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THEORY

Disrupting the Flow: The Detrimental Effects of Accelerated Reader on Student Motivation

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My ten-year-old brother, Travis, has many hobbies. He is an avid biker, an architect of sophisticated Lego cities, and, perhaps most of all, a voracious reader. Travis sneaks books under the covers after lights out, and he often comes to my room to pull a book from my shelf, curl up in a corner, and read. Through fourth grade, Travis was homeschooled: this year marked his debut in the public school system. Travis' home reading habits had led us to believe that fifth grade English Language Arts (ELA) would be one of his favorite subjects. But progress reports soon began coming home, and we saw a succession of disappointing marks in reading: C, D, D-. When questioned, Travis let the family know that he hated school, he hated reading in school, and no, he was not really a reader. This hit us hard: what had happened, in such a short time, to change our book-lover into "not really a reader?" I wanted to find out more about his school reading experience. And so, for my capstone research project, the culminating experience of my undergraduate English degree, I took on the task of determining what went wrong.

I discovered two things: first of all, Travis' elementary school uses a standardized reading program called Accelerated Reader (AR), and second, his negative experience in fifth grade reading is not an isolated case. In fact, this type of Language Arts "instruction" takes place in classrooms around the world, in more than 60 different countries (Renaissance Learning, 2014). The developer of Accelerated Reader, Renaissance Learning, has bent our national reading curriculum to its will, sweeping through over one-third of U.S. schools and locking down reading curricula in least 70,000 schools throughout North America alone (Renaissance Learning, 2007). Many commercial reading/language arts programs exist, but Accelerated Reader is the most widespread, well-known program in K-12 education. Accelerated Reader, in short, is everywhere.

The primary purpose of AR is to provide differentiated reading assessment for a wide range of students. It accomplishes this by delivering short, multiple-choice quizzes based on its library of pre-scored books. Students begin the program with an initial assessment of their reading comprehension. They are then assigned a reading level based on their assessed zone of proximal development (ZPD), a concept developed by Russian psychologist Lev Vygotsky. Vygotsky (1986) defined ZPD as "the discrepancy between a child's actual mental age and the level he reaches in solving problems with assistance" (p. 187). According to company literature produced by Renaissance Learning (2013), the ZPD ideally "represents the level of difficulty that is neither too hard nor too easy, and is the level at which optimal learning takes place" (p. 7). In accordance with Vygotsky's ZPD, students should be able to read the books they choose only with adult guidance or peer collaboration. Teachers and researchers have noted the misuse of the concept of ZPD as used by Renaissance Learning, due to the AR program's complete lack of actual reading instruction (Biggers, 2001; Cox, 2012; Ginno, 2011; Schmidt, 2008).

Renaissance Learning (2013) notes that this initial assessment of a student's ZPD can be done by "any standardized reading assessment" (p. 7), but recommends, not coincidentally, its own STAR reading test. Once assessed, students are required to read books from their corresponding skill level. The level of a book—say, *The Hunger Games*—is determined by three factors: readability, interest level, and number of points. First of all, readability is measured through a "formula called ATOS [Advantage 'Touchstone Applied Science Associates' (TASA) Open Standard], which analyzes the average length of the sentences in the book, the average length of the words, and the average grade level of the words" (Renaissance Learning, 2013, p. 8; Milone, 2012). The ATOS score assigns books a level, which corresponds to grade levels. If a book is scored at a level of 3.4, for example, it is deemed

appropriate for students who are in the third grade, during the fourth month of the school year.

Secondly, the books are classified by interest level and assigned a number based on the subjects and themes, according to age group or grade. Often the difficulty level and the interest level are the same, but sometimes a book with a low ATOS score may have a higher interest level and vice versa. For example, the children's book *Arthur Throws a Tantrum* by Ginette Anfousse has a higher ATOS score than Ernest Hemingway's *The Sun Also Rises*, but the interest level of the former is Lower Grades, and the latter Upper Grades. In fact, AR defines four specific interest levels: Lower Grades, K-3 (LG), Middle Grades, 4-8 (MG), Middle Grades Plus, 6 and up (MG+), and Upper Grades, 9-12 (UG) (Renaissance Learning, 2013). Lastly, each book is worth a certain number of points, based on its length and its determined difficulty. The mathematical formula which AR uses to determine points is as follows:

> AR points= [(10 + book level)/10] x (words in book/ 10,000). (Renaissance Learning, 2013)

Within this system, AR classifies each book, assigns it a level, and then decides whether or not it will be an appropriate match for a student's ZPD score. So, Collins' *The Hunger Games* rates a readability level of fifth grade and three months, an interest level of MG+, and is worth 15 points (Renaissance Learning , 2014). In comparison, Shakespeare's *Macbeth* has an ATOS score of tenth grade and nine months, with an interest level of UG, but is ultimately worth only four points, due to its length and determined complexity (Renaissance Learning, 2014).

Renaissance Learning recommends 30-60 minutes of in-school reading per day. After completing a book, a student takes an AR-generated quiz in order to earn points. The foundation of AR is the point system; students strive to earn points in order to gain rewards such as public recognition, snacks, or small toys (Schmidt, 2008). This system appears to be very efficient and simple to use: teachers place students in a reading level, assess them through a pre-designed, online program, and copy the numbers into the grade book. In our age of increasing reliance on data, the quantifiable nature of AR is attractive for school systems and teachers everywhere, but what effect is this program having on our students? What is AR doing to student motivation?

One way to examine this question is through the lens of flow theory, a concept first articulated in 1975 by the Hungarian psychologist Mihaly Csikszentmihalyi. Flow theory offers a way of explaining the absorbed, engaged state of consciousness which one may enter when taking part in an activity. Flow may be experienced when an individual finds herself so completely immersed in an activity, such as reading, playing a video game, or painting, that she may lose track of time and the "outside world," as her awareness merges with the activity and she experiences only the awareness of completing the action (Csikszentmihalyi, 1975). Flow theory has been applied to numerous fields, including education, largely with the purpose of understanding motivation.

Research typically distinguishes between two kinds of motivation: extrinsic and intrinsic. Extrinsic motivation refers to being motivated to do something by an outside source "in order to obtain some separable outcome . . . or because there is strong external coercion" (Ryan & Deci, 2000, p. 71). In contrast, intrinsic motivation is the natural inclination to complete a task for oneself, with no outside rewards being proffered for its completion, an "inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn" (Ryan & Deci, 2000, p. 70). Of the two forms of motivation, intrinsic is better for producing deep learning (Kohn, 2007; Ryan & Deci, 200).

Studies have further explored how to nurture intrinsic motivation in students (Marinak & Gambrell, 2008; Pulfrey, Darnon, & Butera, 2013; Ryan & Deci, 2000). Teachers who allow room for student autonomy in the classroom prove to foster more intrinsic motivation, whereas teachers who tend to be more controlling can diminish the amount of intrinsic motivation that a student exhibits or experiences (Ryan & Deci, 2000). Other research shows that extrinsic motivation often has a negative effect on fostering intrinsic motivation: a preponderance of extrinsic rewards can diminish and undermine intrinsic motivation (Deci, Koestner, & Ryan, 2001; Kohn, 1993). Scholars have also referred to intrinsic motivation as being an experience that is autotelic, where a person enters a state of consciousness that is so enjoyable that the experience is thought of as "having its goal within itself" (Lockwood, 2012, p. 231). Another term for an autotelic experience, of course, is the flow experience:

> Flow denotes the wholistic sensation present when we act with total involvement. It is the kind of feeling after which one nostalgically says: "that was fun," or "that was enjoyable." It is the state in which action follows upon action according to an internal logic which seems to need no conscious intervention on our part. We experience it as a unified flowing from one moment to the next, in which we feel in control of our actions, and in which there

> is little distinction between self and environment; between stimulus and response; or between past, present, and future. (Csikszentmihalyi, 1975, p. 43)

In "Play and Intrinsic Rewards," Csikszentmihalyi (1975) outlines six principal elements of flow, beginning with the merging of action and awareness. In order for a participant to experience flow, he must lose awareness of the "outside" and become completely involved in the activity at hand. The participant, however, will be unaware that he has merged action with awareness, as there will be no reflection during the flow. As soon as reflection is present, the flow has been broken.

The second element consists of centering the attention. In order for participants experiencing flow to center their attention, intruding or distracting stimuli must be kept to a minimum. Distracting stimuli can include the thought or desire of extrinsic motivators (grades, money, etc.) and can be detrimental to achieving absolute concentration. Csikszentmihalyi (1975) notes that "in practice, however, most people need some inducement to participate in flow activities, at least at the beginning, before they learn to be sensitive to intrinsic rewards" (p. 48).

The "loss of ego" (Csikszentmihalyi, 1975, p. 49) is the third element of flow. This refers to the Freudian ego, or the internal arbiter that negotiates between the needs of one's self and the demands of society. During a flow activity, the urge to worry about societal needs or concerns disappears. The fourth element is total control of action and environment. A participant in the flow state has sufficient control over an action, but "rather than an active awareness of mastery, it is more a condition of not being worried by the possibility of lack of control" (Csikszentmihalyi, 1975, p. 50).

Demand for action and proceeding feedback is the fifth component of flow. The action demanded by the activity is governed by certain rules. A participant in a flow experience expects to have a steady demand of action that they can predict or feel comfortable with. The feedback is not a reflective type of feedback, but rather an immediate sense of accomplishment or enjoyment provided by the activity. The sixth and final element of flow is the autotelic nature of the activity. One does not enter the flow experience due to external rewards or outcomes, as with actions performed for extrinsic motivation, but rather for the experience itself and enjoyment found therein (Csikszentmihalyi, 1975).

Flow experience can be found in numerous activities and hobbies, but it is particularly promising for the classroom. To begin with, research shows an explicit connection between flow and student achievement: "As implicit motivation predicts long-term behavioral trends and flow predicts quality of performance . . . the achievement flow motive predicts long-term academic success" (Busch, Hofer, Chasiotis, & Campos, 2013, p. 239). Studies also show that students were more likely to enter the state of flow and experience higher engagement when "the perceived challenge of the task and their own skills were high and in balance, the instruction was relevant, and the learning environment was under their control" (Shernoff, Csikszentmihalyi, Schneider, & Shernoff, 2003, p. 158). In his book on teaching argument writing, George Hillocks Jr. (2011) analyzes and applies the various characteristics of Csikzentmihalyi's flow experience to Language Arts education using the following guidelines:

- Choose activities that allow participants to exercise some control.
- Select tasks that have clear goals and objectives.
- Select tasks that students can concentrate on because they are appropriately complex for their present abilities.
- Select tasks that provide clear feedback.
- Plan learning experiences around tasks that our students have a chance of completing in the time available (p. 5).

These specific guidelines are the characteristics of the flow experience which a teacher can control and manipulate within the classroom setting. Hillocks further suggests that writing instruction can be designed to provide students with a flow experience in the classroom.

Similarly, in *Reading Don't Fix No Chevys*, Michael Smith and Jeffery Wilhelm (2002) examine literacy within the lives of adolescent boys and argue that the principles of flow theory should be applied to their literacy experiences at school. Much like Travis, the young boys that Smith and Wilhelm (2002) interacted with and studied led rich literacy lives outside of school. The problem, however, was that the boys' literacy lives rarely intersected with the school's definition of literacy, creating disinterest, disengagement, and an undervaluing of reading and writing.

The idea of creating flow experiences, for boys and girls alike, within the context of education holds enormous potential for student learning, and Csikszentmihalyi himself addressed the concept in his 1997 article entitled "Flow and Education." Creating flow experiences in the classroom is an "obligation we have as teachers, to make life count moment by moment to the students" (Csikszentmihalyi, 1997, p. 21). To return to my brother and Accelerated Reader, we might

ask how AR fits the flow theory understanding of motivation. What types of experiences are offered to Travis and other students through this program? Do these experiences create a flow state within the classroom and nurture intrinsic motivation? As I suggest below, Accelerated Reader—the most popular reading program in the country—violates the fundamental guidelines of flow theory: it strips students of control, mismanages task complexity, fails to provide clear and useful objectives, offers no useful feedback, and perhaps most damaging of all, mistakes extrinsic motivation for intrinsic.

One of the prerequisites for the flow experience is that participants have a certain amount of control: both the agency and the autonomy to make choices independently. Ideally, then, AR would promote students' control, allowing them to select books based on their interests and respond to those books in individualized ways. The autonomy which students are allotted, however, is not absolute; book choice is severely limited by AR. Ostensibly, students are allowed to pick books, but only if the pre-determined level of the book matches their reading level, or their assessed ZPD. A student can improve her reading level to access to more books, but her new level is based on her achievement on more short, multiple-choice quizzes. Using this process of objective evaluation, AR seeks to "guide students to books that are right for them" (Renaissance Learning, p. 8).

Travis' Home Library *Photo byNicole Willekes*

While this allowance of student control may appear to be far-reaching and even considerate of students' personal choices, studies have shown what is really happening in AR-oriented classrooms. Groce and Groce (2005) noted that while 60% of AR teachers permit their students to read books below their assessed reading level "some of the time" (p. 20), 24% of AR teachers "never" (p. 20) permit their students access to books below their reading level, and a full half, 50% of AR teachers, encourage students to read AR books "all of the time" (p. 24).

If half of AR teachers are encouraging students to choose all their books based on a point system, partially determined by a mathematical formula, and then read them with the knowledge that a multiple-choice quiz will follow, these students are not even given a chance to cultivate a "lifelong love for reading" (Renaissance Learning, 2013, p. 1). No room is left for recreational reading, the type of reading in which students can lose themselves in the story world, enter the flow, and read simply for the sake of reading.

And this says nothing about the thousands of parents who simply, and often correctly, see AR points as synonymous with their child's Language Arts grade (Cox, 2012; Ginno, 2011; Pavonetti, Brimmer & Cipielewski, 2002). These parents no doubt further encourage the continuous selection of AR-rated books for their children, in order help their children obtain good grades.

Moreover, while Renaissance Learning boasts an enormous selection of books for students, the reality is that no school district can ever afford the complete library. Research notes especially that as students progress into upper-level reading, the number of books available begins to decrease, posing a problem because the number of points required rises (Thompson, Madhuri, & Taylor, 2008). Cox (2012) notes that "when children are relegated to reading books in the library that are identified with colored stickers to indicate their particular reading level, they are robbed of the opportunity to develop selection strategies they can independently implement for a lifetime" (p. 18). This element of control that AR withholds from the student misappropriates a fundamental

condition of flow experience within the classroom: appropriate student autonomy.

Another key component of the flow experience is the complexity of the task. A task must allow a student to be successful on her own, and so her level of mastery must be carefully balanced with an appropriate amount of challenge, so as not to allow complete mastery over an activity (Csikszentmihalyi, 1997). If a student already has complete mastery over an activity, when the "skills are high and the challenges are not so high" (Csikszentmihalyi, 1997, p. 18), she will not increase her skills. In order for students to learn and build their skill sets, therefore, the challenges must be kept high. On the other hand, if not enough control is given, i.e. the skills are low and the challenges are high, anxiety takes over and can overpower learning (Csikszentmihalyi, 1997). In order to create a situation where a flow experience and learning can occur simultaneously, a teacher must add sufficient challenge to the skills which the student has already mastered.

On the surface, AR appears to match students with appropriately complex books. Renaissance Learning (2013) explains that reading books at a higher difficulty level than the student can manage will be frustrating, while books that are too easy can produce boredom and will fail to develop reading skills. This traces back to how AR measures a student's competency with the objective quizzes. While this alignment of AR's ZPD assessment and flow theory's idea of control and challenge coincide comfortably in theory, however, the student skill sets quickly become superficial and categorized when put into practice by AR. A quick 15-minute assessment does not even begin to classify the complexity of a student's reading level, and yet AR bases the assigned task complexity on this brief assessment.

One cannot deny the attractiveness of the idea of a clear-cut, quantifiable reading level for all students. The ability to diagnose students' reading levels nearly instantly seems to make the teacher's job easier and more organized. In fact, the individual reading levels of an entire class of students can be determined within minutes, using the STAR assessment (Renaissance Learning, 2013). But this quick, data-driven approach to assessing readers and their abilities contradicts extensive research regarding the ways in which students respond to and understand texts.

Wilhelm (2008), for instance, delineated the dimensions of readers' responses in *You Gotta BE the Book*. He found that students respond to texts within at least ten different dimensions. These dimensions include but are not limited to: "entering the story world," "showing interest in the story," "relating to characters," "seeing the story world," "elaborating on the story world," "connecting literature to life," "considering significance," "recognizing literary conventions," "recognizing reading as a transaction," and "evaluating an author, and the self as reader" (p. 67-68). Wilhelm notes that when teachers interact with a text through classroom activities, discussions, or lectures, many of these dimensions are overlooked or devalued. If teachers are missing some of the reading moves that students make—the way a student, for example, might think of his older brother as he reads *The Perks of Being a Wallflower*—it seems unlikely that a 15-minute objective quiz can determine the individual reading level of every one of our students.

In addition to control and task complexity, a third critical component of the flow experience involves establishing objectives. Clear goals are mandatory in order to facilitate a flow experience in the classroom. Hillocks (2011) notes that "poorly conceptualized objectives undermine the entire process of teaching and lead to poor learning or nonlearning" (p. 6). Classroom goals must be created which carry students along "moment by moment" (Csikszentmihalyi, 1997, p. 21), demanding their concentration and attention throughout every step of the learning process. The "little goals are what directs your attention, what makes you able to focus—not the overall goal of getting to the top of the mountain" (Csikszentmihalyi, 1997, p. 21). Overreaching, or "umbrella," goals are useful as well, but should be kept within teachers' planning books where they belong, as they are simply too large and unfocused for students to be drawn into with any substantial amount of concentration or excitement.

Perhaps the most harmful message that AR sends involves the purpose for reading: we read, the program suggests, to pass quizzes and accumulate points. Beyond ignoring real reasons for reading—enrichment, pleasure, vicarious experiences—the AR formula stresses factual and superficial textual recall. The goal of earning points is equally misguided. A student's percentage score on a quiz is the same percent of points which he will earn from the total number of points that a book is worth. For example, if the student has scored an 80% on a ten point book, he will earn eight points. In order to earn any points at all, he must score at least 60% on a quiz of five or ten questions, and at least a 70% on a quiz of twenty questions (Renaissance Learning, 2013).

Studies also show that the objective AR goals are not teaching students to think deeply or creatively about texts (Huang, 2012). Even when students are able and willing to discuss and engage creatively with a text, the desire for deeper

interaction is often overlooked and ignored. They will most likely be encouraged to move on to another book after taking the quiz. When looking more in depth at the AR assessment system, a teacher described a student who could "provide a plot summary and describe her favorite part of the book, but she failed the quiz" (Ginno, 2011, p. 18). Despite this student's obvious interaction and involvement with the book, the type of information required by the quiz did not even acknowledge these reactions. Students are being conditioned to read and store information related to the AR goals, and an observation of AR students' responses to independent questionnaires repeatedly observed that students had problems with questions that asked them to "manipulate the information in the passage to arrive at a logical conclusion that goes beyond a literal interpretation of passage content. Students struggled most with inference type questions and questions related to vocabulary" (Ginno, 2011, p. 19).

Another researcher noted that "the emphasis on numbers and efficiency through test scores and point totals" encouraged a very superficial type of reading, in which students only read for literal information (Schmidt, 2008, p. 204). Indeed, students "were learning to consume books quickly," take the multiple-choices quizzes, and move on (Schmidt, 2008, p. 205). The objectives for reading as posited by AR prove to be relatively useless to our students and detrimental to expanding and nurturing deeper thinking about texts. Due to their superficial nature, these goals not only disrupt the flow, but also make it impossible for teachers to plan for flow experiences within the context of reading, as long as AR quizzes are being used as the culminating experience.

In order for goals to be effective, they must also be useful to the students, teaching them new skills and equipping them with tools to grow as readers. The AR quizzes taken by students after reading are nothing more than recall and memorization (Groce & Groce, 2005; Huang, 2012): objective facts to discover a student's "comprehension" of a book, which in turn generate a numerical score, which is added to a point bank, which is used to adjust the numerical value of the reader and the numerical value of the book which he may choose for next time. Is this what we want to teach our students as the most important goal of reading? Reading for memorization of facts and objective knowledge?

The AR "reading comprehension quiz" offered to students for *Of Mice and Men* contains questions such as the following: "George lied when he told Carlson that_____. A: Lennie had taken Carlson's gun; B: he had enjoyed taking his revenge on Lennie, etc…" (Renaissance Learning, 2014). This objective treatment of the novel is nothing short of an insult to Steinbeck's 1937 work, a powerful and thought-provoking glimpse into the complicated dynamics of human relationships. "If we continue to let AR ask the questions, we may very well lose the interest of our students and create literal readers who only want to 'get points' and be done with reading. That's not teaching and that's not reading" (Schmidt, 2008, p. 210).

The process of taking computerized quizzes also ignores another important reading skill—the ability to form meaning in collaboration with other readers. Cox (2012) observes that AR drains the social interaction out of the act of reading, a detrimental step because "children's ability to comprehend books unfolds and develops over time through their meaningful oral interactions with adults and peers" (p. 18). Sitting down at a computer to take objective quizzes on books read alone does not in any way include a useful goal of learning how to read and comprehend literature.

What is at risk here is our students' intrinsic motivation to read. A participant in a study conducted within the context of a high school AR program told researchers:

> You have to write so many notes so you won't forget because it might be on the test. You're, like, so worried. Instead of being inspired or whatever and liking the book, you're worried, what did I forget, what did I forget? I have, like, 10 pages of notes. Reading is not fun no more. (Thomson et al., 2008, p. 556)

As this student observes, the end goal of passing the quiz takes away the enjoyment and engagement with the book, and perhaps most damaging of all, shuts the window of opportunity for a flow experience to occur within the context of literature. Another student told researchers the following with respect to his experience in the program:

> I like to read, but I don't read anymore, and I have time to read . . .Before, you would actually sit in your room and read a book and finish it in two days. Now, I'm, like, after I finish the book, I have to go to school and take a test on it. (Thompson et al., 2008, p. 555)

Again, we can see the goal interfering with the experience. The objective test looming in the student's mind proves to be a disrupting factor to engaging in a flow experience with the book. In the case of this particular student, reading as an autotelic experience is derailed because reading has simply become another facet of standardized testing.

The fourth and final component of the flow experience overlooked by AR is feedback. Csikszentmihalyi (1975) tells us that a flow experience "provides clear unambiguous feedback to a person's actions" (p. 52). When a person is experiencing the flow, he always knows how well he is doing. This constant knowledge of how well he is doing, coupled with the constant demand from a task of appropriate complexity, fuels the flow experience. Feedback is found in every activity that allows for a flow experience. A person who plays the piano, for example, will receive feedback from the sounds that she is creating on the piano. If mistakes are made, they can be heard and corrected immediately (Csikszentmihalyi, 1997). Likewise, a painter receives feedback by the quality of his painting, seen immediately when the paint is applied to the canvas.

So where is the feedback for readers who are experiencing the flow? In a closer look at the flow experience in relation to reading, Smith and Wilhelm (2002) address this question by drawing on Rosenblatt's definitions of efferent reading and aesthetic reading. Louise Rosenblatt (1978) defines efferent reading as a means to an end, a way to gain information, where "the reader's attention is focused primarily on what will remain as the residue after the reading" (p. 23). These efferent texts commonly include magazines, newspapers, and textbooks. On the other hand, an aesthetic reading focuses not exclusively on what information is to be derived from the text, but rather, "what happens during the actual reading event" (Rosenblatt, 1978, p. 24). This type of reading includes novels and longer works, and is often the type of reading that readers will engage in for pleasure, recreation, or reading for the sake of reading.

To educators and parents who are unaware of the long-term, damaging effects of the program, it simply appears that students are reading more books in school and at home, motivated by the short-term goal of earning more AR points. When the rewards are gone, however, so is the reading.

Just as the reasons for reading these two types of text are different, the feedback received from both of them is also different. A successful efferent reading will reward the reader with the information she is searching for. Feedback then, is clear: the reader will know if she has obtained the desired knowledge (Smith & Wilhelm, 2002). Feedback for aesthetic reading, however, is found in the enjoyment or the experience that the reader derives from the text: is the text providing him with enough aesthetic pleasure to continue reading? While experiencing the flow, feedback within aesthetic reading is subconscious, however, because "the person is too concerned with the experience to reflect on it" (Csikszentmihalyi, 1975, p. 53). Looking at these two types of reading, it is clear which type we as literature teachers desire to encourage. While efferent reading is a useful and necessary skill, aesthetic reading is the discovery and joy of highly-engaged readers, who through their reading have the ability to lose themselves within texts, enter the story world, and continue on to joy and succeed within multiple dimensions of the reader's response.

Within the context of ELA, we can focus on providing for a flow experience throughout the various phases of the reading process, not just during the reading of the text itself. Not only should students be guided towards rich texts which will facilitate flow experiences, but the classroom activities and tasks following the reading should also be designed to offer satisfactory feedback. Hillocks (2011) describes a highly-engaging literature discussion in which one of his ninth-grade classes participated and wraps up with a key component of the flow experience in a literature classroom: "Discussion is key to flow, and that day, the boys and girls in my class were in it. People were listening to what they had to say and responding to their ideas—perhaps the most important feedback for literacy learning" (p. 11).

Hillocks makes an essential point here: in order to achieve the flow, feedback must come from interaction and engagement, not from a computerized quiz system. To miss an opportunity for extended, peer feedback is to miss an opportunity for an extended, aesthetic response to a text. Groce and Groce (2005) note that when students are left only with objective, literal questions after an encounter with a text, "they are missing out on the myriad of opportunities to engage in aesthetic response and creative endeavors related to reading experiences" (p. 21). A teacher provided the following anecdote regarding what she observed with one of her students involved in AR:

> Becky had a dreamy look on her face the day she approached me hugging her copy of *Roll of Thunder, Hear My Cry*. "I finished it, Mrs. Schmidt," she said. "I'm ready to take the test, but I wish it wasn't over. I loved this book!" The [AR] test consisted of 20 literal multiple-choice comprehension questions, and she answered them all correctly. She chose another book in the library, but just could not get started reading it. She needed more time to think about *Roll of Thunder* (Schmidt, 2008, p. 204).

This example illustrates the need for creative extension activities for readers. The fact that Becky had correctly

answered all the factual AR questions and was still not satisfied with putting the book down is something that more teachers would love to see in their readers: an opportunity for learning about and interacting with a text, past the first aesthetic reading. Engaging Becky in a discussion about the book's themes, such as racism and identity, would have no doubt proved to be a rewarding experience for Becky, as well as a valuable learning opportunity. Readers like Becky are being shut down by AR quizzes over and over again. The AR program cannot always stop readers from engaging aesthetically with texts, it can stop—and does so abruptly—the chance for feedback past the text, the chance to engage in conversation and enter the flow throughout creative extension activities. Constructive feedback in the AR program, aside from the numerical score offered on a student's recall of various literal details from a book, is not even an option.

If teachers are able to structure their reading classrooms to allow for these fundamental conditions of flow theory, however, the benefits and results of flow will hopefully follow, where "concentration is deep, problems are forgotten, self-consciousness disappears, the sense of time is altered, [and most importantly,] the experience becomes autotelic- it is worth having for its own sake" (Csikszentmihalyi, 1997, p. 9). The idea that the experience becomes autotelic is of crucial importance for us as teachers. This is the driving motivation to study flow theory and apply it to our classrooms, the whole reason behind a critique of the AR program through the lens of flow theory. If AR fails to allow room for the conditions of the flow experience, AR also fails to allow for the benefits of flow, and reading fails to become an autotelic experience for our students. AR pushes external rewards, a point system, and extrinsic motivation factor, despite the fact that "tangible rewards do indeed have a substantial undermining effect [on intrinsic motivation]" (Deci et al., 2001, p. 1). Renaissance Learning has disregarded important research about motivational theory and instead has commercialized a computerized reading program which has turned reading and literature into "AR points" and a system of short-term extrinsic rewards.

Despite all this, AR experiences widespread use in the K-12 school system. To educators and parents who are unaware of the long-term, damaging effects of the program, it simply appears that their students are reading more books in school and at home, motivated by the short-term goal of earning more AR points. When the rewards are gone, however, so is the reading. Worse yet, AR hides long-term dangers to our students' intrinsic motivation. Perhaps Csikszentmihalyi himself foresaw the danger, in 1997, when he gave a speech on flow theory in relation to education, and also addressed the creation of lifelong learners:

> The point is that if the child becomes intrigued, if the child becomes self-motivated, autonomous, then you have done the greatest service you can do; you have really achieved what teaching can be about, which is to set the child on a course of lifelong learning. (p. 28)

Renaissance Learning (2013) also boasts the creation of a "lifelong love of reading" (p. 1), but fostering an intrinsic motivation to engage with texts is what creates this, not a computerized quiz system which offers our students cheap, extrinsic rewards, which in themselves have nothing to do with enjoying or exploring texts.

I recently talked with my little brother about how he chooses books, and he told me a couple criteria that matter to him. He looks at overall themes, at what the picture on the front and the description on the back tell him, and also the size of the physical print in the book. Overwhelmed by very small text, he usually prefers larger-sized print. His favorite authors are Erin Hunter, Christopher Holt, and Jim Davis. I did a search on the AR BookFinder (2014) to find out a little more about Travis' favorite authors and discovered that Erin Hunter's ATOS ratings range anywhere from second grade to seventh grade, and although the interest level is Middle Grades, Christopher Holt's highest ATOS level is fifth grade and one month. Travis has apparently outgrown Christopher Holt about six months ago. Unfortunately, out of the over 50 comic books that Davis has published, AR has only rated two of them, both of which land on a third grade level (Renaissance Learning , 2014).

Taking into account the structure of the AR program and its severe misalignment with students' pre-existing literacy habits, it's no surprise that Travis doesn't see any ground to call himself a reader anymore. Despite the restrictions of the AR program on his reading habits, however, my little brother continues to read in his own way, on his own time, and is learning to distinguish "school reading" from real reading. It doesn't say much for a literacy program if students as young as ten are realizing that these two concepts have become separated.

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