school reading educators, citing that it is “inexcusable given the well-documented research about what makes students effective learners”. Citing contemporary neuroscience, she further indicated, “research has shown that children’s learning is largely dependent on inherent interest, emotional engagement, social interaction, physical activity, and pleasure of mastery” (2010, p.9A). We argue that our intervention involves many, if not all, of these factors. We believe our approach closes the gap between internal and external motivational factors and has caused those students we worked with to be more actively engaged in the process of reading.

We realize, of course, that our results are only generalizable to our own student population. Nonetheless, it bears repeating that the ideals of constructivism are based on the assumption that internal motivational factors are present. We can presume from these results that if students find ways to enjoy the process of reasoning and knowledge acquisition on their own terms they will more readily buy into the need for reading, even though it might not be their favored way of communicating. This is because they begin to understand the need for, and the differences in, acquiring information using different media. We suggest this process occurs especially when students are able to utilize as a starting point the communicative tools that they prefer and are already familiar with. This line of thinking is the basis of Doman’s (1984) ideas about teaching to one’s strengths and then remediating the weaknesses.

We submit that the intervention also positively changed for the positive the students’ we worked with pre­conceived notions about the differences between reading a book and watching movies about them. We further suggest that an increased understanding of the story invention process created an enthusiasm for reading because these media-centric youths who are used to learning through pattern recognition were availed the needed constructs and models that are missing in programs based on providing external rewards alone. We admit that these factors are necessary but insufficient conditions to learning. At the same time, we suggest that they have been mostly overlooked in the reading interventions that have been tried in the past and may account for the many reported failures that previous institutionalized reading interventions have reported.

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