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In the Flow: A Mixed-Methods Phenomenological Study of Optimal Experience in Adolescent Literacy

Susan E. Miles
Gardner-Webb University

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In the Flow: A Mixed-Methods Phenomenological Study of Optimal Experience in
Adolescent Literacy

by
Susan E. Miles

A Dissertation Submitted to the
Gardner-Webb School of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Gardner-Webb University
2012

Approval Page

This dissertation was submitted by Susan E. Miles under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

Sydney Brown, Ph.D.
Committee Chair

Date

Jane King, Ed.D.
Committee Member

Date

Nancy Breard, Ph.D.
Committee Member

Date

Frances B. Burch, Ph.D.
Dean of the Graduate School

Date

Abstract

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This study is concerned with the *flow* experience of students while involved in independent reading. Based on Csikszentmihalyi's theory of flow, this experience is one of total engagement to the point of immersion involving deep concentration; enjoyment; and a loss of a sense of time, place, and self.

This is a quan>Qual study, which began with a quantitative measurement to determine a criterion sampling, followed by the primary research method, a transcendental phenomenology of flow during voluntary, independent reading. This primary research method was used due to the lack of research available on flow in the field of literacy for purposes of expansion on flow theory in this domain and a better understanding of the antecedents, indicators, and consequences of flow in reading. Quantitative methodology was utilized to obtain the criterion sampling through the Flow State Scale (FSS). This quantitative score was "qualitized" (Tashakkori & Teddlie, 1998, p. 126), which is to transform quantitative data into qualitative, in order to compare the results of the FSS with the qualitative results (meaning units) to provide complementarity, development, and trustworthiness.

Twenty-three high school freshmen students participated in this integrated mixed methods study. One adult likewise participated by taking the online FSS to illuminate some of the freshmen participants' answers.

The study found three themes as antecedents of flow (interest, isolation, and social literacy contracts); one main theme indicating flow (telepresence) with four subdimensions (vision, empathy, transformation of time, and concentration); and three themes (reading comprehension, enjoyment, and creativity) related to consequences.

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Chapter 1: Introduction

Statement of the Problem

The research problem. The problem studied was the application of the psychological construct of flow theory to literacy, in particular to independent reading. Adolescent literacy is a serious concern in many high schools today. In fact, today's lack of literacy "summon[s] the language of crisis" (National Council of the Teachers of English [NCTE], 2007, p. 1). According to recent National Assessment of Educational Proficiency (NAEP) results, proficiency in literacy for seniors in high school has dropped from 80% in 1992 to 73% in 2005 (NCTE, 2007). Not only are literacy levels declining from previous decades, but longitudinal research from 2002 to 2006 showed little to no progress being made between the eighth and twelfth grades in writing (NCTE, 2007). Furthermore, ACT scores revealed that less than half of high school graduates are college-ready in literacy (NCTE, 2007).

This lack of literacy is crucial because literacy, more than just a predictor of immediate academic success, has the long-term potential to create individual wealth and well-being as well as to contribute to the national economy and stability (Black, 2006). Moreover, the lack of literacy is disproportionately an ongoing issue among racial minorities and families of low socioeconomic status (NCTE, 2007), thus continuing the cycle of poverty and domination (Black, 2006). Students who fall behind in literacy in elementary school struggle to succeed in all or most subjects in high school (Chall, 1983). Chall (1983) further asserted that in elementary school, students learn to read; after that they must read to learn. This shift in instruction presents a further hindrance for those who have not yet become fluent in decoding and in constructing meaning from text. This lack of equity and access in literacy is an issue of *social justice* (Moje et al., 2004).

Flow theory might have potential to address this issue. Flow is a psychological concept developed by Mihaly Csikszentmihalyi (1997) and studied by many others, e.g., Samuel Whalen (1998), Jeanne Nakamura and Mihaly Csikszentmihalyi (2005), and Kevin Rathunde (2003). It refers to the experience individuals subjectively undergo when totally engaged in an activity (Guo, 2004). Flow is described as a “peculiar dynamic state – the holistic sensation that people feel when they act with total involvement” (Csikszentmihalyi, 1975, p. 36). Flow conceptualizes channeling mental and psychic energy into a focused mental state of concentration on a task at hand. Criteria for a task that could provide opportunity for flow are several-fold: appropriate level of difficulty (complex and challenging), appropriate skill set, clear-cut goals, immediate feedback from the task, and autonomy over actions taken (Csikszentmihalyi, 1990). If the task is balanced in difficulty with a student’s skill set, he/she will not enter entropy and experience boredom or anxiety, but flow. Signs of being in flow are intense concentration, effortless involvement that takes one away from his/her surroundings, sense of control, unawareness of self, and telescoping or lengthening of time (Csikszentmihalyi, 1990). The state of flow is often described as enjoyable, though because of the challenging nature of the task, it is not always described as pleasurable. Many who regularly experience flow are reported to say that the experience is addictive, extremely motivating, and intrinsically rewarding to the point that they want to repeat, or engage in, the same flow experience once more (Csikszentmihalyi, 1990). Consequently, many researchers use the term *optimal experience* to reference the state of flow (Chen, 2000; Chen, Wigand, & Nilan, 1999; Csikszentmihalyi, 1990; Guo, 2004; Rathunde, 2003).

Background of the Problem

One possible contributing factor to low literacy skills is low student engagement in reading (NCTE, 2007). The root of this lack of engagement lies in the area of motivation (Guthrie, 2001; Guthrie & Humenick, 2004). “Motivation can determine whether adolescents engage with or disengage from literacy learning” (NCTE, 2007, p. 4). The research policy statement on adolescent literacy goes on to say that unless students have engagement, their participation in literacy declines. The NCTE pinpoints another important factor tied to engagement, students’ self-efficacy. Vital to engagement in literacy is having continued successful literacy experiences. Lack of confidence and self-efficacy will cause them to disengage from reading (NCTE, 2007). Moreover, another aspect of engagement in literacy is to provide relevant and “meaningful connections” (NCTE, 2007, p. 4). Flow might have the potential to impact reading engagement, motivation, and satisfaction. One task before educators is to help readers find the match between interest, challenge, and skill level. Interestingly, these last two are criteria for flow to occur according to Csikszentmihalyi (1990) and the first criterion has been added recently to flow theory by Guo (2004).

Another potential factor related to the problem of low literacy skills might lie in book selection, tied once again to interest (Moje, 2007; Ross, 2001). Researchers who have formulated theories on motivation and engagement have cited interest as a key component, matched with skill and challenge (Csikszentmihalyi & Figurski, 1982; Gazzara, 2003). Csikszentmihalyi and Figurski’s (1982) study on flow and interest found that interest was a significant factor in positive affect and engagement, and that as choice increased, so did flow. Moreover, Guo’s (2004) study of engagement, or flow, in internet shopping specified interest as a significant factor. Utilizing the Flow State Scale (FSS),

developed by Jackson and Marsh (1996) and the Internet Flow Scale (IFS) in a Multitrait-Multimethod validity study, Guo (2004) measured playfulness and interest in relation to engagement and found that it had a direct impact on the balance of challenge and skill and an indirect impact on flow. Huang's (2003) study found similar results. In fact, in both studies, interest was positively correlated with intrinsic motivation and flow, a stronger factor in flow in leisure settings than flow in work settings. In the domain of literacy, successful reading coaches emphasize the interest level of a book over its classic quality as a key to engagement (Moje, 2007; NCTE, 2007; Ross, 2001).

Finally, poor literacy support in the home context could be another probable factor in low literacy levels. Adolescents become engaged in literacy when they understand the social contexts and purposes of literacy (NCTE, 2007). Deborah Rowe (2008) researched students who excelled in literacy in a longitudinal, ethnographic study of social literacy contracts. She began the study while the participants were in preschool and identified nine literacy contracts established by ages two and three, if reading were a socially transactive experience in the home environment (Rowe, 2008). These students associated reading with positive affect and engagement. On the other hand, when literacy is not socially transactive in preschool years, the question should be explored if students might be left with a deficiency in literacy and corresponding lack of engagement. Rathunde's (1996) study indicated a correlation between flow, social relationships within the family structure, and student achievement.

Interweaving throughout the themes of engagement, interest, and socially transactive environments, the psychological construct of flow theory has potential to impact student literacy. Flow is a state of total immersion and concentration in a task to the point that time, place, and self are forgotten temporarily (Csikszentmihalyi, 1990).

This theory has been extensively researched in the arts, sports, business, and online contexts and examined for its antecedents, predictors, and impacts in these areas, yet very few studies have been done on flow in the academic setting. Exploring over 700 research studies and dissertations has revealed only five studies on flow in an educational environment. Yet research has shown that the flow state is a reinforcing cognitive state that produces intrinsic motivation and positive affect to repeat the activity. This flow state is achieved through a match between skill and challenge, considered a flow antecedent (Csikszentmihalyi, 1990). Conversely, the negative affect towards literacy and the avoidance behavior, which struggling readers often experience (Robinson, 2010), could be typical of lack of flow, which Csikszentmihalyi (1990) termed *psychic entropy*. He stated if there were no match between skill and challenge, then the states of boredom or anxiety would occur, which he termed *channels*. Additionally, further research on flow antecedents identified interest as another possible component of the flow equation (Csikszentmihalyi & Figurski, 1982; Gazzara, 2003; Guo, 2004). Furthermore, connecting to social literacy, several studies have found that an emotionally supportive environment can facilitate flow (Csikszentmihalyi, 1990; Fero, 2005; Gazzara, 2003; Rathunde, 1996).

In academic settings flow has potential to increase student achievement and produce the optimization of student talent (Csikszentmihalyi, Rathunde, & Whalen, 1993). Referring to literacy, Csikszentmihalyi (1997) briefly referenced a German study that found a direct correlation between flow and reading motivation, i.e., more frequent flow experiences for those who read more often. The theory of the flow experience could possibly hold significant implications for reading affect, satisfaction, and reinforcing motivation – possibly even reading achievement itself.

The study of flow theory began in the qualitative realm. Early flow studies were qualitative through self-reports and questionnaires until enough data emerged to begin quantitative measurement of channels of flow and indicators of the state (Csikszentmihalyi, 1975; Guo, 2004). Then research developed and tested quantitative scales, which have been predominantly the Experimental Sampling Method (ESM) and the Flow State Scale (FSS), which are quantitative measurements of the indicators, levels, antecedents, and consequences of flow (Csikszentmihalyi, 1975; Csikszentmihalyi & Csikszentmihalyi, 1988; Jackson & Marsh, 1996). The ESM (1990) was developed to sample randomly an individual's states throughout the day in differing activities to determine if he/she were in flow, what level of flow, and consequences to the flow state. The FSS came along later and focused specifically on sports activities among athletes. The FSS measured the flow experience as perceived by elite vs. non-elite athletes, older vs. younger athletes, and male vs. female (Tenebaum, Fogarty, & Jackson, 1999). Today the FSS has two formats to measure the nine dimension of flow: one to measure active or work settings and one designed for more general measurements, perhaps applicable to leisure settings.

This research study examined literacy through the lens of flow theory. However, to make the application of flow theory to independent reading, one must understand that reading differs in nature from some of the fields in which the theory was developed. Much of the research has been done in athletics, business, the arts, and online contexts (Csikszentmihalyi, 1990). In all of these there is a product created or a clear goal, a defined *win*; thus, Csikszentmihalyi's criteria of clear-cut goals is essential and understandable. However, in leisure activities, particularly the experience of voluntary independent reading, this criterion might be much more amorphous, maybe nonexistent (Guo, 2004).

When an individual sits down to read a book for pleasure, a clear-cut goal might not exist in such a leisurely activity. As a result, some flow studies have labeled leisure activities as “hedonic” and “experiential” and differentiated them from work activities, which are “utilitarian” and “goal-directed” (Guo, 2004, p. 75). Leisure activities studied for flow are internet shopping/surfing and TV watching (Ghani, 1995; Nel, van Niekerk, & Davies, 1999; Skadberg & Kimmel, 2004). In fact, because these leisure activities are passive and less competitive than the traditionally studied flow activities, an entirely separate scale of measurement was developed called the Internet Flow Scale (IFS). Guo (2004) tested the IFS in his 2004 study of flow and compared it to the FSS in leisure activities. In the study, he found that some aspects of internet shopping are not goal-directed, such as unintended purchases and internet surfing. These conclusions led Guo (2004) to label some aspects of internet activity with a broader definition of a goal because an individual’s enjoyment of the experience itself became the goal, rather than being intent on an outward goal (p. 79). Guo (2004) found the flow state in a leisure activity can be engrossing and bring pleasure and reward, similar to a goal-directed activity. Guo (2004) also found that telepresence was a missing dimension from the classic flow theory, present in some leisure activities. Telepresence is the feeling of being in another place, the mental creation of another world outside of the person’s reality (Guo, 2004).

In the field of education, there is very little research on flow. Rathunde (1993) did a study on flow’s relation to the family context and its impact on education, and another on traditional education vs. Montessori education (Rathunde, 2003). Both of these dealt solely with gifted population samples, yet very little research otherwise has been done on flow in academics and only four in literacy. Out of over 700 research studies examined in flow, only five studies applied directly to the classroom: One was in the field of writing

(Abbott, 2000), one in math (Meyer, Schweinle, & Turner, 2006), two in English (Bailey, 2011; Kerns & Bailey, 2010), and one in English language learners and literacy (Robinson, 2010). These studies were qualitative and exploratory due to the dearth of flow research in the education field. For expansive purposes to add to the knowledge of flow theory in literacy, further exploratory research needs to be done.

When flow itself was first formulated as a psychological construct, the research was primarily qualitative. Once again, when flow was first studied in leisure activities, in particular the internet, research was initially qualitative in order to uncover its components (Nel et al., 1999; Novak, Hoffman, & Yung, 2000). Its application to the field of education calls for further qualitative uncovering of the components, particularly as applied to literacy. Not only does flow in the field of education need to be explored but also in specific domains and disciplines like math and reading, as well as the classroom applications of the theory as they are uncovered. According to Csikszentmihalyi and LeFevre's (1989) research, the flow state increases affect, motivation, creativity, potency, and satisfaction. If any or all of these consequences are found with flow in independent reading, the impact could be profound. Motivation has been positively correlated with reading engagement and reading engagement with reading achievement (Guthrie, 2004; Guthrie & Wigfield, 1999; Meltzer & Hamaan, 2004; Robinson, 2010). The potential application of flow theory to literacy, specifically independent reading, could increase student frequency of reading, affect and motivation toward reading, and possibly reading achievement itself (Csikszentmihalyi, 1997; Guthrie & Wigfield, 1999). Consequently, the experience of the flow state needs to be explored to uncover the components of flow and its application to reading in relation to motivation, engagement, barriers, differing entry points, and varying responses.

Topic

The topic is the antecedents, experience, and consequences of flow in reading.

Purpose

The purpose of this study was to expand on flow theory as it applies to the domain of reading independently and to construct and uncover the antecedents, experience, and consequences of flow in reading. By studying those who self-report the flow experience in independent reading, knowledge of the particular components of flow might aid in introducing the experience to those who have not previously experienced it and, as a possible outcome, increase affect, motivation, and achievement in reading.

Deficiencies in the Evidence

Though a number of research studies have been published on flow, the lack of direct evidence in the literature is large because very few research studies have been done in the academic context on flow theory, particularly flow in literacy. Some studies exist in the situations related to academics (the arts and web design), but only a few in specific core academics, such as one in math (Meyer et al., 2006), one in writing in the elementary school (Abbott, 2000), two in the English curriculum (Bailey, 2011; Kerns & Bailey, 2010), and one with English second language learners and literacy (Robinson, 2010), which was the only one the researcher has found so far specifically in reading.

If the search is broadened to include a possible synonym of flow in reading, which is *reading engagement*, many research studies show up; however, after examining 200 studies on reading engagement, using this term as a synonym for flow and equivalent to it has serious difficulties. These studies rely heavily on outward observation of reading engagement instead of internal measurements done by self-reports. Measuring reading engagement by how busy students appeared outwardly as determined by teacher and/or

parent observation is problematic in equating reading engagement with flow, whose very nature is a subjective perception (Robinson, 2010). Robinson (2010) stated that Lutz, Guthrie and Davis (2006) defined reading engagement in the classroom as a “product of students’ behavioral, cognitive, affective, and social involvement” (p. 7). As applied to reading, reading engagement is always looking at an appropriate book at an appropriate time, answering questions in class, or even making interesting contributions to the class (Robinson, 2010). Furthermore, Blom-Hoffman, Dwyer, Kelleher, and Novak (2003) presented engagement in reading as “a behavior that is readily observable by teachers” (p. 132). This description of reading engagement would fall into the definition of *behavioral engagement* (Fredricks, Blumenfeld, & Paris, 2004; Lutz et al., 2006) and differs greatly from the inward, subjective nature of flow. Robinson (2010) further asserted that behavioral engagement in reading is the “active participation [in class] . . . as seen through on-task behaviors, participation, relatedness, and autonomy” (p. 7). Robinson and others asserted that engagement is multi-dimensional and that there are two other forms of reading engagement: affective and cognitive (Connell, 1990; Connell, Spencer, & Aber, 1994), which are addressed further here.

Another issue with equating flow with reading engagement is that the majority of these studies when they did measure students’ reading engagement internally, often used surveys that measured student inference, relevant connections, and understanding of the text *after* reading, along with affect and motivation, rather than the student’s psychological and cognitive state *during* reading. One exemplar is Luyton, Oescgarm, and Coe’s (2008) study that explored affect and reading frequency in a series of statements from which students could self-report: “I read only if I have to,” “Reading is one of my favorite hobbies,” “I like talking about books with other people,” “I find it

hard to finish books,” “I feel happy if I receive a book as a present,” “For me, reading is a waste of time,” “I enjoy going to a bookstore or a library,” “I read only to get information that I need,” and “I cannot sit still and read for more than a few minutes.” The level of engagement was derived from the degree of agreement with these statements. These statements explore affective engagement but only *after* reading, which would be a consequence of reading once again, not the actual experience *during* reading itself. None of these statements address the actual experience of what is cognitively and/or psychologically going on inside the student as he/she reads independently. Furthermore, another obstacle in equating engagement and flow in independent reading for the purposes of this study is that many of the studies focused on reading in class rather than independent, voluntary reading for pleasure.

Another study by Skinner, Kindermann, and Furrer (2009) examined key indicators of engaged behavior, including degrees of effort exerted and persistence, as well as levels of focus and attention. They also measured perceived control and goal-based behavior. Some of these indicators – focus, control, and goals – tie in with flow theory. This study also used teacher observation of the indicators, along with student surveys that quantitatively measured enthusiasm, interest, and enjoyment – but only *after* reading, once again not *during*. A further exemplar is a study by Schraw, Flowerday, and Resietter (1998), who explored the correlation between choice and reading engagement, specifically cognitive engagement and affective engagement. They looked at students’ emotional reactions after reading an assigned text for class that another group of students had rejected and the cognitive connections they made after reading in inference and relevancy. Once again, the study is on reading as work, on the emotions students experienced *afterwards* toward the texts, and on inference and relevance *after* reading,

which refers to the use of the text. In no way does the study qualify as an examination of the psychological state of flow during reading independently.

These studies are problematic to include in a study on flow because inference, relevance, comprehension, affect, and motivation are consequences of the reading experience, not the psychological state a student experiences while reading itself (Robinson, 2010). In fact, some have criticized the term reading engagement as very loosely used and not clearly defined; Fredericks et al. (2004) defined reading engagement as “very general rather than precise,” as an umbrella that covers and “overlaps with other constructs” and is extremely ambiguous (p. 84). Cole (2003) agreed with Fredericks et al. (2004) that engagement has become an “umbrella term” that includes interest, but not necessarily engagement to the point of losing track of time. Cole (2003) further argued that flow and engagement are separate terms altogether. Robinson (2010) further asserted that reading engagement is a “messy” construct, very broadly defined and too often outwardly observed, rather than subjectively studied (p. 7).

The term *cognitive engagement* in reading is more specific than reading engagement and appears promising when looking for flow. However, cognitive engagement is defined as determining inference and relevant connections made from the text, not the subjective experience during the reading process itself (Robinson, 2010). Cognitive engagement is focused on the cognitive consequences from the reading engagement, not on the actual experience of flow or engagement while reading. Furthermore, Csikszentmihalyi (1997) asserted that a strong sense of unconscious control is required for flow to occur, which he called the paradox of intense engagement, a belief in conflict with the deliberate, strategic use of metacognitive strategies in cognitive engagement. Also, contradicting the equation of reading engagement with flow,

Robinson (2010) in her study on flow in literacy with English language learners defined engagement by asserting that it “does not simply mean to do an activity, but it means having intense concentration that allows students to fall into another time and place regardless of the external or internal motivators that got them there in the first place” (p. 6). As Wilhem’s (2008) students suggested in his study on reading, “You gotta be the book,” the axiom that became the title of his book (p. 6). That is the essence of flow.

Another deficiency in the evidence is that some of the studies in flow present somewhat conflicting and incomplete evidence. Csikszentmihalyi (1988) presented four channels related to flow and the balance of challenge and skill: anxiety, apathy, boredom, and flow. On the other hand, Massimini and Carli (1988) asserted eight: arousal, control, flow, boredom, relaxation, apathy, worry, and anxiety. Moreover, differences exist in the application of flow to differing activities, e.g., antecedents overlap indicators in some studies, depending on the nature of the activity: leisure or work (Robinson, 2010). Finally, some studies assert certain traits are antecedents of flow while other studies present the same characteristics as indicators of flow (Robinson, 2010). Empirical research on flow during specific tasks in differing contexts has been confusing and contradictory, somewhat because of the lack of agreement on the definition and measurement of flow (Finneran & Zhang, 2005; Shin, 2006; Siekpe, 2005). Moreover, Shin (2006) asserted two different theoretical viewpoints and two different models in researching flow (Chen, Wigand, & Nilan, 1998; Guo, 2004). Even more confusingly, Chen et al. (1998) found that three of the classic flow dimensions (enjoyment, clear goals, and attention) measured significantly lower in hedonic, or experiential, activities than in goal-oriented, or work, activities.

Due to the somewhat incomplete and conflicting understanding of flow theory

and the lack of research on flow in literacy, an integrated mixed methods study (quan>Qual) is needed to clarify some of these issues specifically dealing with flow in independent reading. A quan>Qual study is a research study begun with an initial quantitative measurement, which is followed up with the dominant qualitative research methodology (Sandelowski, 2000). A mixed methods approach might yield new insight, help to reconcile some of the confusion, and fill in the gaps in existing knowledge of flow theory in leisure activities, particularly in independent reading.

Audience

Those most affected by a lack of literacy skills are struggling and reluctant readers who lack motivation to read independently. In order to increase independent reading and perhaps reading achievement, the nature of the reading experience of those who enjoy reading and become totally immersed in it, as indicated by flow, needs to be examined for antecedents, indicators, and consequences of flow. Possibly these findings can be added to the body of knowledge on flow theory and aid in later research to develop a theory of flow in literacy. Only by studying those who experience flow in literacy can the aspects of flow theory as applied to literacy be uncovered. By studying those who self-report flow, perhaps these findings can be extrapolated to those who lack motivation to read independently, thus improving their affect, motivation, and skills. This precedent has been set by researchers in arts, athletics, and education (Csikszentmihalyi, 1990; Rathunde, 2003). Moreover, a greater understanding of flow in reading might aid educators in designing literacy instruction and curriculum. Finally, there might be some indication for further research into the Flow State Scale (FSS) in order to adapt the scale to measure flow in reading.

Definition of Terms

Flow. Flow is “a state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it, even at great cost, for the sheer sake of doing it” (Csikszentmihalyi, 1990, p. 4). It is a state of “total involvement” coined by the research subjects themselves who described it with the term *flow* (Csikszentmihalyi, 1988).

Literacy. Literacy “encompasses reading, writing, and a variety of social and intellectual practices that call upon the voice as well as the eye and hand” (NCTE, 2007, n.p.). Moje (2007) defined literacy as interaction with written texts, which includes reading and writing as behaviors situated in social customs, purposes, and settings. Pianfetti (2001) quoted Selfe, who added, “Moreover, literacy today also includes ‘the ability to learn, comprehend, and interact with technology in a meaningful way’” (p. 256). In summary, literacy in this study will focus on the ability to decode text (print and nonprint, written or online) and to construct meaning.

Social literacy contract. A social literacy contract is “shared cultural knowledge that individuals draw on to produce and use written texts in culturally appropriate ways” (Rowe, 2008, p. 66). In other words, this is the social transaction that surrounds, interacts with, and impacts literacy.

Optimal experience. Optimal experience is defined as “flow . . . the crucial component of enjoyment” (Csikszentmihalyi & Csikszentmihalyi, 1988, p. 34) “in which actions transit seamlessly into another, displaying an inner logic of their own” (Guo, 2004, p. 11).

Research Questions

1. How is flow in literacy (independent reading) experienced?

2. How do students describe the antecedents of flow in independent reading?
3. How do students describe the consequences of flow in independent reading?

Situation of the Researcher in the Study

The researcher is an English teacher at a freshman academy, the new chair of the English department, and a member of the school's newly formed literacy committee. This institution has a principal who has just completed her 2 years as lead principal, formerly was an English instructor, and emphasizes literacy across the curriculum. As a result, during the previous year the principal commissioned a committee to create and implement a literacy initiative school-wide. As a consequence of the researcher's position, she has access to students and their demographic information and the ability to research the components of the problem.

Academic interest. The author is interested in researching the topic as a result of teaching reluctant readers for 12 years and observing their struggles. Typically observed in the classes were a resistance to and negative affect towards reading, indicated by discipline problems, avoidance behavior, or disengagement. Accompanying these were low literacy levels, poor grades, cycles of failure, and lack of literacy achievement.

Conversely, the researcher has spent the same number of years with gifted and talented students and others who enjoyed reading. Typically observed in the classes were the passion for reading and the total engagement in the literacy experience, along with high levels of motivation and achievement.

Theoretical lens. The researcher is coming from a pragmatist lens in that she believes the method should fit the research question and purpose. In other words, the research problem and questions determine the methodology. Moreover, the author believes in an inductive approach for this particular research because little work has been

done with flow in reading. To construct the antecedents, components, and consequences of flow in literacy, an exploratory method, phenomenology, is indicated to facilitate collection and analysis of data and to communicate the findings clearly so the study can be evaluated and reproduced. Furthermore, the constructivist lens is used to examine student experiences, which are based on the students' pluralistic perceptions of the reality of flow. Finally, through the lens of flow, the researcher herself will be taking an in-depth look at students who self-report the flow experience in independent reading.

Philosophical Rationale

These variables were researched in a mixed methods research study (quan>Qual), which was predominantly transcendental phenomenology, in order to expand on flow theory as it relates to independent reading. The research was primarily a qualitative study that used transcendental phenomenology in methodology and analysis to explore the components of flow as flow operates in the domain of literacy. However, it was also quantitative in the participant sampling selection process in order to obtain a homogeneous, criterion sampling, for purposes of comparison in data analysis, and for trustworthiness. The Flow State Scale (FSS) was administered online to those students who desired to participate in the research and who self-reported flow. The FSS scores confirmed that the participants actually experienced flow before they were interviewed for the research. This homogeneous sampling, based on participants' meeting the criterion of moderate to deep flow, produced an extreme case sampling in order to study the flow experience in depth. The FSS results were also used as an "elicitation device" (Sandelowski, 2000, p. 252) to aid in the interviews due to the discrepancies that appeared between the nine class flow dimensions and the participants' responses. The FSS results were also utilized for purposes of comparison with the findings from the

phenomenal data reduction after the interviews for the purposes of complementarity and trustworthiness. This analysis was accomplished by “qualitizing” (Tashakkori & Teddlie, 1998, p. 126) and integrating the results of the FSS with the interview themes.

Phenomenology is the best methodology to explore in depth the flow experience in this field, including the antecedents specific to literacy, the experience itself, and its consequences. These must be identified before any additional theory can be developed at a later date adapting Csikzentmihalyi’s theory of flow to literacy. This exploration used transcendental phenomenology, whose tenets were framed by Husserl (1931) and designed into the qualitative method by Moustakas (1994). The qualitative method of research, particularly phenomenology, requires a deep probing into the experience in order to let insight emerge, rather than presupposing factors and measuring them. It is a bottom-up approach as opposed to a top-down approach. However, phenomenology is not a subjective method without structure. In transcendental phenomenology, findings are organized for analysis through a phenomenological data reduction (Moustakas, 1994). This process, akin to quantitative research, is a categorization of the emerging significant statements into meaning units/themes through a constant re-reading of the data, called horizontalization (Moustakas, 1994). From these meaning units, meaning clusters are created, if enough units group together. Thus, soft data is formed into a harder format for analysis (Creswell, 1998).

Moreover, a mixed methods format can add a dimension of reliability to the research and is particularly valuable to explain data, give insight, and/or verify findings (Creswell, 2012). A mixed methods study is a procedure for “collecting, analyzing, and ‘mixing’ both quantitative and qualitative methods in a single study . . . to understand a research problem” (Creswell, 2012, p. 535). The underlying premise behind a mixed

methods study is that the use of both measures provides a better picture of the research problem than either one alone (Creswell, 2012). Researchers use mixed methods to “expand the scope of, and deepen their insights from, their studies” (Sandelowski, 2000, p. 246). In fact, some mixed-methods proponents argue that “the complexity of human phenomena mandates more complex research designs to capture them” (Sandelowski, 2000, p. 246). The purposes of using mixed methods are for triangulation, complementarity, and development (Greene, Caracelli, & Graham, 1989), all three of which apply in this study. Furthermore, the use of a quantitative test to determine a criterion sampling is common before entering into a primarily qualitative study and often necessary to ensure a homogeneous sampling of the experience a researcher wants to explore (Brown, Sorrell, McClaren, & Creswell, 2006; Hurst, 1997; Morrow & Smith, 1995; Sandelowski, 2000). Moreover, in this integrated mixed methods study, circling back at the end of the study to the initial quantitative results, comparison can be made between those results and the meaning units/clusters from the interviews by qualitzing the quantitative data to gain a fuller picture of the flow experience (Sandelowski, 2000; Tashakkori & Teddlie, 1998). This recursive type of integration of mixed methodology of data collection, analysis, and interpretation is called a sequential mixed model study (Onwuegbuzie & Teddlie, 2003) and provides “interpretive opportunities” (Sandelowski, 2000, p. 251). Mixed method studies may use either a parallel, integrated, or iterative design (Onwuegbuzie & Teddlie, 2003). Here both an integrated and iterative design were used: integrated to determine the criterion sample (Onwuegbusie & Teddlie, 2003) and iterative for purposes of comparison and complementarity.

Chapter 2: Literature Review

Overview

The lack of literacy is a serious problem in secondary education today because reading is essential to entering into the other academic domains (Chall, 1983). The literature on the complex nature of reading revealed three significant, interrelated components: engagement; interest; and transactive, or social, environments. Components of interest are motivation (or student disposition) and relevancy, both of which produce engagement and are the result of interest and social contexts, particularly for adolescents, according to Vygotsky's and Bruner's theories of sociocultural learning (Eggen & Kauchak, 1997). A possible, powerful connecting factor among these three components is the psychological construct of flow, which studies have indicated might play a significant role in increased student achievement and student motivation to repeat the activity (Csikszentmihalyi et al., 1993). One particular aspect of flow that might hold promise for increasing flow in reading is telepresence. Research by Guo (2004) has revealed this to be another possible dimension of flow present in leisure activities. Telepresence, though not in Csikszentmihalyi's original flow theory, is the envisioning of another place or world during the flow experience and is present only during the deepest level of flow (Guo, 2004), along with transformation of time and loss of self-awareness.

This literature review will cover the classic theory of flow as a possible unifying theme for engagement, interest, and social environments for literacy. It will also examine the levels of flow, particularly in leisure activities, which might indicate a new possible dimension to be added to classic flow theory, telepresence. The possible subdimensions of telepresence, vision and empathy, will be reviewed, including brain research on the mirror neuron system and its role in visualization and empathy. Moreover, tensions

within flow in perspective and conflicting research will be explored. Finally the themes of engagement, interest, and social literacy contracts will be discussed as they relate to flow theory and literacy.

Flow, a Potential Unifying Theme

Recurring throughout the themes of engagement, interest, and social literacy contracts is flow theory. Flow is total immersion, or engagement, in an activity to the point where time is altered (slowed or sped up) for the participant and awareness of place diminishes along with self-awareness (Csikszentmihalyi, 1990). Skadberg and Kimmel (2004) have further explored time distortion as an indicator of flow. Intrinsically rewarding, flow brings enjoyment and satisfaction; thus, it is cyclical in intrinsic motivation, causing the participant to desire to repeat the experience and thus described as autotelic (Csikszentmihalyi, 1990; Rathunde, 2003). Hundreds of studies on flow have been done in athletics, business, interactive web contexts, and the arts, where the study of flow began (Csikszentmihalyi, 1990). Even a few researchers have examined flow in religion and teacher education; however, very few have studied flow in the academic domains. Those studies in academia are generalized to school as a whole, such as gifted adolescents in educational environments (Rathunde, 1996) and middle school students in Montessori education (Rathunde, 2003), not tailored to a specific academic domain. As of this writing, after examining over 700 studies and dissertations, this researcher could only find five in specific academic domains: math, English (2), writing, and second-language learner literacy (all cited earlier in Chapter 1).

Csikszentmihalyi's interest in flow began with research on people's happiness when they felt in harmony with the activities they were performing voluntarily, not for reward but from intrinsic motivation (Csikszentmihalyi, 1975). Interviewing people who

referenced this experience, which included chess players, rock climbers, dancers, etc., he noticed they frequently termed the experience *flow*, thus producing his appellation for the experience (Csikszentmihalyi, 1975). He then defined certain characteristics of flow: oneness with the activity; a loss of a sense of time, self, and place; intrinsic motivation; interest at the task at hand; and intense concentration (Csikszentmihalyi, 1990, pp. 48-66). Furthermore, Csikszentmihalyi asserted that a paradox exists during flow: The balance of intense engagement requires control over a task to experience flow but without realizing the control on a conscious level (Csikszentmihalyi, 1997). He also asserted that being in flow does not mean “going with the flow”; flow is a much more assertive experience (Csikszentmihalyi, 1990, p. 8). Going with the flow is a release of control and power where a student might just give him-/herself up to the classroom activity rather than controlling the activity. The flow experience hinges upon subconscious control and is a personal experience that exists in the crux between two sets of balances: a balance of control, of which a person is not consciously aware; and a balance of challenge and skill (Pintrich & Schunk, 2002). This experience is so rewarding, though not necessarily enjoyable due to the arduous nature of some tasks, that it brings intrinsic motivation, which leads to repetition of the activity that produced flow (Pintrich & Schunk, 2002). A student told Wilhelm (2008) during an interview on reading and flow that, “I just can’t shake a book when it’s got a hold on me. It’s hard to think of anything else” (p. 75).

Levels of flow. Guo’s (2004) research in flow in computer situations and his meta-analysis of others’ work revealed the shifting nature of flow theory in alternative contexts. He found primary antecedents to flow (challenge, skills, attention, and involvement) and secondary antecedents (telepresence and interactivity), which increase the “subjective intensity” of the flow experience (Guo, 2004, p. 25). Telepresence is the

feeling that the sense of place is so altered that one feels as if he/she is elsewhere (Guo, 2004). This feeling is impacted by the interactivity and vividness of the computer interface experience as well as the level of curiosity and playfulness. Also, according to Guo's (2004) study, levels of flow can be assessed: mild flow is indicated by the categories of enjoyment and clear goals only; moderate flow, by the addition of challenge, concentration, control, and feedback; and deep flow, by the addition of transformation of time and place and loss of self-awareness (Table 1). Moreover, his meta-analysis summarized the classic flow experience as having three preconditions (feedback, clear goal, and challenge-skill balance); five indicators (concentration, merging of awareness with the activity, control, time distortion, and loss of self-consciousness); and one consequence (the autotelic experience, which he and Csikszentmihalyi defined as intrinsically rewarding and repeated for the experience itself).

Table 1

Levels of Flow (Guo, 2004).

Mild	Moderate (includes prior level)	Deep (includes prior levels)
Enjoyment Clear Goals	Challenge Concentration Control Feedback	Transformation of Time Transformation of Place Loss of Self-Awareness

Telepresence, a new dimension in flow theory. Of particular interest is a new dimension of flow postulated by Guo (2004) called telepresence. Guo studied this dimension in the internet context, a leisure experience as opposed to the goal-oriented

contexts generally studied by Csikszentmihalyi. From this research Guo proposed another dimension of flow, telepresence, which is the creation of an alternate, imaginary world during flow, a dimension confirmed by the research of Hoffman and Novak (1996). Guo (2004) also found that telepresence was experienced in greater degrees in experiential, leisure activities than in goal-oriented activities. A quantitative measurement of this alternate world was added to a new flow scale created and researched by Guo (2004), called the Internet Flow Scale (IFS).

Possible subdimensions of telepresence. Although Guo (2004) did not explore in depth the subdimensions of telepresence as a dimension of flow, some possible components of telepresence could be mental vision, imagination, and empathy because of the mental images and affect created during telepresence. Theoretically, Sadoski (1992) defined vision and imagination as “the mental process of reproducing sensory and perceptual experiences stored in memory, or of recombining parts of formerly perceived experiences to create new arrangements apart from their actual occurrence in reality” (p. 266). Merely recollecting the imagery of past events is imaging them whereas manipulating “parts of existing images into new combinations and/or ... enrich[ing] images with affective associations” is imagining them (Sadoski, 1992, p. 266). The term imagination is not to be confused with or used synonymously for creativity, according to Sadoski, because nothing completely new is created in this imagining: parts are merely moved and/or enriched to re-create. However, those who research creativity theories might argue with this assertion citing that the very definition of creativity is the re-imagining of the actual in new and possibly different ways (Csikszentmihalyi, 1996). Furthermore, Sadoski (1992) postulated that this imagining is a distinct evolutionary human trait that enables humans to envision the past and project aspects of it (actual,

manipulated, and/or enriched) into a hypothetical future, unlike animals who are “imprisoned in the present” (p. 227). Thus, humans can mentally see and create a possible alternate dimension, i.e., another world. Furthermore, Guo’s (2004) study confirmed that the interactivity and vividness of the online activity affected the degree of telepresence.

Philosopher Susanne Langer (1962) concurred with this concept of imagination and further asserted that visual imaging and imagining existed prior to verbal communication; consequently, language developed to communicate the memories and emotions associated with the images. This theory of the communication of image and affect is possibly rooted in the study of mirror neurons. Research in mirror neurons indicate that those visualizing an event/activity experience *embodied simulation* and develop empathy with the person in the activity, even to the point of mirroring the movements and emotions (Gallese, 2001). Embodied simulation, the foundation of empathy and identification, “is an unconscious and prereflexive mechanism through which the actions, emotions, and sensations we observe activate internal representations of the bodily and mental states of the other” (Diamond, 2008, p. 811). Moreover, Diamond (2008) asserted that embodied simulation “scaffolds our aesthetic response to art, music, and literature [and] underlies the dynamics of spectatorship” (p. 811). In other words, the imaging and imagining occurring during telepresence can also produce empathy, even to the point of mirroring the emotions and physical actions of the mental scene. Furthermore, it is the organization for “unconscious fantasies and conflicts throughout life” (Diamond, 2008, p. 811), which could indicate a vicarious resolution of personal issues for the viewer/reader, perhaps even satisfaction or relief. This identification and empathy are theoretically the result of the processes of projection and

introjection, according to psychoanalytical theory (Klein, 1946). The viewer/reader projects him/herself into the observed character (projection) and the character's proposed thoughts/feelings in the scene become the viewer's (introjections). This identification can even result in mirrored movements in the viewer as the empathy intensifies (Klein, 1946). Freud (1926) said of empathy that is the gateway to "the existence of psychic life other than our own" (p. 104) and the enablement to "take up any attitude at all towards another mental life" (1921, p. 110).

Other theorists in the field of psychoanalysis confirm the process of identification and empathy with others as a result of visualization (Etchegoyen, 1985; Olds, 2006; Pigman, 1995). However, only more recently have the neurobiological mechanisms of identification and empathy through visualization been researched. According to the research of Gallese and others, the neural structures in the brain are activated when we visualize the actions and emotions of others (Rizzolatti & Craighero, 2004; Gallese, 2001, 2005a, 2005b, 2007). The mirror neuron system is an intermediary between the experiential knowledge of one's own physical body and the vicarious knowledge of another's experiences, which Gallese labeled "embodied simulation," the precursor to empathy and identification (Gallese, Eagle, & Migone, 2006; Gallese, 2005a, 2005b; Kandel, 2006; Olds, 2006).

The mirror neuron system's possible role in telepresence. This empathy as a result of the mirror neuron activation provides a "virtual enactment of the lives of others" (Fadiga, Fogassi, Pavesi, & Rizzolatti, 1995; Gallese et al., 2006; Rizzolatti, Fadiga, Gallese, & Fogassi, 1996). According to the concept of embodied simulation, this activation of the mirror neuron system explains the empathy present when experiencing art forms (Freedberg & Gallese, 2007) and could perhaps indicate the presence of

empathy during the visualization of telepresence. Furthermore, because the mirror neuron system has plasticity, new mental experiences can create more sophisticated cognition in interpreting others' actions, feelings, and intentions in differing societal contexts (Fonagy, Gergeley, Jurist, & Target, 2002; Fonagy, 2003; Gallese, 2007); thus, one's comprehension increases as does the empathy.

The question might be asked if the mental envisioning activates the mirror neuron system as does a physical vision. Through studying functional magnetic resonance imaging (fMRI), Gazzola, Azziz-Zadeh, and Keysers (2006) found that the audiovisual mirror neuron system will recreate mentally the action/event whether it is solely seen or heard or is even incomplete. Kohler et al. (2002) and Keysers et al. (2003, 2004) found likewise. The mirror neuron system will complete the event/scene. Furthermore, those who scored higher on an empathy scale showed the highest degree of activation of the mirror neuron system, suggesting a potential connection between activation of this system and empathic responsiveness to others (Gazzola et al., 2006). In fact, this identification can be so strong as to physically stimulate the viewer's body in the same bodily locations as the character viewed, creating neuronal mappings of the body state (Damasio, 1999). This activation is called a loop, where the viewer's body is stimulated by observation. In this process, the viewer's somatosensory circuits are activated as the viewer perceives the viewed person's body is tactilely affected (Gallese, 2005b). In other words, if the person viewed is caressed, then the viewer's body identifies and empathizes to the degree that he/she is tactilely stimulated to feel the same caress in an equivalent body location. Therefore, telepresence should be explored for not only vision but also empathy.

Perspectives on flow. The study of flow has potential to impact voluntary student

reading; however, despite the amount of research on flow, empirical research on flow during specific tasks in differing contexts has been confusing and contradictory, somewhat because of the vagueness of the definition and measurement of flow (Finneran & Zhang, 2005; Shin, 2006; Siekpe, 2005). There are two ways to view flow. One is as a mental mode made up of a composite of characteristics that individuals experience (Shin, 2006). From this perspective, Ghani and Deshpande (1994) asserted two key traits of flow: intense concentration on an activity and enjoyment from the activity. Webster, Trevino, and Ryan (1993) listed four: focus, control, curiosity, and interest. Another way to view flow is a balance between challenge and skill (Shin, 2006). Challenge refers to the level of difficulty and/or complexity while skill refers to the individual's capability to handle the challenge. An individual is most likely to experience flow when the level of challenge is equal to or a little higher than the level of skill (Csikszentmihalyi, 1997). Inherent to the flow experience is the automaticity of skills needed to meet the challenge of the task, thus facilitating the flow experience (Csikszentmihalyi, 1997; Pintrich & Schunk, 2002). This second perspective is the one used in this study due to its more organic nature, in line with constructivist lens and methodology used in this study.

Moreover, Csikszentmihalyi and Csikszentmihalyi (1988) asserted that too much challenge results in frustration while too little results in boredom; consequently, his four channels of flow: anxiety, apathy, boredom, and flow. According to Csikszentmihalyi's flow theory, anxiety results from too high a challenge with too little skill; apathy, from too low skill and too low challenge; boredom, too much skill with too little challenge; and flow, from a match between skill and challenge. Lefevre (1988) said that flow is "a balanced ratio of challenges to skill" (p. 307), and Ellis, Voelkl, and Morris (1994), "an optimal experience that stems from people's perceptions of challenges and skills in given

situations” (p. 337). According to Csikzentmihalyi, a four-channel model explains the variety of experiences: apathy, frustration, boredom, and flow (Figure 1).

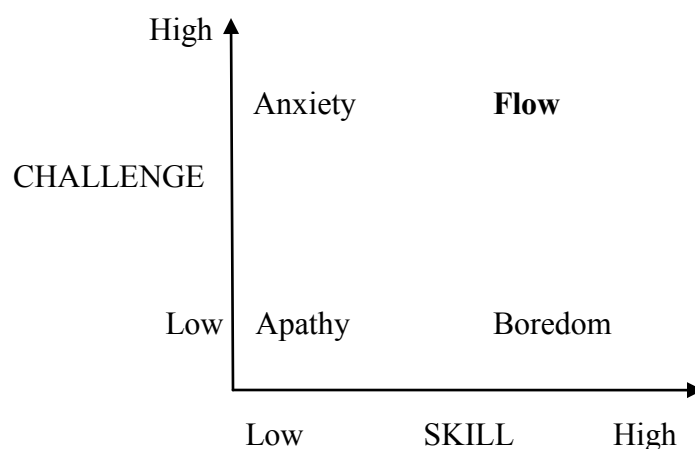


Figure 1. Csikzentmihalyi's Four-Channel Model of Flow.

Massimini and Carli (1988) have extrapolated on this model and increased it to an eight-channel model, which is the result of three levels in skills and challenge: arousal, flow, control, boredom, relaxation, apathy, worry, and anxiety (Table 2). Only with high challenge and high skills does flow occur.

Additionally, Shin (2006) asserted that there are two philosophical models by which to study flow: reflective and formative. The reflective model holds that subconstructs of flow, such as curiosity, concentration, control, and challenges, are independent in nature and correlate to one another due to the influence of the latent, higher order construct of flow. In other words, the subconstructs are factors reflecting flow and each one formulates the flow construct independently (Shin, 2006; Siekpe, 2005). However, the formative model of research on flow maintains that the subconstructs are potentially interconnected, antecedents to flow. The latter model was used in this study's data analysis. The rationale for this choice is that the second model is more holistic and organic, which is more of a fit with the constructivist lens used in this

research study.

Table 2

Massimini and Carli's Eight-Channel Model of Flow

Challenge/Skill Balance	State/Channel
1. High challenges and average skills	Arousal
2. High challenges and high skills	Flow
3. Average challenges and high skills	Control
4. Low challenges and high skills	Boredom
5. Low challenges and average skills	Relaxation
6. Low challenges and low skills	Apathy
7. Average challenges and low skills	Worry
8. High challenges and low skills	Anxiety

Patterns within flow. Csikszentmihalyi's research established a few patterns related to antecedents to flow and consequences of flow. He identified antecedents to flow as matching challenge and skill, focused attention, clear objectives, sense of control, and immediate feedback (Csikszentmihalyi, 1990). Interestingly, in deep play, or flow, a noted result was increased sense of control or power among students (Garvey, 1977; Sutton-Smith & Kelly-Byrne, 1984). Further research has added interest, or choice, as an antecedent (Csikszentmihalyi, 1990; Csikszentmihalyi & Figurski, 1982; Gazzara, 2003; Guo, 2004). Moreover, according to additional research, trust, or an emotionally supportive environment, can facilitate flow (Csikszentmihalyi, 1990; Fero, 2005; Gazzara, 2003; Rathunde, 1996). Consequences of flow in general are a more ordered self, stronger self-efficacy, personal satisfaction, and positive affect. "Enjoyment appears at the boundary between boredom and anxiety, when the challenges are just balanced

with the person's capacity to act" (Csikszentmihalyi, 1990, Kindle loc. 1173).

Antithetical to flow, Csikszentmihalyi (1990) warned of psychic entropy in the forms of anxiety or boredom, the result of a disconnect, or imbalance, between skill and challenge. Additionally, Csikszentmihalyi and Csikszentmihalyi (1988) stated that "jobs that reduce human performance to simple mechanical routines produce the opposite state of mind [of flow]: a sense of numbing boredom and a senseless waste of one's time" (p. 136). Csikszentmihalyi and Csikszentmihalyi (1988) asserted that mere "reductionist accounts of human action, discount or ignore the most obvious aspect of the human phenomenon, namely the existence of a conscious self" (p. 15). In reference to flow in task satisfaction, Gazzara (2003) indicted Adam Smith's reductionist approach, Fayol's division of work into discrete parts, and Taylor's scientific management as contributing to the isolationism that hinders flow in the workforce. Furthermore, studying task types in the workplace, Gazzara (2003) concluded that isolated and repetitive tasks impede flow and the consequent personal fulfillment. Unfortunately, today's educational contexts too often present students with decontextualized bites of knowledge with little relevancy (Richardson, 2008).

Potential academic impact of flow. In academic settings flow has potential to influence student achievement (Csikszentmihalyi et al. 1993). Csikszentmihalyi et al. (1993) found that freshmen in high school who reported experiencing flow more often had greater achievement gains in their talents by the senior year than those students who reported less flow. Similarly, in a study on optimal experience (flow), Csikszentmihalyi et al. (1993) found that those who reported flow (as indicated by a measurement of total engagement, relevancy, and clear goals) once again had greater talent development and gains than their peers by graduation. Both studies adjusted for random variables, such as

sex, SES, and scholastic abilities and used multiple, independent methods of measuring talent development.

In the domain of literacy, struggling readers experience more isolation and emphasis on discrete literacy skills than advanced readers (Baker & Beall, 2007). According to flow theory, this isolation hinders flow (Csikszentmihalyi & Csikszentmihalyi, 1988). Struggling readers too often focus on the micro processes of reading, rather than the macro processes of big ideas, motifs, and interconnections within and between texts (Baker & Beall, 2007; Brown & Day, 1983; Garner, 1987; Johnston & Afflerbach, 1985). Furthermore, reluctant readers often cite these very same emotions of boredom and irrelevancy, negative channels Csikszentmihalyi (1990) referenced. Reinforcing this finding are studies on the emphasis of isolation and discrete skills in literacy, which found that phonological isolation and decoding (micro processes) did not ensure comprehension, a macro process (Juel, Griffith, & Gough, 1986; Paris & Hamilton, 2007; Yuhill & Oakhill, 1991). In fact, struggling readers often grew in negative affect through the emphasis on discrete skills as they viewed reading as a task, a meaningless chore, reminiscent of Dewey's warning about the potential "drudgery" of education if real-life scenarios were not a part of the educational process (as cited in Rathunde, 2003, p. 20). On the other hand, approaching reading through a more holistic, integrated approach produced more positive affect due to a sense of relevancy and a more global picture of the text's significance and social conversation (NCTE, 2007).

To summarize, the flow experience is one of total engagement with interest as one of the antecedents to flow. Flow's intrinsic rewards produce motivation to repeat the experience, potentially affecting student disposition. An emotionally supportive environment can impact flow positively or negatively; furthermore, when experienced

consistently, flow has the ability to increase student achievement in the areas where flow is experienced, according to studies that find engagement with reading and reading achievement are positively correlated (Guthrie, 2004; Guthrie & Wigfield, 1999; Meltzer & Hamann, 2004). Furthermore, telepresence seems to be a potential indicator of flow in leisure contexts and might be composed of subdimensions of vision and empathy. The mirror neuron system needs to be researched for its role in flow in reading.

Student Engagement

Student engagement plays a vital role in education and is influenced by many factors. Some of those factors are related to the student's disposition and background: family traits, socioeconomic status (SES), and ethnicity (Finn, 1993; Lee & Smith, 1993; Marks, 2000; Wentzel, 1998). Other influential factors relate to lesson planning, implementation, and assessment (Guthrie et al., 1996). In the field of engagement in reading, Guthrie et al. (1996) studied student engagement in Self-Regulated Learning contexts (SRL) with third-grade students in a two-part study that combined six cognitive strategies with five motivation practices. They found that high student engagement in literacy developed metacognitive strategies (control and clear objectives), social interactions, and motivation. Additionally, high student engagement in literacy shifted the locus of control for reading from external to internal (Guthrie et al., 1996), again a strong sense of feedback, objectives, and control – all antecedents of flow.

Likewise, Miller and Faircloth (2007) asserted that teacher planning, preparation, and assessments were vital in encouraging students to become more participatory in their literacy. To accomplish this goal, they also recommended that teachers foster a shift within students from an external locus of control to an internal. As part of this shift to increase engagement, educators needed to emphasize concepts of play in literacy, rather

than work, in the classroom (Rosenblatt, 1978). The shift to play in work, called Playful Literary Enterprises (PLE), increased motivation and made reading a self-perpetuating activity, increasing motivation to repeat or engage in the activity voluntarily (Bailey, 2011; Kerns & Bailey, 2010; Rosenblatt, 1978). Rosenblatt (1978) cited Csikszentmihalyi's flow theory and Nicholls' (1984) concept of task involvement as the theoretical basis for play and engagement as important to literacy.

Interest

Connected to engagement in play and flow is the theme of interest, which is essential to learning in general (Bruner, 1977, 1986), and literacy in particular (NCTE, 2007). Rathunde (2003) defined "undivided interest" as two-fold: "above average intrinsic motivation and salience" (p. 25). Consequently, student disposition and learning styles are integral to an examination of this component. Learning styles and motivation trigger interest, the core concept of "deep play" (Bailey, 2011; Kerns & Bailey, 2010), based on Bruner's (1977, 1986) theory of play. The theory holds that in play-work (work that contains elements of play), interest is generated by students playing at real-life scenarios as they assume authentic roles and perceive relevancy, or salience (Bruner 1977, 1986; Dewey, 1997; Kerns & Bailey, 2010).

Using the Experience Sampling Method (ESM), Csikszentmihalyi and Figurski's (1982) research explored the correlation between interest and flow. Their research project produced over 4,800 self-reports taken at designated intervals from 107 adults, who recorded their activities, thoughts, and feelings. The ESM utilizes a beeper that randomly alerts the participant to fill out the Random Activity Information Sheet (RAIS), an activity that takes approximately 1.5 minutes. Csikszentmihalyi and Figurski's (1982) findings indicated that interest, or "voluntariness," was a significant factor in positive

affect and engagement and that as choice increased, so did flow.

Likewise, Gazzara's (2003) study confirmed these findings: using a quantitative approach (the Anderson-Darling Normality Test and one-way analysis of variance), 135 participants in a workplace environment constructed three different types of tasks (routine, problem-solving, and planning) and reported their levels of interest, engagement, and satisfaction. Preference, or choice, Gazzara (2003) found, correlated significantly with flow and with increased satisfaction.

Additionally, Guo's (2004) research on flow and internet shopping found interest and play a contributing factor to flow. Utilizing the Flow State Scale (FSS), developed by Jackson and Marsh (1996) and the Internet Flow Scale (IFS) in a Multitrait-Multimethod validity study, Guo's (2004) study included a pilot study (126 participants), which measured flow online, and a three-part sequential study (10 from the 126 who scored highest and lowest in flow). In his research Guo (2004) measured playfulness in relation to flow and found that it has a direct, positive correlation with the balance of challenge and skill (precursors to flow) and an indirect impact on flow. Somewhat contradictory to Guo's findings were those by Agarwal and Karahanna (2000), a study Guo (2004) cited), which found a direct, positive correlation between playfulness and flow. Comparing his findings with Agarwal and Karahanna's (2000), Guo (2004) concluded that the balance of skill and challenge mediated the impact of playfulness and interest on flow. Additionally, he cited studies by Webster et al. (1993) that found correlations between flow and curiosity/interest, which Guo (2004) termed *cognitive enjoyment*.

In the academic domain and studying middle school participants, Rathunde's study (2003) explored interest and flow with the ESM, which in this case utilized watches that beeped eight times per day for 7 days to remind students to fill out an RAIS. Using an

experimental and a control group of 160/150 participants matched in SES, ethnicity, and family background, Rathunde (2003) observed that middle-school students working according to interest in a Montessori setting became so focused that they experienced “optimal experience education” characterized by “spontaneous concentration,” which he termed flow, an experience unlike the participants’ experience from traditional middle schools (p. 17). The results of his data analysis from a multivariate analysis of covariance (MANCOVA) indicated the difference between the two groups was due solely to interest (Rathunde, 2003). Moreover, he asserted students who are intrinsically rewarded by their activities are more likely to enter flow, which causes them to repeat the activities at higher and more difficult levels of challenge (Rathunde, 2003). Thus, the experience becomes cyclical. Rathunde (2003) concluded that the school context must encourage work/play according to student interest, and challenge students to continue to develop those interests. Flow, he asserted, was triggered by the balanced combination of interest and challenge. He quoted Dewey’s (1997) maxim that students should be “playful and serious at the same time” (p. 218).

Tying interest more directly to literacy is the present, ongoing qualitative research at Clemson University in the area of language arts and flow (Bailey, 2011; Kerns & Bailey, 2010). One of Kerns and Bailey’s (2010) studies piloted a teacher induction program employing concepts of flow and PLE, which relied heavily on creating interest in reading within student teachers’ classrooms. Kerns and Bailey (2010) defined a Playful Literary Enterprise (PLE) as “a real-life simulation” (p. 7) where students played at literate roles, e.g., producers, directors, cartoonists, teachers and literary critics, i.e., experts in literacy. Through thick, rich description of secondary classroom experiences recorded in teacher journals and the documentation of student artifacts, Kerns and Bailey

(2010) concluded deep play produced interest and engagement, focused students, and intrinsically motivated them, thereby adding to the development of literacy. The result of a PLE was an “academically rigorous means of helping students get a taste of literary and literate life” (Kerns & Bailey, 2010, pp. 33-34). Kerns and Bailey (2010) further asserted that student interest was the key to students entering deep play in reading and gave them the opportunity to learn relevant skills born out of their interests (Bruner, 1977, 1986). Moreover, they too defined deep play as flow and cited flow theory as their theoretical basis (Kerns & Bailey, 2010).

Social Literacy Contracts

Social learning theory asserts that learning occurs through social interactions, which include scaffolding, zone of proximal development, and modeling; these social exchanges produce interest, motivation, and engagement (Bruner, 1977, 1986; Vygotsky, 1995) – all elements involved in flow. Bandura found that social learning contexts activate learning styles and increase student disposition to learn, particularly with adolescents (Eggen & Kauchak, 1997). Moreover, these transactive contexts produce flow (Csikszentmihalyi, 1997; Rathunde, 1996). Csikszentmihalyi (1997) asserted that social interaction increases challenge and skill and requires intense focus, all traits of flow activities. Moreover, Shernoff, Csikszentmihalyi, Schneider, and Shernoff (2003) asserted that only during social instructional activities at school do students feel both challenge and enjoyment.

Rathunde’s (1996) studies on the social context of flow indicated that flow is frequently embedded in a supportive, socially transactive environment. Using the Experience Sampling Method (ESM) to measure flow, 165 gifted adolescents reported their cognitive and affective states during a 1-week span on the Family Adaptability &

Cohesion Evaluation Scales (FACES) at random signal nine times per day. Rathunde's (1996) study of their family support structures focused on the effects of family challenge and family support on flow as perceived by parents and students. Furthermore, Rathunde (1996) differentiated between "spontaneous interest," which he defined as student disposition and engagement, influenced by family support, and "directed interest," which was student focus on goals, correlated to family challenge (p. 1). Those adolescents whose families combined both of these two contextual dimensions reported more frequent flow experiences in academic settings. Thus, nurture and clear expectations in family contexts appeared to correlate with the flow experience in academic contexts. Rathunde (1996) asserted that in families with solely challenging contexts, students experienced drudgery more often, while in families with solely supportive contexts, students spent more time in unproductive, leisure activities. He concluded that a balance between family challenge and support was vital in adolescents realizing their potential.

However, today's educational experience is often more like a factory than a family (Richardson, 2008), although social environments and their impact on learning have been well-documented. Though limited to elementary school children, Dewey's theory of constructive play involved social settings, which he believed were authentic settings for corporately constructed learning in real-world scenarios (Drew, Christie, Johnson, Meckley, & Nell, 2008; Johnson, Christie, & Wardle, 2005). Smagorinsky (2008) extended this social construction concept to literacy with his theory of *construction zones*, where adolescents are immersed in texts with the support of the teacher as they play at authentic literate roles in social contexts. Both concepts, constructive play and construction zones, are goal-centered activities, a prerequisite for flow (Csikszentmihalyi, 1990; Kerns & Bailey, 2010).

These transactive environments foster many types of learning, including literacy (Rowe, 2008). The impact of these contexts on literacy begins early in students' lives in building genre knowledge (Kamberelis & Bovino, 1999) and in developing other literacy contracts (Rowe, 2008). Using the constant comparative method, Rowe's (2008) research explored qualitatively the writing contracts of 2-year olds, who were predominantly White and middle class. Rowe (2008) defined a social literacy contract as "socially shared understandings . . . , negotiated social agreements rather than individual cognitive constructions . . . collective . . . and local . . . , formed, maintained, and renegotiated through active participation with others . . . [in] literacy events" (p. 70). Writing as ethnographers, Rowe and other observers took extensively rich field notes of the literacy contracts that developed over the year in natural settings. Rowe's (2008) conclusions were that preschoolers develop foundational ideas about reading from social interaction, e.g., representative messages (text communication), text-centrality contract (social interaction in literate events), and reader-text obligation contract. Rowe's (2008) longitudinal studies found that the nature of reading and writing was not solely within the individual but embedded in an interactive, social context. The social environment scaffolded the reading conversation as a social experience, not merely a solitary one (NCTE, 2007; Rowe, 2008; Snow & Ninio, 1986). Building on Rowe's ideas, other studies on social literacy repeatedly indicate that a transactive literacy context establishes the social conversation of the author's message (Guthrie et al., 1996; McKeown & Beck, 2004).

Rowe's (2008) research was based on Snow and Ninio's (1986) work with literacy contracts, which asserted that 3 year olds are learning about texts as "communicative partners" from the modeling of and social transactions with adults (p.

121). In fact, Snow and Ninio concluded that to participate in book-reading events successfully, these literacy contracts must be established. The contracts themselves are only implicitly taught because they appear basic to adults: the physical features and handling of picture books, the differentiation between art and writing, and books' potential to engage in social interaction (Snow & Ninio, 1986). Like Rowe's (2008) research, Snow and Ninio's (1986) indicated the foundation of reading begins early, embedded in social interactions. Before literacy becomes the solitary activity called independent reading, Rowe (2008) concluded from Snow and Ninio's (1986) research that it is "collective and situated" naturally in social environments and interactions (p. 69).

Making reading less solitary and more social, i.e., a social literacy contract is influential in increasing reading skills (Rowe, 2008) and perhaps could be influential in student affect toward reading. A quantitative study by Csikszentmihalyi and Hunter (2003) found that adolescents were less happy when alone reading ($t = -2.09$; $p < .04$). However, the results of the ESM with self-reports indicated that spending time with peers correlated positively to happiness ($t = 2.61$; $p < .009$), and the frequency of time spent in flow was a very strong predictor of happiness, even after accounting for demographic variables ($t = 6.05$; $p < .0001$). It might be predicted that reading as an isolated activity could be contraindicative of flow and that making reading a more collective experience, situated in a social setting, might encourage flow. Interestingly, Csikszentmihalyi and Hunter's (2003) findings also indicated that freely chosen activities according to interest increased happiness vs. obligatory activities. Moreover, though goal-oriented activities (frequently solitary) were more often immediately reported to be negative experiences at the moment, over the long term these activities had positive correlates.

Similar to these findings were those of Larson and Csikszentmihalyi (1977), who used the ESM to explore adolescents' self-reports on the experiences of aloneness vs. socialization. Like Csikszentmihalyi and Hunter (2003), they found that aloneness was perceived as a negative experience short term but a positive one long term. Those who spent more time alone had higher average moods overall with 10 of the 13 measures positively correlated, four at the significant level (friendlier, $r = .46$; more excited, $r = .37$). Other results indicated that adolescents spending time with others reported themselves more challenged, more in control, and more alert, all signs of flow. In Larson and Csikszentmihalyi's (1997) study, motivation was higher when with others and when presented with choice; however, it was significantly more negative when alone, even though choice was still available. In conclusion, the social literacy contract might have significant impact on flow in reading.

Flow Theory's Potential Future

Csikszentmihalyi's flow theory might contain potential to impact reading affect, engagement, motivation, and possibly achievement. Although the theory has been researched in many venues, and most recently is being studied in the field of technology and human learning, such as human-computer interface, information systems, and virtual reality, much more needs to be uncovered of the interface between flow and learning (Shin, 2006). Researchers in other contexts have created conceptual models after studying flow antecedents, the flow experience (indicators), and flow consequences (Hoffman & Novak, 1996; Novak et al., 2000; Figure 2). Consequently, the following research questions have been formulated to guide this research study.

Research Questions

1. How is flow in literacy (independent reading) experienced by students?

2. How do students describe the antecedents of flow in independent reading?
3. How do students describe the consequences of flow in independent reading?

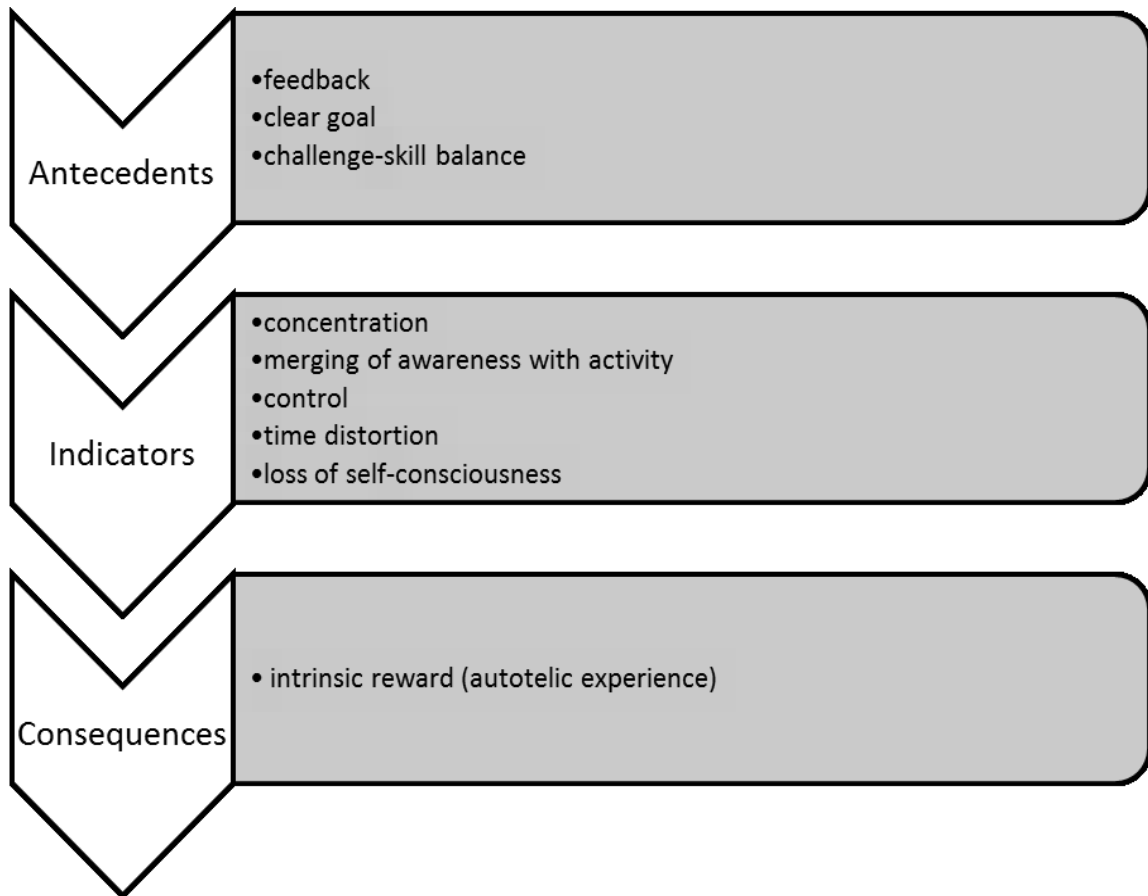


Figure 2. Classic Conceptual Model of the Flow Experience.

Chapter 3: Methodology

The method used was a mixed methods research study (quan>Qual), which primarily used transcendental phenomenology for methodology (Moustakas, 1994) and analysis (Creswell, 1998) to obtain felt needs (Morrison, Ross, Kalman, & Kemp, 2011) in this sequential exploratory single-strand study. The qualitative research questions determined the primarily qualitative research method and data analysis selected. The variables were researched in a study using transcendental phenomenology to explore the components of flow as flow operates in the domain of literacy, specifically independent reading. The purpose for a phenomenological approach was for expansion of the flow theory to include the domain of literacy. The quantitative component of administering the Flow State Scale (FSS) was for purposes of obtaining a homogeneous, criterion sampling, which was extreme case, to identify those who experienced moderate-deep flow; thus, the quantitative method was used in confirming the self-reported experience of flow before the interviews began. During the interviews, the results of the FSS were used as an “elicitation device” (Sandelowski, 2001, p. 252), as indicated by gaps in the measurements of the classic nine dimensions and participant scores. Later, the quantitative results of the FSS were qualitized in this integrated study for purposes of complementarity, e.g., omissions or disparities in the nine key dimensions (Csikszentmihalyi, 1990), and for trustworthiness.

A mixed methods study is particularly valuable to explain data, give insight, and/or verify findings (Creswell, 2012). Miles and Huberman (1994) said that the mixing of methods provides a “very powerful mix” (p. 42). The underlying premise behind a mixed methods study is that the use of both measures provides a better picture of the research problem than either one alone (Creswell, 2012). Creswell recommended the

combination of case studies (qualitative) and surveys (quantitative). Furthermore, Creswell (2012) asserted that when one research method is not enough to address the problem or answer the research questions or when an alternative perspective is desired, another research method should be added. For example, the use of a quantitative assessment to determine a criterion sampling is common before entering into a primarily qualitative study and often necessary to ensure a homogeneous sampling of the experience a researcher wants to explore, which is the case in this study (Brown et al., 2006; Hurst, 1997; Morrow & Smith, 1995; Sandelowski, 2000). Mixed methods were developed in the 1930s when different quantitative methods were combined (Creswell, 2012). By the 1970s, mixed methods added a new dimension and began to include the mixing of quantitative and qualitative methodology and analysis (Creswell, 2012). For example, interviews were mixed with surveys (Creswell, 2012), as were done in this study.

Two major rationales lie behind the research methodology selection of mixed methods: representation and legitimation (Onwuegbuzie & Teddlie, 2003). Representation applies to data analysis while legitimation references the validity of the data interpretation (Onwuegbuzie & Teddlie, 2003). With representation in mixed methods analysis, there is the ability to “get more out of the data . . . to generate more meaning, thereby enhancing the quality of data interpretation” (Onwuegbuzie & Teddlie, 2003, p. 353). With legitimation in mixed method research, there are five types of validity, according to Maxwell (1992) in the qualitative component: descriptive, interpretive, theoretical, evaluative, and generalizability (both external and internal). Descriptive refers to the researcher’s factual accuracy while interpretive refers to the actual interpretation of the data and its meaning. Theoretical validity refers to the

extrapolation of theory from the data interpretation. Evaluative validity references the application of an evaluation framework to the objects of study, rather than using the former three types of validity. Lastly, generalizability is the extent to which the findings and conclusions apply in general to the situation and population studied and/or to other populations in other contexts. Internal generalizability is more likely in qualitative studies, which is the ability to apply the findings to the population studied; external generalizability applies the conclusions more broadly to other populations and is less important in qualitative research (Maxwell, 1992). In this study, representation and legitimation are rationales behind the mixed method design from the intended goals of descriptive, interpretive, and theoretical validity as well as internal generalizability. More study would have to be done at a later date with a larger sample to ensure external generalizability.

Greene et al. (1989) cited five purposes of mixed methods evaluations: triangulation, complementarity, development, initiation, and expansion. Triangulation refers to seeking validity and corroboration of the same phenomenon through different methods. Complementarity seeks illustration and explanation of the results of one method through the results of another method. Development uses the results from one method to inform the other method. Initiation uncovers paradoxes and contradictions that lead to revision of the research question. Lastly, expansion seeks to expand the inquiry by using the different methods to answer different research questions within the same study. Within this study the mixed methodology was for purposes of triangulation, complementarity, and development.

However, the research questions, methods, and analysis followed primarily transcendental phenomenology protocol. All three of the research questions dealt with

participant perceptions solely and thus were qualitative in nature. Initially, the quantitative method of administering the FSS was used to determine the homogeneous, criterion sample with extreme case flow, if possible, to study in detail the experience in independent reading. Early in the study, bracketing was essential to unveil and lay aside researcher presuppositions and possible biases (Moustakas, 1994). This researcher, an avid reader herself, had to lay aside her presuppositions about reading from her own personal experience in order not to limit the study or superimpose a direction or premature interpretation on the data that emerged. For example, in looking over the FSS before sending the online links to participants, she noted that three dimensions did not seem to fit flow in reading in her own personal reading experience. However, because the online survey was completed before the interviews or personal contact with the researcher, trustworthiness was ensured that the researcher's estimation did not factor into the participants' answers. Another presupposition about reading the researcher held was telepresence due to her own personal reading history. To ensure epoche and maintain trustworthiness, a question about telepresence and two possible subdimensions were added to the online survey before the participants' personal contact/interviews with the researcher. The quantitative component of this mixed methods study was helpful in offsetting any biases or presuppositions from the personal experience of the investigator and allowed her to approach the interviews unbiased, using the results of the FSS for elicitation, instead of potentially leading the interviews.

After this epoche, the open-ended interviews were the primary means of data collection. In data analysis, horizontalization allowed the themes to emerge from the phenomenology through meaning units and meaning clusters, as units grouped together. Using a phenomenological data reduction (Moustakas, 1994), this process, akin to

quantitative research, is a categorization of the emerging significant statements into meaning units through a constant re-reading of the data. Throughout the entire process of horizontalization, of great significance is the maintaining of the participant's voice, or preserving the "truth space" (Onwuegbuzie & Teddlie, 2003, p. 369).

For further analysis, the results of the horizontalization was compared with the results of the FSS administered earlier to confirm/disconfirm findings and look for discrepancies or interesting omissions of categories, antecedents, indicators, and/or consequences. In order to make this comparison, the data of the FSS was qualitized, a "process by which quantitative data are transformed into qualitative data . . . to extract more information from quantitative data, or to confirm interpretation of it" (Sandelowski, 2000, p. 253). This transformation involved "creat[ing] verbal portraits or typologies of them – around target phenomena" (Sandelowski, 2000, p. 253). After this integrated mixed analysis of the data, a textural and structural description, a metaphor for the experience, and the essence of the experience (a one-sentence summary of the findings) was determined.

Qualitizing data involves transforming numerical data into narrative or descriptive data to be analyzed qualitatively and to increase legitimation (Tashakkori & Teddlie, 1998). One method of qualitizing is to create profiles, which can be used individually or in combination: modal, average, holistic, comparative, and/or normative (Sandelowski, 2000). In this study a holistic profile was used, which is a verbal description based on "impressions rather than specific attributes or scores" (Sandelowski, 2000) and may also be made up of various combinations of modal, mean, comparative, and normative profiles. The holistic profile was used due to the organic nature of qualitative research and was formed from several aspects of the other profiles. The modal profile is a verbal

description of a group of participants around the most frequently occurring attributes (Tashkkori & Teddlie, 1998, pp. 130-133) and used to categorize participants into levels. In this study the modal profile was based on the most frequently occurring attributes related to flow, categorizing participants' experiences into moderate or deep flow levels, used often for criterion sampling. Also, the normative profile is a verbal description based on the comparison of participants' scores to the normative scores for the instrument(s). The normative profile was used to compare the results of the FSS for flow in reading for these participants to the norms on the FSS for flow in other activities for the possible purpose of initiation in order to search for potential discrepancies or even paradoxes between flow in literacy and flow in other activities. In conjunction with the normative profile, the mean profile, a verbal description of a group of participants around the mean of an attribute was used to confirm possible flow dimensions. The comparative profile, which is a verbal description based on the comparison of participants to each other on one or more sets of scores, confirmed the dimensions.

Furthermore, the typology created by the holistic profile involves applying the themes from the phenomenological data reduction to the qualitized data of the FSS (Onwuegbuzie & Teddlie, 2003). The typology can come from the research investigation, the participants themselves, the literature, interpretation of preexisting concepts, or programs and their programmatic objectives (Constas, 1992). For further triangulation, member checking provided trustworthiness of the findings to confirm/disconfirm conclusions after the data were analyzed, as did the rich description and clear delineation of the study's steps (an audit trail), which ensured reproducibility. Moreover, an ABD doctoral student from The University of Georgia reviewed the data analysis for additional triangulation to provide further trustworthiness.

Phenomenology is the best methodology to explore the flow experience, including the antecedents specific to literacy, the experience itself, and its consequences. The tenets of transcendental phenomenology were framed by Husserl (1931) and designed into specific research methods by Moustakas (1994). This qualitative method of research, particularly phenomenology, requires a deep probing into the experience in order to let insight emerge, rather than presupposing factors and measuring them (Creswell, 1998). It is an inductive approach based on participants' perceptions of their experiences. Because there are virtually no research studies on flow in independent reading, the experience of flow in reading is largely unexplored. The qualitative approach will allow the data to emerge, rather than specifying themes beforehand to measure (Creswell, 1998). This emergence will provide a more honest, analytical set of data with less bias. Rather than telling the participants what the important factors are, the participants will be co-researchers who are able to tell the researcher the important factors to flow in reading as they perceive them (Creswell, 1998). Student perception is their reality. These antecedents, the experience itself, and the consequences to flow in reading must be identified before any additional studies can be done or any definitive theory in literacy can adapt Csikszentmihalyi's flow theory to reading. Probable sequential studies to this one would be a quantitative one to measure the components participants self-report and a grounded theory method (GTM) to formulate theory on the interworking of the flow components in reading.

The quantitative component of administering the Flow State Scale (FSS) is significant in determining that the participants actually experience flow at least on a moderate to deep level. This criterion is essential to give meaning to the interviews so that those interviewed actually have been confirmed as having the flow experience while

reading. Moreover, the results of the FSS were examined again and used in data analysis after the interviews for comparison with the emerging themes from the phenomenology. This comparison provided trustworthiness as well as confirmation for the findings. The FSS, developed in 1994 by Jackson and Marsh, has had a good deal of validity evidence (Marsh & Jackson, 1999), reasonable reliability (average $\alpha = 0.83$), and been employed in a number of studies (Guo, 2004). Although the Internet Flow Scale (IFS) is a measure of a leisure activity (internet) and might appear more likely to measure flow in reading, Guo's (2004) study found the FSS a more accurate assessment for leisure flow, even in activities related to the internet. He carried out two pilot studies and then used a three-part construct validity study, which determined the superiority of the FSS in measuring flow in leisure activities over the results from the IFS. His study was in agreement with Jackson and Marsh's (1996) findings that the FSS had a nine first-order factor structure. Guo used the maximum likelihood factor method with equamax rotation with Kaiser Normalization to determine if the same structure would apply to his data. An identical structure resulted except for one item in feedback and the balance of challenge and skill measures, although three other items had minor cross loadings, explaining 64.23% of the variance. Guo (2004) repeated the same procedure for the IFS scales and found the extracted factors explained 63.72% of the variance. He determined that the "IFS did not factor as cleanly as the FSS, with more cross-loading items" (Guo, 2004, p. 129). Consequently, this study utilized the FSS in criterion sampling and for data analysis and trustworthiness.

The process of qualitzing the data transformed the scores from the FSS into "verbal portraits or typologies" for purposes of complementarity (Sandelowski, 2000, p. 253). A holistic profile of these particular participants was created from the FSS results

of the participants' responses (Sandelowski, 2000). The researcher analyzed the qualitized data for dimensions absent from the classic flow picture. Furthermore, the researcher compared the meaning units/clusters from the phenomenological data reduction with the classic nine flow dimensions for possible additions to the flow dimensions in the field of literacy. See Figure 3 for a flow chart of the data collection and analysis.

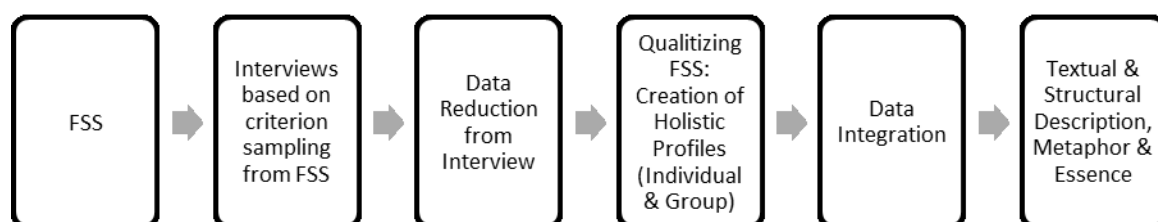


Figure 3. The Data Collection/Analysis Process of Flow.

In the data reduction step significant statements with meaning units, and meaning clusters, emerged. The data integration phase produced emergent themes, supporting significant statements from interviews, and FSS qualitized data, which is in narrative description (Jang, McDougall, Pollon, Herbert, & Russell, 2008; Li, Marquart, & Zercher, 2000).

Data Collection

Number of participants. Twenty-three participants who share the flow experience in reading took the FSS online and 21 of those were interviewed. Scheduling did not permit interviewing the remaining two students. Eight to 10 probably would have been the preferred number. Any fewer participants might produce less trustworthiness

and reliability, though as few as five or six would have been acceptable if the description were rich and detailed enough; a greater number of participants than 20 in a predominantly phenomenological study produce so much information that the analysis by way of horizontalization is difficult (B. Igo, personal communication, July 9, 2009). In this case, all 21 were used because they either met the cut score of moderate to deep flow or had indicators of deep flow, though not mild, and students were intensely interested in being a part of the study. Because 21 is a large number for a phenomenology, more trustworthiness was ensured. Still 21 students is not overall a large sample in a research study, though that does not invalidate the results. Qualitative research, particularly a transcendental phenomenology, is a deep look, not a broad one. The results of this predominantly phenomenological study could be taken to the next step in a later study to measure quantitatively the data that emerged in this sequential exploratory single-strand study.

Demographics of sample. The sample population for the study was drawn from the students at the school where the researcher teaches as a convenience sample. The school in which the study is situated is a high school freshman academy in the rural South. The sample was selected based on the criterion sampling of the flow experience as self-perceived and as measured quantitatively by the FSS. To determine this self-perception of the flow experience and identify those with the experience, students took an online survey that measured the degree of the flow experience. These 36 items measured the nine key dimensions from Csikszentmihalyi's (1990) conceptual flow model. Extreme cases were used to examine the flow experience in detail since those participants experience flow in more depth. Those with moderate and/or deep flow were interviewed, which in this case included 21 participants. According to Guo's (2004) study, mild flow

is indicated by the categories of enjoyment and clear goals only; moderate flow, by the addition of challenge, concentration, control, and feedback; deep flow, by the addition of transformation of time and place and loss of self-awareness (review Table 1). The flow levels of participants was not analyzed for criterion sampling precisely as Guo developed them; the rationale for this modification was that the classic flow dimensions might differ somewhat or factor differently in importance; therefore, any six of the nine dimensions met or exceeded qualified a participant for this study. The participants in this study met at least six of the nine dimensions, except for two participants who did not meet dimensions that were the indicators of mild flow, though they did meet the indicators of deep flow; therefore, they were retained in the study to explain the discrepancy.

The participant population in this study was varied in background and composition. Twenty percent of the students in the study were from a low socioeconomic status as measured by free/reduced lunch. Thirty-eight percent were male; 62%, female. Ethnicity was diverse: 67% White, 19% African American, 9% Hispanic, and 5% Asian. Students from a minority background composed 38% of the participant population, which is reflective of the student population at the school. Seventy-six percent of those in the study were in honors English II, an accelerated track for freshmen.

Target population. The study researched the self-perceived flow experiences of adolescent readers. It is hoped that in examining these perceptions of reading and flow that the results of the study can expand on the knowledge of flow in reading and perhaps be generalized to others of similar demographics to understand the impact of the flow experience on reading. Eventually the results might aid in creating the flow experience with those who struggle with and/or dislike reading. Moreover, a greater understanding of flow in reading might aid educators in designing literacy instruction and curriculum and

in adapting the FSS to reading.

Forms of data needed. Data was two-fold: the results of the FSS and the transcripts from semi-structured interviews approximately 20-40 minutes in length with these students using open-ended questions. The format of the questions was based on the interview protocol of a transcendental phenomenological study done by Brown et al. (2006). Appendix A reviews the interview protocol. Previous to the interviews, students were self-identified as having the flow experience from response to advertising of the study, teacher observation, and/or library check-out numbers. The voluntary response qualified as a self-perception of flow and was confirmed by the FSS.

Steps of Data Collection

1. The initial step was collecting participants, which was done through a variety of methods:
 - a. The researcher advertised for participants in the Advanced Reader Club, a group of high school freshmen that love to read and meet during lunch, through the help of the Media Specialist.
 - b. The researcher collected recommendations of participants from the media specialist and from English teachers of students who expressed potential flow dimensions and/or had high library check-out numbers.
2. At this point permission from the pool of possible participants (students) and their parents was obtained (Appendix B). Additionally, the researcher gave an overview of the study and explained the potential impact of the study: the expansion of knowledge on flow in literacy and on curriculum/instruction and potential eventual extrapolation to those who do not enjoy literacy.
3. The students took the online FSS, which confirmed the flow experience. This

delineation was based on the criterion of the student's having any six of the nine dimensions of flow, thus qualifying as moderate-deep flow. Those with deep flow (6-9 dimensions) were used in the study selection as well as two who did not meet the cut score but did exhibit moderate-deep flow.

4. The researcher gave a general definition of the term flow (as delineated earlier in the literature review) for the students and then interviewed participants about their experiences with flow in independent reading in a semi-structured interview protocol.

Other research studies that have used similar qualitative data collection on flow are few because most research on flow thus far has been quantitative (Guo, 2004), such as Keller and Bless (2008), Csikszentmihalyi and Hunter (2003), Whalen (1998), Csikszentmihalyi et al. (1993), Csikszentmihalyi and LeFevre (1989), and Csikszentmihalyi and Figurski (1982). The majority of the quantitative studies used either the Experience Sampling Method (ESM) to measure flow states at differing times in differing activities, the Flow State Scale (FSS), or the Internet Flow Scale (IFS), both Likert instruments measuring the flow experience, antecedents, and consequences in non-academic settings most often. Even the study questioning the Experience Sampling Method's measurement used the ESM in two different experiments to evaluate its effectiveness (Voelkl & Ellis, 1998) and subsequently questioned its effectiveness in affect. Few studies have delved into flow theory qualitatively, and its applications in the classroom are still largely unexplored. However, there are a few qualitative studies setting precedent for using interviews on flow, one of which is Judy A. Abbott's (2000) study interviewing two elementary-age boys on flow and their writing experiences, and Robinson's (2010) interviews with English-language learners. Precedent has also been set by Tenenbaum, Fogarty, and Jackson (1999) in examining levels of flow, though not for

purposes of comparison with the results of a phenomenological data reduction.

Instruments

Flow State Scale. These 36 items measure the nine key dimensions from Csikszentmihalyi's (1990) conceptual flow model. The FSS was developed by Jackson & Marsh (1996), has been utilized hundreds of times, and tested for construct validity (Guo, 2004). The test was administered online through the site managed by one of the FSS creator's, Sue Jackson (the online site is www.mindandbodyflow.com).

There are three primary measurements of flow used today: the Experience Sampling Method (ESM), the Flow State Scale (FSS), and the Internet Flow Scale (IFS). The ESM is used primarily during the experience to sample the psychological state while ongoing. The FSS and IFS are used after the experience to measure several subconstructs of flow. Although the FSS and IFS assess some of the same subconstructs, they measure a few differing subconstructs and do not carry the same reliability and validity in a factor analysis. These two scales were the options for this particular research study because a scale was needed to measure the flow state as a criterion for the interviews.

The FSS measures nine flow dimensions: challenge-skill balance, action-awareness merging (automaticity), clear goals, unambiguous feedback, total concentration, sense of control, loss of self-consciousness, transformation of time, and autotelic experience (intrinsic reward and motivation to return). The long form of the FSS-2, the newest version, is multidimensional and has 36 items on these nine subconstructs with four items per subconstruct. Table 3 provides sample questions from each dimension. The long form comes in three scales to assess either flow disposition, flow in a physical activity, or flow in a general field, used with more mental activities (Jackson, Ecklund, & Martin, 2010). Additionally, there are short scales, unidimensional,

that are comprised of nine items. These are less accurate but useful if a quick survey is needed. The short scales measure either disposition, physical activity, and general activity, also. Moreover, there is a short core scale that is composed of nine items and measures global flow. Psychometrically stronger, the long flow scale indicates multidimensionality by averaging the four scores to get a score on each of the nine subconstructs (Jackson et al., 2010). All scales should be completed within 1 hour of the activity to be accurate.

Table 3

The Nine Dimensions on the FSS-2 and Sample Items.

Dimension	Sample Items
Challenge-Skill Balance	“I was challenged, but I believed my skills would allow me to meet the challenge.”
Merging of Action & Awareness	“I made the correct movements without thinking about trying to do so.”
Clear Goals	“I knew clearly what to do.”
Unambiguous Feedback	“It was really clear to me how my performance was going.”
Concentration	“My attention was focused entirely on what I was doing.”
Sense of Control	“I had a sense of control over what I was doing.”
Loss of Self-Consciousness	“I was not concerned with what others may have been thinking of me.”
Time Transformation	“The way time passed seemed to be different from normal.”
Autotelic Experience	“I really enjoyed the experience.”

Some differences in versions exist. The present version of the FSS is a revised form of the original and is called the FSS-2. After a review of the original FSS, which was developed in 1996 and contained 54 items, six per subconstruct (Jackson & Marsh, 1996), a pilot study of 252 participants revealed the FSS-2 with 36 items was a stronger fit over the original FSS with 54 items (Jackson & Marsh, 1996). The general version of the FSS-2 Long Flow is a little different from the physical activity version in that it has minor changes to wording to make the scale fit studying flow in a wide range of settings (Jackson et al., 2010). Moreover the general version uses past tense because it is measuring flow after it has occurred, unlike the dispositional version, which is measuring the flow personality.

Some caution exists in interpreting the FSS-2 ratings. All scales use a Likert-scale from 1-5, where 1 indicates strongly disagree and 5, strongly agree. However, a 3 should indicate not necessarily a median score but possibly a “neither agree nor disagree” option (Jackson et al., 2010, p. 18). In other words, a 3 is ambiguous and might indicate some degree of endorsement or even none. Thus, a 3 should be considered a non-indicator of flow (Jackson et al., 2010).

Each of the seven versions of the FSS has been researched for reliability and validity. The Long FSS, developed in 1994 by Jackson and Marsh, has had a good deal of validity evidence (Marsh & Jackson, 1999), reasonable reliability (average $\alpha = 0.83$), and been used with thousands of participants (Guo, 2004). For the purposes of this study, the Long FSS-2 General, which was revised in 1996, was chosen; therefore, only its results will be discussed here. Confirmatory factor analyses demonstrated a satisfactory fit of a nine first-order factor model and a higher order model with a global flow factor (Jackson et al., 2010). Factor loadings were all strong with a median of .74, and

multidimensionality of the nine dimensions as separate subconstructs showed correlations of .50 median. All nine dimensions were correlated significantly to the global flow factor, except for time transformation and loss of self-consciousness (Vlachopoulos, Krageorghis, & Terry, 2000). These lower ratings might be because these two dimensions are reserved for the deepest level of flow and might occur more rarely, thus being more difficult to measure (Jackson et al., 2010).

Because an analysis of the causes of flow is under study in this research, the long FSS on general activities was selected for this study to provide multidimensionality and greater reliability and validity. Below is a breakdown of the multidimensional assessment of flow during a range of activities (Table 4).

Table 4

FSS-2 General Assessment by Dimension and Mean.

Dimension	Mean of FSS-2
Flow (Global)	3.75
Challenge-Skill Balance	3.68
Merging of Action & Awareness	3.48
Clear Goals	4.01
Unambiguous Feedback	3.87
Concentration	3.71
Sense of Control	3.72
Loss of Self-Consciousness	3.87
Time Transformation	3.44
Autotelic Experience	4.02

The Internet Flow Scale (IFS), created by Yi Guo (2004) measures nine dimensions of flow with 36 items as well, though the dimensions are not exactly the same as the FSS (Table 5). The IFS, though designed for more hedonic or experiential activities, was not used in this research study because it did not factor as cleanly in a factor analysis by Guo (2004) on internet usage. Reading is a leisure activity, which resembles internet surfing more than it does goal-oriented activities, like sports or other physical activities. Guo's (2004) study found the FSS a more accurate assessment for leisure flow, even in activities related to the internet. He carried out two pilot studies and then used a three-part construct validity study, which determined the superiority of the FSS in measuring flow in leisure activities over the results from the IFS. His study was in agreement with Jackson and Marsh's (1996) findings that the FSS had a nine first-order factor structure. Guo used the maximum likelihood factor method with equamax rotation with Kaiser Normalization to determine if the same structure would apply to his data. An identical structure resulted except for one item in feedback and the balance of challenge and skill measures, although three other items had minor cross loadings, explaining 64.23% of the variance. Guo repeated the same procedure for the IFS scales and found the extracted factors explained 63.72% of the variance. He determined that the "IFS did not factor as cleanly as the FSS, with more cross-loading items" (Guo, 2004, p. 129). However, its reliability was strong, according to Koufaris (2002), who reported a coefficient alpha = 0.910. (Table 5.)

Table 5

The Nine Dimensions on the IFS and Sample Items.

Dimension	Sample Items
Challenge	“The website challenged me to perform to the best of my ability.”
Merging of Action & Awareness	“It seemed my interaction with the website was seamless.”
Skill	“I felt skillful while using the web.”
Telepresence	“I forget about my immediate surroundings when I use the web.”
Concentration	“I was absorbed intensely in the activity.”
Sense of Control	“I felt confused while on this web site.”
Loss of Self-Consciousness	“I lost consciousness of identity and felt like I ‘melted’ into the site.
Time Transformation	“I often spend more time on the web than I intended.”
Autotelic Experience	“I found my visit interesting.”

Because of lesser validity and cross-factoring of subconstructs (Guo, 2004), the FSS-2 was chosen for this study over administering the IFS to determine the criterion sample and to explore the subconstructs of flow. Since the general version of the FSS-2 could apply to a wide range of activities, including leisure activities, that format seemed to fit the study’s needs. However, the IFS measures a couple of different subconstructs, one which this researcher considered possibly significant to flow in reading, telepresence.

The subconstructs assessed by the IFS are concentration, enjoyment, sense of control, loss of self-consciousness, mergence of activity and awareness, time distortion, telepresence, perceived challenge, and perceived skill. One difference, in the FSS the last two dimensions are one category and are considered a balance, modeled after Csikszentmihalyi's Four Channels of Flow Theory (1990), whereas in the IFS skill and challenge are two separate subconstructs (Guo, 2004). Also, a new category, not in the FSS, is telepresence, which is the feeling of being in another world created by the activity (Guo, 2004). Missing from the IFS are clear goals and feedback.

The rights to use the FSS as an online questionnaire were purchased through www.mindgarden.com, which Jackson and Marsh (1996), the original creators of the FSS, founded (see Appendix C). Additionally, the researcher purchased permission to add three items to the general long FSS-2 (see Appendix D). The researcher of this study created the three items to measure three potential dimensions of flow in reading: telepresence, vision, and empathy.

1. I felt as if I were in another world, a world created by the book. (measures telepresence)
2. I could mentally see the setting, characters, and/or actions. (measures vision)
3. I felt as if I were connected to the character(s) and/or events and/or could feel with them. (measures empathy)

Interview protocol. The researcher began with a definition of flow in simple terms as defined earlier in this paper (based on Csikszentmihalyi's definition and on the FSS and IFS). She explained that flow is "a state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it, even at great cost, for the sheer sake of doing it" (Csikszentmihalyi, 1990, p.

4). It is a state of total involvement, called *flow*, a term created by the research subjects themselves who described the experience as being in the flow (Csikszentmihalyi, 1988).

The following were the questions used in this study's interview:

1. What has been your experience with flow in reading?
2. Could you tell me how long you have had this experience?
3. How do you feel when you experience flow?
4. What dimensions, incidents, and people intimately connected with flow in reading stand out for you?
5. What has the experience been like since you first experienced it?
6. How has it affected you?
7. What changes do you associate with the experience?
8. What feelings were generated by the experience?
9. Has your perspective of reading changed since you have had this experience?
10. What do you like to read?
11. What advice would you have for struggling readers who have not experienced flow to encourage them to have this experience?
12. What would be a metaphor or saying that represents this experience?
13. Have you shared all that you think is relevant to the experience of flow in literacy?

The researcher began with the definition of flow, progressed to question one, and then advanced as was natural through a semi-structured interview protocol in an iterative manner. New questions arose as other themes emerged, and probing was needed to clarify comments or new themes. These questions were based on Brown et al.'s (2006) interview protocol in their phenomenological study. John Creswell was one of the

researchers named as author. Additionally, the quantitative data from the FSS was qualitized to assess if the data gave indication of gaps in the classic flow theory as applied to literacy. The qualitized data was used, when indicated, as an elicitation device to guide the interview(s) to explore missing classic dimensions.

Data Analysis

Steps of data analysis. Steps that were used for analysis followed transcendental phenomenology. The first step was epoche, which is revealing of and bracketing the researcher's potential biases and includes identifying and mentally divesting oneself of those preconceptions as much as possible (Moerer-Urdahl & Creswell, 2004). Second, the researcher read over the transcripts of those who self-reported experiencing flow during independent reading several times for horizontalization, which is the emergence of significant statements (Moerer-Urdahl & Creswell, 2004). This phenomenological data reduction allowed the categories to emerge constructively rather than be mandated and perhaps superficially superimposed on the data. Next, the significant statements were culled to get rid of repetition and categorized into meaning units as those units emerged. Following that, the units were analyzed for the possibility of meaning clusters. Then the data from the FSS was qualitized and put into profiles and verbal pictures to analyze for gaps or additions when compared to the qualitative meaning units and the classic nine flow dimensions. From the results of the analysis, textual and structural descriptions, a metaphor for the experience and the essence of the experience was determined (Moerer-Urdahl & Creswell, 2004).

Trustworthiness Procedures

Types of procedures that ensured trustworthiness in this study were an audit trail (clear outlining of steps so that the study can be replicated), rich description, member

checking, and peer checking. Many other qualitative studies have used similar procedures, in particular audit trail, rich description, and peer checking: Glaser and Strauss (1967); Sanger, Creswell, Dworak, and Schultz (2000); Nelson, Englar-Carlson, Tierney, and Hau (2006); and Abbott (2000). Member checking is an integral part of trustworthiness in which the participants confirm the findings in small focus groups, as in Smart and Igo's (2010) study on behavior management and new teachers; Madsen's (2006) cross-case study of women university presidents; Morrow and Smith's (1995) study on women who have survived childhood sexual abuse; Asmussen and Creswell's (1995) case study on a campus gun episode; and Brown et al.'s (2006) research on patients waiting for liver transplants. The member checking was done in small focus groups of three to four with a total of 10 of the 21 interviewed participants. Peer debriefing is another often used qualitative procedure for trustworthiness in which an outside person (or persons) thoroughly questions, prods, and examines the findings, as in the aforementioned studies by Nelson et al. (2006) and by Brown et al. (2006). This debriefing was done by the doctoral student on ABD status at The University of Georgia.

Foreseen Challenges

Rapport issues. There were no rapport issues with the students for several reasons. First, independent reading is not a graded activity, so there was no fear of consequences to a student's grade. Second, responding to the school-wide advertisements or teacher recommendations indicated voluntary participation, which eliminated rapport barriers and ensured trustworthiness with students.

Participant access issues. There were not too many access issues since these are students at the researcher's school and participation was voluntary. From the first, participants understood that the study was after school hours; that restriction did not

prohibit the majority from participating, although one student was affected by that and could not work out his schedule for an interview after taking the online FSS. One option used previously at the school by other doctoral students is to interview during lunch hours while providing a small lunch like pizza. This was done to facilitate scheduling for three students; however, the one student still could not work it out to meet the investigator because of conflicting lunches.

Rhetorical issues. No issues were evident in the interviews because the investigator had the definition of flow before the participant during the interview and because the researcher used the definition more than the term “flow” to ensure understanding. However, unexpectedly, the terminology used in the FSS, which has been tested hundreds of times with adolescents and is worded in basic vocabulary with which adolescents are familiar, was a source of confusion for these freshmen in three categories. Consequently, the researcher followed up on this confusion by asking elicitation questions during the interviews about the lower scores on three dimensions (clear goals, feedback, and control). Although in classic flow theory these three dimensions are the indicators of mild flow, these students indicated that they were confused about the wording and/or application of these dimensions to reading. As a result, they gave low scores (1-2) or the safe, ambiguous 3, which they explained meant they did not know what it was asking as the dimension applied to reading.

Anticipated Limitations

A predominantly phenomenological study is an in-depth look at self-reported perceptions; thus, it is more subjective. It is a microscopic examination of the experience as narrated by those closest to it, i.e., those who are experiencing it. Told without analysis for the purpose of description, the participant’s perception of the experience is accepted

as reality in the context of the research (Moerer-Urdahl & Creswell, 2004). Because no presuppositions are established before the research, the findings arise from a naturalistic context; thus, meaning is constructed. That subjectivity does not lessen the importance of the results but can present some fresh indicators for new research, which might later explore, confirm, or disconfirm the results through a quantitative design. By combining the phenomenology with the FSS, more confidence and reliability are present in the results, which reduce the limitations.

Anticipated Outcomes

The results expected were that the antecedents for flow in literacy would relate to student interest, playfulness, and social literacy contracts, and that the consequences would be positive affect, reading achievement, self-efficacy, and intrinsic motivation toward reading. The experience of flow itself in reading most likely would contain some of the classic indicators of flow: distortion of time, unawareness of self and place, intense concentration, and oneness with the activity. Most likely, one or two different indicators would be uncovered. For example, another indicator, not measured on the traditional assessments, relates to Guo's findings in flow, which is novelty, a possible factor in reading. Other potential factors that might be uncovered lay in the area of play, imagination, curiosity, interest, and telepresence (or otherworldiness). The researcher anticipated that the typical flow antecedents of immediate feedback, control, and clear goals would factor somewhat differently in independent reading, most likely less significantly.

The importance of this study is two-fold. First, the study hoped to expand the application of flow theory to the domain of literacy and increase knowledge in this area, specifically in relation to independent reading. Second, the research has possible

implications for eventual extrapolation to struggling adolescent readers, who often are less motivated toward reading, feel more negatively about reading, and spend less time voluntarily reading. Hopefully, the results of the study will give indicators for practice and theory to move these struggling readers into flow experiences. It is expected that more flow experiences while reading could possibly increase motivation, affect, self-efficacy, and achievement in reading. In attempting to provide flow in literacy, teacher planning and instruction might need to include key components of flow in reading. Finally, there might be some indication for further research as to how the FSS could be modified to measure flow in reading by adding or removing dimensions. This study lays the groundwork for two follow-up studies: a quantitative measurement of the impacts and correlations of the variables, and a Grounded Theory Method (GTM) to develop the interworking of the components of flow as adapted to reading.

Timeline

1. First Week – Collection of Participants (Advertising/Recommendations) & IRB forms
2. Second Week – Verification of Participant Criterion (FSS)
3. Third-Fourth Weeks – Interviews
4. Fifth-Sixth Weeks – Data Analysis: Reading and Re-reading of the Interview Data for Initial Horizontalization and Development of Meaning Units/Clusters
5. Seventh Week – Comparison with Results of FSS & Qualitizing of Data
6. Eighth-Tenth Weeks – Write Up of Results with Discussion and Implications
7. Eleventh Week – Member Checking of Results (Small Focus Groups) and Review by Doctoral Student from UGA on ABD status (Joy Bertling)
8. Twelfth Week – Revision of Dissertation

Conclusion

This research study was designed to explore classic flow theory as it applied to the domain of literacy. The perspective was predominantly phenomenological, though the mixed methods integrated the data, adding complementarity. The results showed that there were some inconsistencies and possibly some gaps in the classic theory as it applies to independent reading.

Chapter 4: Results

Introduction

The results of this mixed methods study were collected and analyzed in two phases. The first phase was the collection of the results of the modified FSS-2, which were qualitized and then analyzed for confirmation of classic flow dimensions. Confirmation was based on individual and group scores by dimensions that were near or exceeded the means on the long general FSS-2 (Jackson et al., 2010). Ambiguous scores are explained in detail below and were removed. Holistic profiles were examined for organic patterns in this confirmation process. Disconfirmation of the classic flow dimensions was not considered due to the small sample size. The results showed that the balance of challenge-skill, automaticity, goals, transformation of time and place, loss of self-awareness, attention, enjoyment, vision, and empathy were confirmed dimensions/subdimensions of flow in reading.

Next, the modified FSS-2 data were integrated with the results from the interviews on flow antecedents, indicators, and consequences. This integration explained the low and ambiguous ratings in participants' scores and reduced the number of confirmed dimensions to automaticity, transformation of time and place, loss of self-awareness, attention, enjoyment, vision, and empathy. Additionally, interviews showed the wording of the items on the FSS-2 on the balance of challenge-skill and on automaticity might need modification for the activity of reading and could possibly strengthen the confirmations.

The second phase of the mixed methods study was the phenomenological analysis of the data reduction from the interviews, which produced seven themes, one theme with four subdimensions: interest, isolation, and social literacy contracts (antecedents);

telepresence (indicator) with vision, empathy, transformation of time, and attention (four subdimensions), and comprehension, enjoyment, and creativity (consequences).

Phase One: The Online Flow State Scale (modified FSS-2)

The results of the modified FSS-2, the first phase of this research study, were conflicted. First of all, three of the 23 participants did not pass the cut-score of six of the nine dimensions; however, they did exceed the mean in the dimensions that signal moderate-deep flow, like transformation of time, enjoyment, loss of self-awareness, and/or telepresence (Guo, 2004; see Tables 6 and 7). The expected result would have been that they would have met the cut scores on the dimensions in the mild-moderate levels and perhaps not in the moderate-deep levels. This converse result indicated a potential issue with some of the classic flow dimensions when flow theory is applied to independent reading. Consequently, these three participants were included in the interviews for clarification.

Moreover, three added items to the general FSS-2 scored higher than the classic flow dimensions (Tables 6-8). These items had been added with the publisher's permission to the FSS-2 because the researcher felt telepresence might be a significant dimension to flow in reading after studying Guo's (2004) research on flow in leisure settings and Gallese's (2001) research on vision and empathy. One item was designed to measure telepresence and two to assess possible factors of telepresence (mental vision and empathy). The resulting scale was the modified FSS-2, with one component of the IFS (telepresence) and a couple of self-generated items on the possible subdimensions (vision and empathy). The item designed to assess telepresence was modeled after Guo's (2004) Internet Flow Scale item on telepresence and added to the online test with Guo's and Jackson's permission.

Table 6

Codes for Table 7 Below.

Dimension	Code
Challenge-Skill Balance	C-S
Automaticity	Au
Clear Goals	G
Feedback	F
Attention	Att
Control	C
Loss of Self-Awareness	S-A
Transformation of Time	T
Enjoyment	Enj
Telepresence	Tel
Vision	V
Empathy	Em

Table 7

Individual/Overall Dimension Means Compared with FSS-2 Means.

Student	C-S	Au	G	F	Att	C	S-A	T	Enj	Tel	V	Em
1	3.25	3.75	4.0	3.75	4.0	3.75	4.0	4.0	4.25	5	5	5
2	4	5.0	5.0	2.25	5.0	2.5	5.0	5.0	5.0	5	5	5
3	4.5	5.0	5.0	4.0	5.0	5.0	4.75	5.0	5.0	5	5	5
4	3.25	3.75	2.0	1.75	3.5	3.25	4.75	4.5	4.75	5	5	5
5	3.75	4.25	3.75	2.5	4.25	3.75	4.25	4.75	3.5	4	5	4
6	2.75	3.75	3.75	4.75	4.25	4.0	4.5	5.0	5.0	5	5	5
7	3.0	3.25	4.0	3.5	4.0	3.5	3.25	4.5	4.75	5	5	5
8	3.75	5.0	4.5	3.25	5.0	3.5	5.0	4.25	4.25	5	5	5
9	3.75	4.25	2.5	3.75	4.75	3.0	4.75	5.0	4.75	5	5	5
10	4.0	4.5	5.0	5.0	4.25	4.75	4.25	5.0	5.0	5	5	5
11	3.75	3.75	4.5	3.75	4.5	4.25	3.0	5.0	5.0	5	5	5
12	3.5	4.75	4.75	4.25	5.0	4.75	5.0	5.0	4.75	5	5	5
13	4.75	5.0	4.5	4.0	4.25	4.25	4.75	5.0	4.75	5	5	5
14	4.0	4.0	4.25	3.75	4.75	4.0	4.0	4.75	4.5	5	5	5
15	3.75	3.25	4.0	3.5	3.0	3.75	2.5	4.0	3.0	5	5	5
16	4.0	3.75	4.25	4.75	3.0	3.25	3.75	3.75	3.75	5	5	5
17	3.75	3.75	2.75	3.5	3.5	3.0	4.0	4.75	4.75	5	5	5
18	4.25	3.25	2.75	2.75	4.5	3.75	4.75	4.5	4.75	5	5	5
19	3.75	5.0	4.75	4.5	3.5	4.0	4.25	4.0	3.5	4	5	5
20	4.5	3.5	4.75	4.0	4.0	4.0	4.75	4.25	4.25	5	5	4
21	3.0	4.0	2.5	3.25	4.0	3.75	3.75	4.0	4.0	5	5	5
22	4.0	4.0	4.0	4.0	4.75	4.25	3.75	5.0	4.75	5	5	5
23	5.0	4.75	5.0	4.75	5.0	5.0	5.0	5.0	5.0	5	5	5
Survey	3.89	4.17	4.01	3.70	4.28	3.63	4.27	4.63	4.45	4.87	5	4.87
FSS-2	3.68	3.48	4.01	3.87	3.71	3.72	3.87	3.44	4.02	-	-	-

Table 8

Means of the FSS-2 Dimensions Compared to the Modified FSS-2.

Dimensions	FSS-2	Modified FSS-2 Used in This Study
Challenge-Skill Balance	3.68	3.89
Merging of Action & Awareness	3.48	4.17
Clear Goals	4.01	4.01
Unambiguous Feedback	3.87	3.70
Concentration	3.71	4.28
Sense of Control	3.72	3.63
Loss of Self-Consciousness	3.87	4.27
Time Transformation	3.44	4.63
Autotelic Experience	4.02	4.45
Telepresence	Not on the FSS	4.87
Vision	Not on the FSS	5.00
Empathy	Not on the FSS	4.87

In step one of qualitizing the results, holistic profiles were created from impressions of the data after observing organic patterns in the normative, comparative, modal, and mean profiles. The individual normative profiles were created after comparing the individual and group means of the modified FSS-2 with the norms of the FSS-2, seen earlier in Table 7. The results were qualitized into confirmation codes after

comparing the FSS-2 with the individual scores, modeled after previous qualitized handling of quantitative data in other mixed methods studies (Jang et al., 2008; Li et al., 2000; Onwuegbuzie & Teddlie, 2003; Table 9). Participants indicated that telepresence, vision, and empathy are three possible new dimensions/subdimensions of flow in reading, and strongly confirmed the classic dimension, transformation of time. Other dimensions that were confirmed were balance of challenge-skill, automaticity, goals, and loss of self-awareness. Feedback and control were not strongly confirmed. Codes for Table 9 are the same as the codes for Table 7. (Review Table 6.)

Table 9

Step One: Qualitized Confirmation Codes of the Modified FSS-2.

Student	C-S	Au	G	F	Att	C	S-A	T	Enj	Tel	V	Em
1		X	X		X	X	X	X	X	X	X	X
2	X	X	X		X		X	X	X	X	X	X
3	X	X	X	X	X	X	X	X	X	X	X	X
4		X					X	X	X	X	X	X
5	X	X			X	X	X	X		X	X	X
6		X		X	X	X	X	X	X	X	X	X
7			X		X		X	X	X	X	X	X
8	X	X	X		X		X	X	X	X	X	X
9	X	X			X		X	X	X	X	X	X
10	X	X	X	X	X	X	X	X	X	X	X	X
11	X	X	X		X	X		X	X	X	X	X
12		X	X	X	X	X	X	X	X	X	X	X
13	X	X	X	X	X	X	X	X	X	X	X	X
14	X	X	X		X	X	X	X	X	X	X	X
15	X		X			X		X		X	X	X
16	X	X	X	X				X	X	X	X	X
17	X	X					X	X	X	X	X	X
18	X	X	X	X		X	X	X	X	X	X	X
19	X	X	X	X		X	X	X		X	X	X
20	X	X	X	X	X	X	X	X	X	X	X	X
21		X			X	X	X	X	X	X	X	X
22	X	X	X	X	X	X		X	X	X	X	X
23	X	X	X	X	X	X	X	X	X	X	X	X
Overall	X	X	X		X		X	X	X	X	X	X

In step two of qualitizing the results, the overall holistic profile was further enhanced and altered by further examining in detail the individual mean profiles, made

up of scores on each dimension (Table 10). First, this qualitzing process involved observing patterns after dropping scores 3.5 or below. The rationale for this cut-off and subsequent discarding of the score was that Jackson et al. (2010), who developed the FSS-2, asserted that a 3 is an ambiguous score and neither confirms or disconfirms the dimension. They cautioned against using scores of 3 due to their potentially misleading nature. According to Jackson et al. (2010), a 3 can indicate a median score or a 3 can indicate confusion or disagreement with the dimension and might simply be a safe answer. Consequently, they recommended discarding a 3. Because the survey has four questions measuring each dimension, two 3s and two 4s would average at a 3.5. That score is midway between the 3 and 4, too close to confirm the dimension as it indicates ambivalence. Disconfirmation was not considered trustworthy to include at this early point in the research on flow in reading.

Furthermore, students later interviewed about these dimensions on the modified FSS-2 indicated that giving a 1 or 2 also indicated their confusion and discomfort with that dimension. Therefore, confirmation is all that can reliably be determined in this qualitzation of data, and a score above a 3.5 will be considered confirmation of the dimension. Due to the ambiguous and potentially misleading nature of a score of 3 and even the 1 and 2, qualitzation of data is preferred as more reliable than a quantitative calculation of the means in this particular case.

The qualitized results showed patterns that indicate telepresence, vision, and empathy are the strongest indicators of flow. This is significant because these three categories scored higher than those dimensions considered foundational to flow and more frequent indicators of flow, like automaticity or balance of challenge-skill. Another indicator that did not score as high as telepresence, vision, and empathy was

transformation of time, another indicator of deep flow, according to Guo (2004). This was confirmed on every individual profile (23 of 23). Four indicators of mild-moderate flow (challenge-skill balance, goals, feedback, and control) were not confirmed after examining these results. Confirmation of the dimension was dependent on seeing a pattern of at least 75% of the participants scoring the dimension above a 3.5.

Table 10

Step Two: Holistic Profiles of the FSS-2 Confirming Flow Dimensions.

Student	C-S	Au	G	F	Att	C	S-A	T	Enj	Tel	V	Em
1		X	X		X	X	X	X	X	X	X	X
2	X	X	X		X		X	X	X	X	X	X
3	X	X	X	X	X	X	X	X	X	X	X	X
4		X					X	X	X	X	X	X
5	X	X			X	X	X	X		X	X	X
6		X		X	X	X	X	X	X	X	X	X
7			X		X		X	X	X	X	X	X
8	X	X	X		X		X	X	X	X	X	X
9	X	X			X		X	X	X	X	X	X
10	X	X	X	X	X	X	X	X	X	X	X	X
11	X	X	X		X	X		X	X	X	X	X
12		X	X	X	X	X	X	X	X	X	X	X
13	X	X	X	X	X	X	X	X	X	X	X	X
14	X	X	X		X	X	X	X	X	X	X	X
15	X		X			X		X		X	X	X
16	X	X	X	X				X	X	X	X	X
17	X	X					X	X	X	X	X	X
18	X	X	X	X	X	X	X	X	X	X	X	X
19	X	X	X	X		X	X	X		X	X	X
20	X	X	X	X	X	X	X	X	X	X	X	X
21		X			X	X	X	X	X	X	X	X
22	X	X	X	X	X	X		X	X	X	X	X
23	X	X	X	X	X	X	X	X	X	X	X	X
Overall		X			X		X	X	X	X	X	X

The researcher asked the media specialist to take the FSS-2 for confirmation that the wording on the FSS-2 was not problematic and an issue to adolescents. Without direction or input from the researcher, the media specialist confirmed two dimensions, clear goals and control, were problematic when applied to reading flow and terminology was not the problem. Interestingly, these two dimensions are classified as mild-moderate

flow, yet her perception agrees with the students' responses thus far.

Moreover, these qualitized results were later integrated with the interview responses as the researcher asked for elucidation of scores of 3. On the survey 20 of the 23 respondents, answered with at least one score of 3, one with as many as 13 scores of three out of 36 questions total. Questioned about the ambiguous use of a 3 on feedback and control, where nine of the 23 had cited 3s (feedback) and 13 of the 23 had cited 3s (control), every participant but two indicated that they had put a 3 because they did not understand the dimension as it applied to flow in reading and/or did not agree that the dimension was significant in flow. Additionally, participants questioned the dimension of clear goals as a fit for flow in reading, where nine of 23 participants had used 3s and the balance of challenge and skill, where 13 of 23 participants had scored using 3s, a fact not indicated by quantitatively analyzing the means.

For further qualitative illumination of the results, the researcher asked about the low scores of 1s and 2s as well. The same answers occurred: every participant who scored these dimensions low reported that they did so, not because they experienced them in a low degree, but because they did not agree with the dimension at all and could not apply it to reading. In other words, the modified FSS-2 was not always measuring the level of the participant's flow experience in that dimension but the participant's assessment of the dimension.

Therefore, a solely quantitative analysis of this data would have been potentially misleading if not accompanied by the qualitative follow-up for illumination. Though the quantitative means on the modified FSS-2 did not indicate the participants' disagreement and confusion in these last two dimensions (clear goals and balance of challenge-skill), the open-ended interviews uncovered these findings. See Table 11 for the results of the

data integration from the interviews and the modified FSS-2. If a participant in the interview disagreed with the dimension when asked about a score of 3 or less, the individual confirmation was removed. This removal does not disconfirm the dimension; it simply is not confirmed.

Table 11

Qualitized Results of Data Integration.

Student	C-S	Au	G	F	Att	C	S-A	T	Enj	Tel	V	Em
1			X		X		X	X	X	X	X	X
2		X	X		X		X	X	X	X	X	X
3	X	X	X	X	X	X	X	X	X	X	X	X
4		X					X	X	X	X	X	X
5												
6		X	X	X	X			X	X	X	X	X
7			X		X			X	X	X	X	X
8		X			X		X	X	X	X	X	X
9				X	X		X	X	X	X	X	X
10	X	X	X	X	X		X	X	X	X	X	X
11		X	X		X	X		X	X	X	X	X
12		X	X	X	X		X	X	X	X	X	X
13	X	X	X	X	X		X	X	X	X	X	X
14												
15	X		X			X		X		X	X	X
16	X	X	X	X	X		X	X	X	X	X	X
17							X	X	X	X	X	X
18	X						X	X	X	X	X	X
19		X	X	X		X	X	X		X	X	X
20	X	X	X	X	X	X	X	X	X	X	X	X
21		X			X			X	X	X	X	X
22	X	X	X	X	X	X	X	X	X	X	X	X
23	X	X	X	X	X	X	X	X	X	X	X	X
Overall					X		X	X	X	X	X	X

In fact, several participants were very emphatic and argued against the inclusion of some of the classic dimensions of flow as applied to reading. Some asserted that control was the antithesis of the reading experience, citing that flow “just happens”; in fact, one participant went on to say the more she experienced flow, “the less control” she had over the experience. She argued, “Flow is just one of those things that you just need to let happen. You can’t make it go where you want to go. It’s like a dream.” Another

said, “I was just reading. When you’re in flow, it’s guiding you. I don’t think you can control it.” Others argued against the goal-orientation of flow as applied to reading: One participant stated, “I don’t sit and think, ‘I want to go flow.’ It’s not a goal-oriented thing. It just happens, and that’s how I want it.” Another participant agreed: “I don’t have no goals [*sic*] when I read.” Furthermore, one student argued with the dimension of feedback, “I wasn’t aware of anything at all or how I was doing.”

Students experienced confusion over measuring their experience in two other dimensions. About the dimension of the balance of challenge and skill, a participant said, “That’s confusing.” Another contended that the challenge-skill balance “didn’t really fit. It wasn’t really a challenge.” About automaticity, a student questioned, “that [item] was focused on a sport or a goal, and I was like what?” Another said the application of automaticity to reading, “doesn’t fit either. You are not trying to do something when you are experiencing flow.” However, in the questions pertaining to the measurement of these two dimensions (balance of challenge and skill and automaticity), more confusion appeared in the statements than disagreement. In fact, when talking of flow in general and not about the modified FSS-2, more than one commented on reading’s being “natural,” “carrying you,” and “just happening,” which would actually confirm automaticity. One participant stated, “I read beyond my level sometimes,” which might argue against automaticity but for the challenge-skill balance. However, she said, “sometimes”; therefore, this practice is not regular. Others said they only experienced flow with more “advanced” books, rather than “picture books,” which could also confirm balance of challenge-skill. (Note: The quantitative results of participants 5 and 14 could not be integrated because these two participants were not interviewed due to scheduling.)

Phase Two: Student Interviews

Twenty-one of the 23 students were interviewed, and three meaning clusters containing seven meaning units/themes emerged. The three meaning clusters were antecedents (three themes), indicators (one theme with four subdimensions), and consequences of flow (three themes).

Under antecedents, these three themes were uncovered as reported by the participants:

1. Interest, including the selection of genre and presence of curiosity, was an essential precursor to flow in independent, voluntary reading.
2. Isolation (aloneness) was required for flow to occur, particularly for the presence of the subdimension of focus.
3. Conversely, social literacy contracts were the foundational experience in the student's past literacy history for flow to occur (usually within the family context during preschool-elementary years).

The indicator of flow was one overarching dimension with four subdimensions: The most dominant indicator of flow was telepresence, the mental and affective experience of an imaginary world created by the student's imagination while reading the text. Subdimensions of telepresence were several:

1. A mental vision, or imaging, occurred of the characters and events, most often cited as the result of author's description and detail.
2. Empathy often accompanied the vision, most often attributed to the book's point of view and at times so intense that the participant was observed mimicking the movement or emotion physically.
3. Time was transformed by either speeding up or slowing down as the

participant envisioned that world.

4. Focused attention was created during telepresence.

Consequences of flow were three-fold:

1. Reading comprehension increased, which also included increased reading speed, vocabulary, and stamina.

2. Enjoyment came as a result of flow, particularly in the form of escape from reality and stress relief, to the point that the reading behavior became “addictive” or autotelic, where students wanted to engage in the reading activity again. Taken to the extreme, this same addiction had the potential to become isolating and socially detrimental.

3. Creativity increased in thinking and other creative activities.

Significant statements supporting each meaning cluster and its corresponding themes were classified. An example of the significant statements for one dimension, telepresence, before removing overlapping or repetitive statements is shown in Table 12.

Table 12

Significant Statements Before Culling on Telepresence.

Significant Statements on TELEPRESENCE
I've always been able to get inside the book.
Flow in reading is like having a video game control set on your head. You're actually controlling it and you see the things around you.
I am always conscious when I'm reading, but I'm in the book.
Flow is when I'm completely involved in the character's world. I can totally see the characters. I can see totally what's going on. I see settings. I can feel myself being part of it kind of. It's like an outside person looking in, kind of like a glass dome.
Flow is like a whole other dimension. It's an alternate world.
I learned how to read myself and I could submerge myself.
Certain books like mystery books mainly take me away to that setting. It's no problem reading. I get caught up in the story. I literally picture myself there. I feel myself there with the characters. Mostly mystery and adventure books because they have really good adjectives so you can picture yourself there.
Whenever I'm reading books like the things that are going on in reality, you want to get away from that and books that are mysterious and adventurous really get you away from that. It's like I said you actually feel like you're there. (agreed with researcher's prompt of "escape") Whenever I'm reading books, I'm feeling security, away from reality. You basically are away from reality.
It's not really the words; it is you actually being there. Flow is like escaping reality. I escape reality.
If it's a book I like, I'm not aware of myself.
Flow is like watching a TV episode. I am one of the actors and my surroundings are the surroundings in the book. I would be feeling and moving like the character is in the book.
Even though I knew what was going to happen, I loved the story b/c I could picture the scenes in my head, with my cousin describing the story.
I kind of like zoned out and not paying attention to what's going on around me. Like just now in 3 rd period I was reading he was calling on me like 5 times to read something in our book, and I was so not paying attention.
I don't hear it in my head; I imagine it happening. I go into my own little world and it's really fun. Time goes by so fast. I'll be sitting there thinking 5 min. has gone by but it's been an hour. Inside my head I can see this other world. I'm very empathetic to it. If someone's sick, I'll feel sympathy for that person. If they're in pain. I feel for them.
Sometimes when you are reading and you are really into a story, but you stop reading but the story keeps on going in your head, increases, and develops more and it keeps on going after you're done.

(continued)

Significant Statements on TELEPRESENCE

You don't know if it'll keep going or just stop with the end. I like to imagine when I read what else happens. Does it keep developing or does it stop? Whenever Hunger Games ended, they got married but what else happens – do the Hunger Games stop or continue or what? I have all these questions that are unanswered.

Flow makes me feel good, like carefree, no worries, like an escape. I could hear this world, but I wasn't listening to it.

Flow is almost like being in a dream, but you are still in the world. You can still feel things and touch stuff and hear stuff, but you are in the book world, too. I can see the stuff happening in my head. I start making faces and everything like I'm one of the characters!

Flow is basically going into another realm almost where you don't see anything around you. It doesn't feel like you're reading text. You are reading a chapter and it feels like it took 2 min. but it took 20-30. It's almost like you can reach out and touch this other world. It's almost like you're a character behind the scenes, moving around to see what's going on in a movie where at any time you hear what the people are saying, sort of 3D.

To have that other-world experience is basically the only reason I read. It can be an escape. It's like being in a movie theater when you're all alone in the dark or being completely in another world where you don't see things around you. It's more what you read that you see. You don't see what's around you.

There is another world when you are in flow. You can be in the book.

Flow is like another world. That stands true for all books.

It's kind of like a different world. It depends on the book. It's like another world. Like you're entering another world or watching it. It depends on the book which one.

I'm in another world b/c the focus is so great you don't really pay attention to anything else.

[To have that experience, I need] Enough description to paint that mental image. When that world is created, that's when flow happens. Watching is created when the setting is set.

It feels like it's the only thing. Like you're in there. You're living in that world. In the book. Like nothing else exists. Like you're one of the characters.

It's definitely like another world. I kind of got into the paranormal romance because it's a different world, but there are still aspects like this world in it.

If I've had a really bad day or am mad at something, I like to read because it's not your life. You might want to get away from your life for a while, and it's really good for that. I've never had anything really bad happen in my life, but you get frustrated. It's helpful just to read and not to have to think about your own life, a relief from stress into another world.

This is really odd, but I'll read a book and I'll try to place the person. I'll be going down the street and I'll say oh, my God, that is that character!

It is like another world.

(continued)

Significant Statements on TELEPRESENCE

I hate books that just end, and I'm always, well, what happens to them after that? That world still exists and goes on in my mind after the book. Sometimes I think well, maybe after they did that, this and this and this would happen to them.

Flow is like I'm part of the story almost. I'm just watching the story. I'm not in the story; I'm just watching it happen, an onlooker. I feel complete, part of the story. Afterwards, when I'm done, I feel like I'm being ripped out of the book.

You are more concerned with what's happening in the book than with what's happening in your life. It's confusing when you come back.

Flow is like you're complete. When I read – I don't know about anyone else - it kind of feels like I'm in the book and everything else just goes away. A stress relief. An escape.

Whenever I find a book I really like, it's kind of like being stuck in that book, kinda like whenever you have a dream and you wake up and like that could have been real. That seemed so real. That's kinda how I feel with a book that I get really interested in. You feel like it's reality, but then you step back and say, hey, whatever. It seemed as if reality was in the book, the way the author made it seem so real.

I feel like I'm in a whole another world in flow.

Reading transports me. I can go anywhere. It transports me to my own little world.

If flow is really good, you will be sucked into the world, if it's a magical universe or a regular teenage girl. You will feel what they feel and be put in their place. You understand why they would do certain stuff because you are sorta like them.

I sort of felt like I was being pulled into that world and saw the huge monsters and towering trees and stuff like that.

Flow is like you're in the book; you're actually one of the characters in the book, in that world.

Flow feels like I'm not in the room, like I'm completely somewhere else, like in another world, I'm basically with the book. At times I feel what the character feels. Like in this book where this guy got shot, it describes his pain so well that I actually start to feel it. The description pulls me in. I can see this world. I'm a 3rd person party, all knowing, in this world.

I feel left out after flow, like I'm wanting more, wishing there was a sequel. It's like a TV that just shuts off.

Flow is like drowning in words. You're only with that book and nothing else.

Whenever I'm reading a really good book, I form a picture in my head and I put myself into the position of the character. I can see like if they're on an airplane, I'm in the plane. I can see myself in the story really clearly. Everything else around me is blank. I don't know anything else but that.

The researcher then culled repetitious and overlapping statements within each of the themes and included representative statements supporting significant aspects of each

theme, as seen in Tables 13-15 (antecedents), 16-20 (indicator and subdimensions), and 21-23 (consequences).

Antecedents of Flow

The antecedents of flow in independent reading were predominantly themes of interest and isolation. Interest, participants reported, was created by self-selection of genre, including reading series. Participants indicated that finding an author one likes and can flow with can lead to further reading, such as series, making reading an autotelic experience of “escape velocity,” as one participant predicted. Another significant aspect of interest was curiosity concerning the characters, events, and/or conflicts. One participant mentioned the importance of a book’s avoiding a “flatline.” During small focus groups for member checking, participants agreed that this interest was the predominant antecedent in creating the flow experience. According to them, flow generally occurred in narrative texts, which included nonfiction works, such as history, biography, and autobiography; however, interest created flow in other types of texts as well, such as golf instruction and magazine articles. One participant summarized their feelings, “It’s all about interest” (See Table 13 of significant statements supporting interest as an antecedent.)

Table 13

Culled Significant Statements on Interest.

ANTECEDENT #1	
Interest	<hr/> <ul style="list-style-type: none"> • Basically what gets me into flow is a book I'm interested in – fantasy, action. • I believe that everyone has that book that really sparks – put you in the setting . . . that . . . will interest you the most. • I started feeling flow with big books, chapter books. Mostly I feel flow with things I find entertaining like fiction. Adventure stories really get me to flow. • As I got older and started reading more advanced books, it got more interesting, and I could picture a clearer scene. • A four (on a scale of one to five) is the importance of genre. • When the flow is there, it is more interesting. Reading can be a drudgery, like watching a bad movie if you don't have flow. • [Flow] depends on if the author's interesting enough. It doesn't have to be a complete surprise – the events. He is still making you wonder even though you know it's going to happen; you don't know how. • . . . The Twilight series brought me in . . . I was able to read after that because I thought there are really books out here that I can read! I found what I was interested in. They would say pick a book you're interested in. I was like I don't know what I want to read! • My taste in books changes all the time. . . I like to read series. • I started reading this one book called The Catalyst, and it just brought me into the book. Now I have to get a book like that (emphasis). • If you get a book [struggling readers] enjoy, you can start them with that; then you can work them into different types . . . It has to start with interest. • If you keep on reading, you'll eventually find the right book. You can just build off of that book, the genre and find others. From there you kind of explode into escape velocity. • I like a book to be unexpected b/c it completely submerges me. If I'm surprised by something unexpected, then I'm really (emphasis) into it and like I gotta finish this book! • If I'm not curious, my mind will wander . . . <hr/>

The students further noted the importance of isolation in aiding concentration, though conversely all but one referenced having an early history of family contexts around literacy, in which a family member read to them regularly. This social literacy contract was always before sleep in all but one case, which is interesting since approximately one-fourth of them compared flow to a dream-state. Besides family literacy experiences, two students also mentioned elementary school teachers reading to them. Though they shared social literacy contracts in their early literacy, they did not experience flow until they learned to read well and were alone. In fact, they said that the presence of people disturbed concentration, hindered flow while reading, and recommended getting alone to hear the mental “voice.” They commented on a preference for isolation and a dislike for read-alouds. One stated,

When I was little and Mom read to me, I just didn’t have flow. When I started reading by myself in my head, that’s when I started having flow. . . . When I’m listening to someone read it, I can’t imagine myself in the story. . . .when I’m reading it by myself, I do.

However, though isolation was an antecedent of flow, two commented on the negative impact of isolation on them socially; one stated, “One consequence of flow is that I socialize less. I’m anti-social because I read so much.” (See Tables 14 and 15 for significant statements on these two antecedents.)

Table 14

Culled Significant Statements on Isolation.

ANTECEDENT #2	
<hr/>	
Isolation	<ul style="list-style-type: none"> • Flow is really when I am with the book alone wherever it is. • Flow is . . . just me and the book. • Do a lot of reading alone [if you want to have flow]. • Reading with others hinders flow for me. When you read alone, it really helps you flow. • When I was little and mom read to me, I just didn't have flow. When I started reading by myself in my head, that's when I started having flow. I'll be reading the book to myself. When I'm listening to someone read it, I can't imagine myself in the story. I don't know why, but when I'm reading by myself I do. • Most of the time I experience flow when I'm alone, when there's nothing around me so that I can completely concentrate. • I become isolated in flow. I'm in another world because the focus is so great. • Flow is like - I'm a history guy so – China in the 1900s to the world. How they're isolationism, they're around everything – everything is constantly moving but they're so zoned in in what's going on in their country that it doesn't bother them. They keep living their same lifestyle. WWI, WWII that didn't change till the invasion of Japan. That's like someone having to come in and actually shake you to wake you up! Like an isolated world – you're around everyone but it doesn't faze you. • . . . When my parents used to read to me, I used to find myself losing my train of thought because I got so involved in the book. It was mainly at bedtime. When I could read for myself, it increased greatly. • One consequence of flow is that I socialize less. I'm anti-social because I read so much. • Everyone just leaves me be when I'm reading.

Table 15

Culled Significant Statements on Social Literacy Contracts.

Social Literacy Contracts in Childhood	<ul style="list-style-type: none"> • I read a lot to myself after my grandpa taught me how to read . . . I was four or five • My mom and my dad read to me when I was little at night. • We used to get books in the mail, bedtime story books, and [my parents] read those to me. • I experienced [flow] first in kindergarten when my teacher read <i>Where the Wild Things Are</i> to me. • My dad is a big reader.
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Telepresence, Indicator of Flow, and Subdimensions of Telepresence

The main indicator of flow was telepresence. The world created by the text was compelling and “pulled” them into this “alternate dimension.” They used other strong language in describing the attracting power of this world as they described beginning flow in a book as being “sucked into that world” and finishing a book as being “ripped out of the book.” Telepresence is so powerful that one said she was “more concerned with what’s happening in the book than with what’s happening in your life. It’s confusing when you come back.” Furthermore, participants cited this otherworldliness as the reason for reading’s becoming an “addiction.” Participants compared this world to a “dream,” a “lucid dream,” a “television episode,” a “movie,” a “video game,” and a “glass dome” into which they were “onlookers.” Subdimensions of this alternate dimension were vision, empathy, transformation of time, and concentration (Table 16).

Table 16

Culled Significant Statements on Telepresence.

INDICATOR: TELEPRESENCE	<ul style="list-style-type: none"> • I've always been able to get inside the book. • Flow in reading is like having a video game control set on your head. • I can feel myself being part of it kind of. It's like an outside person looking in, kind of like a glass dome. • Flow is like a whole other dimension. It's an alternate world. • Certain books like mystery books mainly take me away to that setting. • Whenever I'm reading books, I'm feeling security, away from reality. • Flow is like watching a TV episode. • Inside my head I can see this other world. • Flow is almost like being in a dream, but you are still in the world. • Flow is basically going into another realm almost where you don't see anything around you. It doesn't feel like you're reading text. It's almost like you can reach out and touch this other world. It's almost like you're a character behind the scenes, moving around to see what's going on in a movie where at any time you hear what the people are saying, sort of 3D. • To have that other-world experience is basically the only reason I read. • You're living in that world, in the book, like nothing else exists . . . like you're one of the characters. • It's definitely like another world. . . . It's a different world, but there are still aspects like this world in it. • That world still exists and goes on in my mind after the book. • Afterwards, when I'm done, I feel like I'm being ripped out of the book. • You are more concerned with what's happening in the book than with what's happening in your life. It's confusing when you come back. • Reading transports me. I can go anywhere. It transports me to my own little world. • If flow is really good, you will be sucked into the world
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The vision of another world, they said, was created by sufficient, vivid description and detail; furthermore, they indicated that without enough detail/description the mental image was "blurry." However, after more reading experiences with flow in a book of

interest, their minds could “fill in” the missing details/description to create the vision of this other world of “ghost people.” They attributed this vision with helping them to comprehend the text, compelling them to focus on it, and bringing enjoyment. They also credited more advanced books with the creation of a stronger image while reading in flow and warned that simpler books were useful to learn to read but would not produce flow (Table 17).

Table 17

Culled Significant Statements on Vision.

Subdimension #1 of Telepresence: Vision	<ul style="list-style-type: none"> • Flow's like a movie in my head. • I can totally see the characters. I can see totally what's going on. I see settings. • If the author's really descriptive, that helps me have flow. I can really picture it if they're really descriptive I can get into it. If they're not, I can't get myself submersed in it. • Definitely as I got a little older the books became more descriptive so I got more into it. . . . Flow helps me imagine, visualize things better. • I literally picture myself there. • When I'm totally engaged in a book, I feel like my mind is like a television, and I picture everything that I'm reading. . . . It's like a whole episode. Every chapter is an episode. I think when the author puts in detail and words that help me visualize exactly what they're doing, it helps me picture the scene. • When I'm totally engaged in it, it's hard for me to skip sentences because I want to see what's happening. • As I got older and started reading more advanced books, it got more interesting, and I could picture a clearer scene. • But when I'm entertained and have flow, I grasp it, and I can picture it. And I understand the concept. • When I was younger, I experienced it kind of like watching it, like a little kid in Wonderland. But now it's like I feel it. It makes reading more enjoyable. • You see actions that are happening, a lot more detail than the book really describes. Your mind adds details. Detail can help you flow unless you are reading a good storyline; then your brain automatically does it. • It's like being in a movie theater when you're all alone in the dark or being completely in another world where you don't see things around you. It's more what you read that you see. You don't see what's around you. • I read every night before I go to bed at least. It replaced watching TV. • [I need] Enough description to paint that mental image. When that world is created, that's when flow happens. Watching is created when the setting is set. • Usually the way author writes, a good writing style, makes you feel that way. If the author has a choppy writing style, I don't feel like that. A good writing style is smooth, fast, and it has a lot of detail so you can see everything. • It's like I'm with the people, like they're ghost people who I watch.
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(continued)

Subdimension #1 of Telepresence: Vision	<ul style="list-style-type: none"> • I'm not in the story; I'm just watching it happen, an onlooker. I feel complete, part of the story. • Reading the words I can see it in my mind, but if it's something I can relate to, then it's like I see myself in it, and it's like I'm living it. I can see the sentences and use those words. • I could only barely see what the characters looked like when I first started reading. Now my mind is creating almost the whole story line and details. I love their adjectives; they feel almost tangible. They're so vivid that it feels like you're there. • A lot of details causes it. If a writer instead of saying she had a red hat on said she had a crimson hat on or they would use really descriptive words, it would help you feel better there. You see that world in your mind. . . . You see it like in a room watching it happen. • The description pulls me in. I can see this world. The bigger books kind of got me because they're more descriptive. • It's like a blurry mental picture if not enough details.
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From this vision, students experienced empathy while in flow, some even to the point of mimicking the physical movements of the characters. They mentioned that the more they liked the book, the easier it was to become the character and to empathize with his/her emotions, to actually feel those same sensations. Indicating identification and empathy, one said she became “one with the character” as she was in this other world experience and felt the emotions of the character: happy, sad, tense, embarrassed, etc. Point of view, several cited, was a significant factor in the flow experience of empathy: Point of view “makes a different experience,” one said. First-person point of view led to more empathy than third-person, in which they were more likely to be observers “watching.” Participants indicated that as they developed as a reader in flow, they moved from observing to empathizing, a more participatory experience. They credited their experience in telepresence with increasing their abilities to empathize with the characters. Several discussed the importance of relating to the characters in some way so that they

felt “connected.” One further asserted that the empathetic experience crossed over into her daily life in reality by helping her to understand people. Two commented on their creative capacities increasing because of experiencing different points of view. Two others warned of the potential pitfall of too strong an empathetic experience, which could lead to an unrealistic view of life events and even negatively affect the reader’s daily emotions: “It can mess with your mind if you think the book is how it’s going to be” and “I can’t read sad books because it makes me really sad and not a fun person!” However, they maximized the importance of empathy in flow: One stated, “I had been moved by the emotions in the book so much it had felt real. That experience was what really got me into reading on my own. I feel what they feel” (Table 18).

Interestingly enough, not only do these participants reference identification and empathy, but also physical responses to telepresence in flow – to the point of physical imitation. Reminiscent of mirror neuron activation, participants confessed, usually humorously, that during telepresence, they “start making faces and everything, like I’m one of the characters (laughs)” and that others “always laugh at my face because I’m always so engaged! My body is so tense (laughs).” Another said, “I am one of the actors . . . feeling and moving like the character . . .” Echoing that sentiment, one participant stated, “I’m that person, the narrator of the book. My dad asks, ‘What are you doing?,’ looking at my facial expressions while reading! (laughs).” Indicating strong identification and empathy, one laughed, “I can see the other world, and it’s kind of funny: if the author decides to have the character put their finger on their nose, I might do that myself!” Not only is this vision triggering identification to the point of empathy, but also instigating outward movement and expressions imitating the characters and events, quite possibly the result of mirror neuron activation.

Table 18

Culled Significant Statements on Empathy.

Subdimension #2 of
Telepresence:
Empathy

- [I feel] excitement, sometimes nervousness if a character is about to do something that could get them killed on something. I feel what the character's feeling. If I like the book more, I'll be the character. If I'm just reading it, I'm watching it.
- I think whenever I first just started experiencing it, it was like a movie just playing. But I started reading more and became a better reader; it became more intense. I could feel what the character's feeling. It depends on the character – a good strong character or a villain that I like – I feel with them. But if it's just a supporting character, I'm like – whatever.
- You become focused and feel one with the character watching whether it be a play 3rd or 1st [person] character. With 3rd person you feel like you're an audience watching. First-person makes you feel one with the character. . . . The point of view makes a different experience.
- Sometimes you watch it; sometimes you are in it. It depends on the point of view. If it's first person, you see it as the main character would, but if it's multiple points of view, you see it overall.
- I can see the stuff happening in my head. I start making faces and everything like I'm one of the characters! (laughs)
- They always laugh at my face because I'm always so engaged! My body is so tense. (laughs)
- I am one of the actors and my surroundings are the surroundings in the book. I would be feeling and moving like the character is in the book.
- I can see the other world and it's kind of funny: if the author decides to have the character put their finger on their nose, I might do that myself! (laughs)
- I'm that person, the narrator of the book. My dad asks, "What are you doing?," looking at my facial expressions while reading. (laughs)
- My dad says I look mad when I read because I concentrate a lot! I do like this! (squints and laughs)
- I've become a little more creative because of flow because of paying so much attention and feeling what the character's feeling. I can kind of like – I don't want to say become another person because that's multiple personality disorder – but it's like the act so all that reading becomes easier for me to become the character I need to be.
- Sometimes I imagine myself in the story, which helps flow.
- I feel like I don't want to stop when I'm reading, like I'm in the book and I'm a character

(continued)

Subdimension #2 of
Telepresence:
Empathy

- I'm very empathetic to it. If someone's sick I'll feel sympathy for that person. If they're in pain. I feel for them.
 - When I was younger, I experienced it kind of like watching it, like a little kid in Wonderland. But now it's like I feel it.
 - You're in that person's life. You connect: that's kind of like me. You feel connected to them. I like first-person, not third-person with everyone's thoughts because you don't feel connected to them. I do like books where every chapter is a new person, but it's still first-person. I feel with the characters. I tend to be connected to the characters, but now I tend to be a little separated by telling myself this is NOT real! . . . I want to have a great love . . . It can mess with your mind if you think the book is how it's going to be.
 - I had been moved by the emotions in the book so much it had felt real. That experience was what really got me into reading on my own. I feel what they feel. Sometimes I can separate my own feelings like when I feel bad for them or like don't do that, embarrassed. I can pull away from it at that point.
 - It helps you to put yourself in other people's shoes in actual reality to see how they feel.
 - You will feel what they feel and be put in their place. You understand why they would do certain stuff because you are sorta like them.
 - [Struggling readers] need to get a book they can put their life into. Think about their lifestory, like if their parents are getting divorced. That's how I first got into it. I got a book on my parents getting divorced.
 - I'm a 3rd person party, all knowing, in this world. Like if there is a conversation from the description the book gives me, I'll switch from characters.
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Further, time is transformed during telepresence. One stated, "You lose track of time because you're in another life almost. You're in that person's life." Another said in his estimation that if the book is good and "you can paint that mental picture, time goes really fast." Participants referenced the transformation in both directions, that is, the slowing or speeding up of time when in flow. Others asserted that "time doesn't exist till I put the book down" and "time stops. The world stops spinning." One said he was "not in a time zone; it just goes by me" while in flow. Another credited his enjoyment during telepresence as the reason for the transformation of time (Table 19).

Table 19

Culled Significant Statements on Transformation of Time.

Subdimension #3 of Telepresence: Time	<ul style="list-style-type: none"> • You lose track of time because you're in another life almost. You're in that person's life. You don't think about time. If you think about time, it goes by really, really slowly. But you're not thinking about it, so it goes by fast. • Time speeds up when I'm reading. • Time slows down [during flow]. • Time doesn't exist till I put the book down. • There is no time in that experience. Time stops. The world stops spinning. • I'm not in a time zone; it just goes by me. • Time goes a lot faster especially when you're reading a good book and you paint that mental picture. Every time you read it just keeps on building. Usually if the book's not so great, time is slow, but if it's good and you can paint that mental picture, time goes really fast. • I go into my own little world, and it's really fun. Time goes by so fast.
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Finally, focused attention was a strong component of the compelling experience of telepresence. The vision appeared to create the focus as seen in the comment "I'm so focused on the story, it's hard to focus in on something else." During this vision, "sounds are quieted" "like background music" and "the book becomes the main focus." One student said he was "zone[d] out"; another said he was "zoned in." And although they could "hear the world" around them, they were not "listening." One captured the essence of focus with the comment, "It's just me and the book." Many mentioned getting into trouble with parents and teachers because of the total focus while reading, sometimes when they were supposed to be doing chores or schoolwork. In fact, one student described someone's trying to get his attention while reading like an "invasion." The attention is so strong that "everything else around me is a blank" and so absorbing that one compared it to "drowning in words" and self-submersion, an experience that "is like what you feel when you're underwater and you're just going with the flow" (Table 20).

Table 20

Culled Significant Statements on Attention.

Subdimension #4 of Telepresence: Attention	<ul style="list-style-type: none"> • Flow is like nothing else is going on around me. It's just me and the book. If something around me is loud, it make take my attention [away from the book], but normally no. • I didn't have any idea of my surroundings to even answer that question. I was so into the book that I didn't know what I was doing. I hear what's going on around me • I kind of like zone out and not pay attention to what's going on around me. Like just now in 3rd period, I was reading; he was calling on me like five times to read something in our book, and I was so not paying attention. Flow gets me in trouble sometimes! • When I read, I want all my attention on the book. I don't want it on anything else around me; I just want it on the book. • I can't really flow if it is noisy around. I can have other people around but not a big crowd. • I was just sitting there and reading and didn't hear [my mom]. She had to come up and tap me and get my attention. I could hear this world, but I wasn't listening. • When I'm into a good book, it usually becomes where sounds around me are quieted, and you might have to say something a couple of times to get my attention. The book becomes my main focus. • You become focused. . . . I can hear people around me but I don't realize they're talking to me. It's like background music. • Flow is like - I'm a history guy so - China in the 1900s to the world. . . they're so zoned in in what's going on in their country that [nothing around them] bother[s] them. They keep living their same lifestyle. WWI WWII that didn't change till the invasion of Japan. That's like someone having to come in and actually shake you to wake you up! . . . You're around everyone, but it doesn't faze you. • I get caught up in the story [says this twice]. If it's a book I like, I'm not aware, even if I'm in a group. • Everything else around me is blank. I don't know anything else but that book. My reality is . . . I'm so focused in on the story it's hard to focus in on something else. • Being in flow is like being on the 18th hole with all the pressure on you where you have to make the shot in order to help your team win . . . You're just about to swing. You're feeling nervous, anxious, but real excited - totally focused. • Flow is like what you feel when you're underwater and you're just going with the flow. The book itself is carrying you through it.
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Consequences of Flow

Three themes emerged under consequences: reading comprehension/skills, enjoyment, and creativity. Students credited flow for increased reading comprehension; one stated that when she has “flow, I grasp it, and I can picture it. And I understand the concept.” Another said that it caused her to “think . . . more deeply” as well as built reading stamina and retention of material. Although several referenced increased reading speed and comprehension as a result of flow, more than one noted that they did not want a challenge to their reading level during independent reading. “If it challenges my reading level, I don’t actually like the book” They did not want to have to “think or ponder about it.” However, they said that if they were reading a difficult book, they could get through it because flow “carried them through.” In other words, flow aided in understanding the text, increasing reading speed, retaining material, learning new vocabulary, and building reading stamina (Table 21).

Table 21

*Culled Significant Statements on Comprehension.*CONSEQUENCE #1:
Comprehension

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- I think that if wasn't for flow I would not understand reading. I can if I'm reading a textbook or something I find boring, I don't have flow. It doesn't go in my mind. It goes in one ear and out the other. I don't fully understand it. But when I'm entertained and have flow, I grasp it, and I can picture it. And I understand the concept.
 - Flow helps me think about stuff more deeply, get more into things. I used to if I did not like the first chapter of a book I would stop reading it. Now I read more to see if I might like it.
 - You have to read in your mind or [flow] doesn't happen. I hear a voice that is not consciously heard.
 - You start out reading what your level should be, and then you grow. And the stories get more interesting, and they add more detail, and they add more challenging comprehension to it. That has increased my flow. I read beyond my level sometimes.
 - Whenever I started fluent reading, maybe 4th grade, into the bigger books, not picture books, is when I started flow. The picture books are just designed to teach you how to read, more on observation, while the other books are engulfed in the story.
 - One of my interests in reading is that I don't want a book that is so hard I can't understand it. If it challenges my reading level, I don't actually like the book. I can understand almost everything I read. I like reading a book that doesn't challenge me at all without having to think or ponder about it.
 - I can pick up a book, and if I read it I can tell you the main details of it now. But if you ask me before the end of 6th grade, I can't tell you anything about it because I wasn't into it. I retain if I'm into the book.
 - Usually I used to give up if I wasn't into the book in the first couple of pages. But now I'll keep on reading, and I get into a lot more books. I feel like flow has made me smarter.
 - If I see a word the first time and I read it and then see it in class, I'll remember it from the book.
 - I'm a little quieter when I'm done reading. The book is still processing into my brain. I'm still thinking about it. How could that happen to that person?
 - When you paint that mental picture, it puts everything in context. You use that context to help with vocab.
 - [My English teacher] gets onto me for how fast I read!
 - You don't have to think about it unless it's one of those weird old books with the hard language . . . ! [Flow] just carries you through it. You don't have to think, what are they saying? What do they mean? . . . Subconsciously you're getting the message that it's trying to tell you. When I overthink things, I get confused.
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Another consequence, the theme of enjoyment, indicated the autotelic nature of flow: Several labeled flow in reading as an “addiction.” An autotelic experience, according to Csikszentmihalyi (1990), is one that is so enjoyable that the participant has the motivation to return and experience the feeling once again. One participant said, “I feel left out after flow, like I’m wanting more, wishing there was a sequel. It’s like a TV that just shuts off.” They said that flow made them want to read more and repeat the experience. Moreover, several said that flow in reading calmed them down and was an “escape” from reality. They mentioned feelings of happiness and fun while in flow. However, one said that reading did not begin that way for her and was originally a “challenge” until she began to emulate adults around her who “enjoyed reading.” Then she said she began “to roll with it.” Another said that before flow, reading was “drudgery.” After experiencing flow, they had a very different feeling, an autotelic one, characterized by “You just don’t want to put the book down” (Table 22).

Table 22

Culled Significant Statements on Enjoyment.

CONSEQUENCE #2: Enjoyment	<ul style="list-style-type: none">• You get feelings of happiness because you basically are away from reality. Happiness would be the greatest feeling from flow.• Flow is like escaping reality.• I find books more entertaining because of flow.• [Reading] is just so fun!• . . . I really like reading now!• Flow makes me feel good, like carefree, no worries, like an escape.• It's relaxing.• It makes me want to read a lot more. . . . You just don't want to put the book down. It's almost like you're addicted to the book.• I enjoy reading more with flow. If flow isn't there, I don't want to read.• I like to read when I'm stressed. It calms me down.• I used to dread reading and Sparknote everything and just get through a book and be done with it unless it was a joy reading book that I wanted to read on my own. Now I can read any books my teachers tell me to read and enjoy them.• So starting off reading, it was a challenge for me because I was struggling, pushing to get to the next page. But having teachers and other people who enjoyed reading around me, I could also just pick up on reading and start rolling with it and read a lot more.• I love reading. It's like no other feeling.• Just find something you really enjoy – topic or subject - and it comes almost natural. <p>I've never been a big reading fan before flow. Now it's very addictive. Once you experience you want to go back and do it again. It's changed my perspective on reading.</p>
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The final theme as a consequence of flow was increased creativity and possible subconscious activation. They said that they became more creative and compared it to art and music. They said they became more creative not only in literature, but also in art and in imagination in general. Further, they mentioned the “effortless” nature of flow, indicating a possible subconscious component of it. Interestingly, nearly one-half mentioned the similarity between flow and dreams, and all but two had early literacy

experiences of being read to before bedtime, right before sleeping and dreaming. One participant proposed this tentative connection: “It’s sort of like having a lucid dream. I was read to with different stories before I went to sleep. This could lead to dreaming of the story, so maybe flow while you are reading is a type of dream?”

Table 23

Culled Significant Statements on Creativity.

CONSEQUENCE #3: Creativity	<ul style="list-style-type: none"> • Flow helps me imagine, visualize things better. • I've become a little more creative because of flow • You can't make it go where you want to go. It's like a dream. Some people can control their dreams like if you're in the movie <i>Inception</i>, but sometimes you have no control over what you're dreaming about. • Every night my mom would read to me. Sometimes my dad would. They would encourage me to imagine what was happening. When I was little, they would read me crazy books like Winnie the Pooh, things that could not happen, and I think that helped my imagination. • Flow is almost like being in a dream, but you are still in the world. • It's sort of like having a lucid dream. I was read to with different stories before I went to sleep. This could lead to dreaming of the story, and so maybe flow while you are reading is a type of dream? • Reading is like listening to music. When you're listening to music, it gives me ideas and stuff. When I'm reading, it's like, "that's clever," like when a character does something. It's like you're going with it, not controlling it, and brings new ideas - ideas for if I were ever to write a book. It stimulates creativity. • Flow is like drawing. When I draw, I let my mind go blank, and some of the best pictures is <i>[sic]</i> when I'm thinking of totally different things, I'm not thinking about drawing. And reading when I'm thinking about the other person's point of view, you feel it more and understand it more because you can actually see yourself thinking that. That's how I do with art. You don't have to think. I'm watching it almost like a movie. You have it in your mind and you're watching it. It's effortless. • It helps build my imagination. I like to draw, and when I read stuff, it inspires me to draw things and paint. When the book is really descriptive, I can almost see the scenes in my mind. And so I can go draw it or paint it inspired by the book's vocabulary. • My mom read to me before bedtime. Me and my mom <i>[sic]</i> played pretend a lot.
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Trustworthiness Through Member and Peer Checking

The findings were confirmed through member checking, accomplished in small focus groups of participants, and by the ABD doctoral student who read over the research

results and conclusions. The small focus groups confirmed the themes and emphasized the importance of interest in particular as the main antecedent. They further added comments on the types of genre that produced flow. They agreed that they could flow in not only narrative text (fiction and nonfiction, such as biographies and history accounts) but also in informational nonfiction texts, like magazines and golf instructional manuals. They emphasized that interest was the key. Furthermore, in following up on the possible connection between the reading before sleep as children and the flow experience, the researcher asked if they had a time of day in which flow was easier to achieve. They had a variety of answers that ranged from morning, afternoon, before bedtime, and late at night. Approximately one-third said that they could flow any time of day. However, they all agreed that they flowed better when they were not too tired because they could focus better, which could be in the morning for some and evening for others, depending on that student's biological clock and activities perhaps. They also indicated that flow came more easily when they were relaxed. Interestingly, no matter what time of day they said they could flow better, they almost all said they typically read at night.

The doctoral student who peer checked agreed with the findings, in particular the results regarding mirror neuron activation, a topic on which she had focused recently in the field of art. On the other hand, she questioned any possible correlation between social literacy contracts occurring before sleep and the participants' descriptions of flow as a "dream" and wondered if the correlation was incidental and related to the brain's activation during flow. Perhaps, she speculated, the part of the brain activated during flow is merely related to the part of the brain activated during sleep and dreams. The question has not been removed from recommendations for further study because the participants themselves felt as though it were a connection worth investigating. In fact,

one of the participants himself first made this tentative suggestion during the interview.

Summary

This mixed method methods research study attempted to explore these research questions:

1. How is flow in literacy (independent reading) experienced?

The theme of telepresence was the dominant response from participants, which seemed to arise from a mental vision with which the participant felt empathy and was totally focused on. Moreover, the vision was so compelling that he/she felt a loss of awareness from reality, and a transformation of time resulted. This experience is more likely to occur when the participant is in a relaxed state of mind but not too tired, whatever time of day that might be for that individual. Though classic flow theory does not differentiate between indicators, antecedents, and consequences, integrating the qualitized results of the modified FSS-2 additionally confirmed the dimensions of loss of self-awareness, focused attention, telepresence, vision, empathy, and transformation of time.

2. How do students describe the antecedents of flow in independent reading?

They describe interest as the predominant antecedent accompanied by the need for a structured, quiet environment. They almost all shared social literacy contracts in their past literacy histories as young children. Moreover, the integrated results tentatively confirmed the dimensions of the balance of challenge-skill and automaticity, though the items need rewording to fit reading, as seen in the participants' confusion.

3. How do students describe the consequences of flow in independent reading?

They described the consequences of flow as greater reading comprehension, including vocabulary; enjoyment to the point of being motivated to return to the activity;

and increased creativity. The integrated results also confirmed enjoyment, the autotelic quality of flow to motivate a repeat of the activity.

Chapter 5: Discussion

Overview

This quan>Qual study uncovered seven themes in response to the research questions: three themes about antecedents of flow in reading (interest, isolation, and family literacy contracts); one theme about an indicator of flow (telepresence) with four subdimensions (vision, empathy, transformation of time, and concentration); and three about consequences of the reading experience in flow (reading comprehension, enjoyment, and creativity). (Figure 4.)

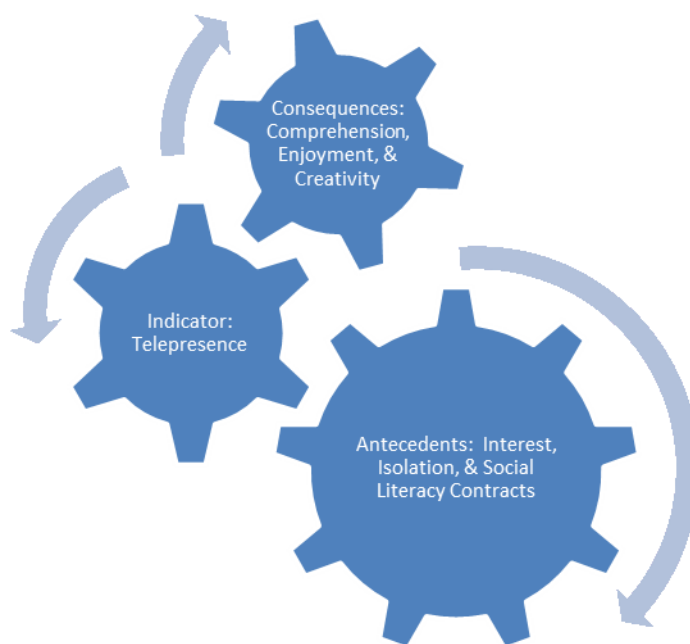


Figure 4. Model of Flow in Reading.

Moreover, there are indications that the classic theory of flow and the general FSS-2 might need significant modification to fit flow in reading as a hedonic, leisure activity. Several of the categories in the traditional flow theory could not be confirmed with this group's responses: clear goals, feedback, and control. In fact, participant

interviews disconfirmed these three. The disagreement most likely revolves around the conflicting nature of a hedonic activity versus a goal-oriented task. A goal-oriented activity would require goals, control, and feedback; conversely, a leisure activity, by its very nature, will “carry” and “submerge” the participant, according to those interviewed. One summarized it in a simile: “Flow in reading is like a box of chocolates You don’t really know what is going to happen.”

Around two other dimensions, challenge-skill balance and automaticity, participants expressed some confusion when asked directly about the two dimensions. On the other hand, interestingly, their comments on flow in general confirmed these two dimensions. Most likely the conclusion could be made that the wording of the questions on these two dimensions might need to be tailored to reading to help participants make application. Perhaps using the wording from the participants’ interview responses to create specific survey questions for flow in reading might help, such as “natural” and “automatic” to describe the reading process in measuring automaticity and appropriate “reading level,” “advanced” texts, or “complex” vocabulary in measuring balance of challenge and skill.

Furthermore, three alternate dimensions need to be studied further and considered for addition to flow theory in reading as dimensions or subdimensions: telepresence (already confirmed in internet contexts by Guo, 2004), vision, and empathy. These three were confirmed as strong aspects of flow in reading by the interview responses of participants in data integration.

Textural Description

The textual description of the experience is that flow in reading is experienced as a natural result of seeing an alternate world created by the text. This vision produces

empathy to the point of imitation, sometimes emotional and/or physical, perhaps the result of the activation of the mirror neuron system (Gallese, 2001). Flow in reading brings total focus on the vision and transforms time. Loss of self-awareness, a classic dimension confirmed in the online survey but not mentioned directly in the interviews, is most likely subsumed as part of the reality that disappears in telepresence. Flow increases reading abilities, brings enjoyment to the point of motivation to repeat the behavior, and produces creativity.

Structural Description

The structural description is that flow in reading occurs when a reader has a book in his/her interest, is undisturbed (alone), and has had early social literacy experiences. The early literacy experiences were typically within the family and before sleep, a state of relaxation; interestingly, the participants described reading as “relaxing” and “calm[ing].” The genre and reading level appear to be significant in creating interest within the reader. Finally, telepresence, the main indicator of flow, is created by activation of the mirror neuron system most likely since vision, empathy, and imitation were all evidenced in the interview responses, all three indicators of this system activation.

Metaphor

One participant mentioned the metaphor of a river to describe flow. Elaborating on this metaphor, the study indicates that flow in reading is like a river that carries a solitary reader to another landscape, a new river bank from which the reader can emerge and enter that new, timeless world. The reader’s entry into this river comes from watching others ride the river and curiosity. His/her emergence from this passage into the contact with this new world brings enjoyment and awareness of another way of life. The

fascinating discoveries in this landscape enrich the reader as a person and return with him/her when the reader travels back upstream to his/her home.

Essence

The essence of the flow experience in independent reading is that it is a captivating, imaginative experience that creates for the reader a timeless alternate dimension with which the reader empathizes; it is born out of interest and isolation, though paradoxically rooted in a past history of social contexts, and brings enjoyment, comprehension, and creativity.

Conclusions

The integrated conclusions of this mixed methods research study were two-fold. First, the classic theory of flow does not quite fit flow in independent reading nor does the general long FSS-2 online survey because it attempts to measure dimensions disconfirmed for the domain of reading. Though the creators of the general FSS-2 assert that it is able to measure flow in a variety of contexts, this study did not find that premise to be true in the domain of reading. Specifically, the dimensions of clear goals, feedback, and control were disconfirmed through the interviews. The items measuring two other dimensions, balance of challenge-skill and automaticity, though questioned by participants, most likely just need rewording on the survey to fit flow in reading and might possibly be a fit. Furthermore, the dimensions of enjoyment, transformation of time and place (telepresence), loss of self-awareness, vision, and empathy were confirmed. New to classic flow theory, telepresence, vision, and empathy should be considered as possible dimensions/subdimensions of flow and possibly incorporated into a flow scale for reading, similar to the flow scale for internet experiences, the Internet Flow Scale (IFS), created by Guo (2004).

The second conclusion is that a theory of flow in independent reading can be developed. First, flow in reading appears to have certain antecedents. Though the researcher intended this study to be exploratory and did not intend to develop a tentative theory of flow in reading, after interviewing more than twice as many participants as originally planned (21 instead of eight), categorical saturation was reached. The same answers began to show again and again with no new information. The most dominant antecedent uncovered was interest, which included genre/series/author preference and curiosity/novelty. Instructors of literacy should focus on connecting readers with genres that the readers find relevant and interesting. Moreover, once readers find a genre, series, or author they like, they should be encouraged to read on in that field until they reach “escape velocity,” as one participant predicted.

Two other antecedents emerged, which were paradoxical: isolation and social literacy contracts. Students needed to be in environments with few distractions in order to experience flow. It could be a library or classroom; however, the environment needed to be structured and fairly quiet so that the reader had the sense of isolation, which promoted focus and attention. One caveat several participants mentioned was that they did not experience flow during read-alouds and even found them irritating. This popular instructional technique in the classroom needs to be balanced with quiet individual reading and might actually be working against encouraging individual reading pleasure. Conversely, to enter flow, adolescents need to have had rich social events around literacy in their early reading experiences. The significance of early reading in a social environment seemed to be particularly salient. All the participants but one had memories of family members reading aloud to them. This fact is of particular importance to those promoting literacy to parents of preschoolers and early elementary-age children.

However, the participants were very specific that they did not experience flow then. Flow came along later as they became more fluent readers and had more interesting, “advanced” books to read without adult assistance. Thus, the shift to individual reading of more complex texts must be encouraged as students gain proficiency in reading. Finally, all but two participants cited these experiences with reading in early childhood as occurring right before sleep and, interestingly, one-fourth of them directly compared flow in reading to a “dream.” Others said it was “relaxing” and an “escape,” dream-like qualities. More study on the presence of a possible correlation needs to be done between flow in reading and the time of day that read-alouds are done in early childhood.

The indicator of flow, telepresence, had four subdimensions when the alternate dimension was created: vision, empathy, transformation of time, and focused attention. During flow readers saw the world the text created and credited the author’s description and details with creating that world visually. Although readers wanted complete description for flow to occur, they did say that their minds gained the ability to fill in incomplete details as they experienced flow over time. Their imaginative, creative powers increased through experiencing flow. Perhaps this ability of filling in missing visual details is rooted in the closure principle of Gestalt theory (Humphrey, 1924).

Further, another subdimension of telepresence, empathy with the characters in that world, occurred during flow. Point of view was pivotal in the experience of empathy; most preferred first-person point of view. Also, having more repeated flow experiences in reading increased the reader’s empathy. The ability to empathize developed with time in flow as did their creative powers for visualization, mentioned earlier. Empathy grew so intense at times that the mirror neuron system was activated, and physical mimicking occurred of facial expressions and body movements (Gallese, 2001). The reader’s point

of view and understanding of life was impacted; thus, the alternate world crossed over into the real world of the reader when he/she returned. Theoretically, according to Freud (1926), this result is expected because empathy that is the gateway to “the existence of psychic life other than our own” (p. 104) and the enablement to “take up any attitude at all towards another mental life” (Freud, 1921, p. 110).

The vision of another world was so compelling that the reader’s sense of time is transformed and the vision became the center of attention, the last two subdimensions. The reality of the alternate world became more vivid than the world of reality; thus, the readers focused on the vision and lost a sense of reality, which possibly includes a sense of self-awareness and time. This aspect of the experience could explain the many comments on reading being an escape.

The significance of telepresence for instructors in literacy is that there could be four subdimensions to indicate flow. A teacher might consider sifting through a student’s comments, journaling, and or talking for these indicators. If the reader mentions seeing another world or feeling with the character or is surprised at how quickly time passed or is totally focused on reading to the point that he/she does not hear others, then possibly flow is occurring. If a student shows empathetic facial expressions or body movements, then he/she could be experiencing flow. These signs could potentially assist a literacy instructor or parent in assessing a reader’s experience; however, these are initial findings that need further study.

Finally, there are three consequences of flow in reading that might be significant to literacy instructors: an increase in reading comprehension, enjoyment, and creativity. The first, an increase in reading comprehension, includes understanding the text, increasing reading speed, retaining material, learning new vocabulary, and building

reading stamina. In particular, when frustrated by a complex or uninteresting text, students who had experienced flow believed they had more endurance to explore the text a little longer. Furthermore, reading comprehension reportedly increased, perhaps due to the activation of the mirror neuron system. Because the mirror neuron system has plasticity, new mental experiences can create more sophisticated cognition in interpreting others' actions, feelings, and intentions in differing societal contexts (Gallese, 2007; Fonagy, 2003; Fonagy et al., 2002). Thus, understanding of varying perspectives could grow and reading comprehension could possibly increase.

The second consequence, enjoyment, leads to reading's becoming an autotelic experience, one that readers are motivated to repeat. According to Csikszentmihalyi (1990), the autotelic nature of flow can change the reading experience from drudgery into an enjoyable activity. Even observing those who enjoy reading can lead to flow; therefore, teachers' modeling reading for pleasure seemed to play a part in literacy instruction. The enjoyment from flow in reading was perceived as producing relaxation, calmness, and reduction of personal stress. According to Csikszentmihalyi (1996), these feelings occur as the self becomes more ordered through flow.

Last of all, the third consequence is increased creativity that might carry over to other domains. This last consequence can perhaps be explained by Csikszentmihalyi's (1990, 1997) research on the autotelic personality, which is a personality whose disposition allows him/her to experience flow more easily in different contexts. The autotelic personality can be measured by its own separate test, the Dispositional Flow State (DFS-2). Perhaps the autotelic personality is inborn or perhaps it is developed by flow experiences. More research needs to be done in this area.

Limitations

The limitations of the study lay in the number of participants. Though the number was large for a phenomenological study (23 participants), a larger number of participants combined with quantitative methodology and analysis would yield greater reliability and validity of the newly proposed dimensions to flow theory and the need to remove several dimensions. Moreover, though the participant population reflected the local population's ethnicity (38% minorities) and socioeconomic status (20% free/reduced lunch), it did not reflect it in gender (38% male/62% female) or in level of English courses (76% honors level/24% general track). There is a question if the male population were a larger percentage and/or if more students were from non-honors courses if the results would have been similar. These limitations open up new areas for future research.

Implications and Recommendations

The implications of this study fall in the area of literacy instruction and research primarily. In the area of instruction, teachers/parents must target matching students with books that interest them and encourage readers to stay with a genre/series/author until the reader can cross over to others of similar style. Literacy instructors in school must provide a disciplined, quiet atmosphere so that flow in reading can occur in an isolated-like setting; parents should provide quiet contexts likewise for reading. Both must spend time reading aloud when the child is young but should be cautious about overusing the read-aloud once he/she has developed fluency. Perhaps there is significance in reading before sleep. Moreover, literacy instructors can look for telepresence as an indicator of flow in reading by examining comments/writings for vision of another world, empathy, transformation of time, and focused attention to the point of not responding to external stimuli promptly. One particular indicator of empathy would be mimicking of facial

expressions and/or body movements. Finally, to encourage instructors of literacy, students will desire to repeat the experience and gain comprehension and creativity. If this is true, time spent reading and reading scores should rise as well as the Creativity Quotient (CQ).

In the field of research, the implications of this study are primarily theoretical. First, the theory of flow must be modified to measure flow in reading by incorporating telepresence, vision, and empathy and possibly removing clear goals, feedback, and control as dimensions. This tentative theory needs to be tested by quantitative means. Second, to do this, a reading scale to measure flow should be developed with the addition of these new dimensions to classic flow theory (telepresence, vision, and empathy) and further testing of the three nonconfirmed dimensions (goals, feedback, and control). The subsequent scale should be tested for validation and reliability.

Other implications of this research study are indicative of the need for further research. First, more study should be done on the balance of read-alouds in the classroom with individual reading and the point in which an instructor should switch a student over to reading alone. Second, research should be done on the possible correlation between reading before sleep as a child and the later description of flow as a dream. The question arises if the time of day in which a child was read to affected the reader's later ability to flow. Third, further research should be done on the activation of the mirror neuron system and flow in reading. Fourth, the possibility of the operation of the closure principle from Gestalt theory in the imagination's filling in of missing visual details during flow needs exploration and study. Last, quantitative studies assessing increase in reading comprehension, time spent reading, and creativity should be carried out to measure quantitatively flow's impact on reading.

Summary

Flow theory has the potential to impact student reading and possibly reading achievement. Consequently, the application of this theory in the classroom on a daily basis could change teacher instruction in literacy. More study needs to be done to answer the many lingering questions about the application of flow theory to the domain of independent reading and the role of the literacy coach within that shifting framework.

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Appendix A
Interview Protocol

(Jill Brown et al., 2006)

1. Please tell me a bit about yourself.
2. Could you tell me how long you have been on the wait list?
3. What dimensions, incidents, and people intimately connected with waiting for a transplant stand out for you?
4. What has the experience been like since you were placed on the wait list?
5. How has it affected you?
6. What changes do you associate with the experience?
7. What do you spend most of your time thinking about lately?
8. What feelings were generated by being on the wait list?
9. Has your perspective of time changed since you have been on the wait list?
10. What would be a metaphor or saying that represents your experience of waiting for a transplant?
11. Have you shared all that you think is relevant to the experience of waiting?

Appendix B
Consent/Assent Form

Title of Study: In the Flow: A Mixed Methods Research Study on the “Optimal Experience” in Adolescent Literacy

Principal Investigator: Susan E. Miles

Address: 224 SW Fieldsedge Dr., Moore, SC 29369

Description of Study: Susan Miles is a doctoral student at Gardner-Webb University engaged in research for the purpose of satisfying a requirement for a Doctorate of Education in Curriculum & Instruction degree. The purpose of this study is to determine the antecedents (triggers/ conditions), indicators, and consequences of the flow experience in independent reading. Flow is “a state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it, even at great cost, for the sheer sake of doing it” (Csikszentmihalyi, 1990, p. 4). It is a state of “total involvement,” a term created by the research subjects themselves who described their total immersion in an activity as being in the “flow” (Csikszentmihalyi, 1988). This mixed-methods research study will be researched with high school freshmen in the Upstate of S.C. The phenomenon of flow will be examined from the students’ perceptions through a one-hour interview and compared with their online survey results from the 36-question survey, the Flow State Scale (FSS). If you agree to participate (or permit your child to participate), you, i.e., the student, will first take the online survey, the FSS. If the student scores indicate moderate-deep flow while engaged in independent reading, the researcher will interview the student after school for approximately one hour on one occasion. All answers will be transcribed and reviewed by the student to ensure accuracy. The results of the FSS will be compared with the results of the interview.

Risks/Benefits to the Participant: The risk of participating in this study is very minimal. There are no direct benefits to the participants for agreeing to be in this study. Please understand that although you might not benefit directly from participation in this study, you have the opportunity to enhance knowledge as it relates to flow in reading. If you have any concerns about the risks/benefits of participating in this study, you can contact the investigator Susan Miles (864-542-4269 or s.e.miles@hotmail.com), the dissertation chair Dr. Sydney Brown (704-406-3019 or skbrown@gardner-webb.edu), or the university’s human research oversight board (the Institutional Review Board or IRB) at Gardner-Webb University.

Cost and Payments to the Participant: There is no cost for participation in this study. Participation is completely voluntary, and no payment will be provided.

Confidentiality: Information obtained in this study is strictly confidential unless disclosure is required by law. All data will be secured in a locked safe. Your name or school will not be used in the reporting of information in publications.

Participant’s Right to Withdraw from the Study: You have the right to refuse to participate in this study and the right to withdraw from the study at any time without penalty.

I have read this letter, and I fully understand the contents of this document and voluntarily consent to participate or allow my child to participate. All of my questions

concerning this research have been answered. If I have any questions in the future about this study, they will be answered by the investigator Susan Miles (864-542-4269 or s.e.miles@hotmail.com) or the dissertation chair Dr. Sydney Brown (704-406-3019 or skbrown@gardner-webb.edu) upon my request.

Participant Signature_____

Parent/Caregiver Signature_____

Appendix C

FSS License Receipt

The following order was placed with Mind Garden, Inc. Your order contains at least one Online Survey product. This email contains instructions on how to login to your Transform account. Your order contains at least one PDF product. Please follow the instructions below to login to your account on our Transform system and access your PDFs. A note about web-browser compatibility and Mind Garden's new Transform system is available [here](#).

We appreciate your business. If you have any questions about your order please contact us by either replying to this e-mail or calling our office at 1-650-322-6300.

How to login to your Transform account

Transform is a web-based survey, assessment, and document-storage system by Mind Garden, Inc. Once you get to your account, you can see your order added to the Campaigns page. To enter your participants click on the Campaign name and follow the tabbed instructions to complete the set-up and assessment process. To return to Transform at any time, use the above link and enter your e-mail address and the password you created to log back in.

As always, we are available weekdays (US) to answer any questions you may have. Reach us by email by going to the "Contact" link on our website <http://www.mindgarden.com/contact.htm>, or call us at 650-322-6300 (US Pacific).

Sales Receipt for Order 19954

Placed on Monday, January 23, 2012 at 2:00 pm (PST)

Ship To:

Susan Miles
s.e.miles@hotmail.com
864-542-4269

224 SW Fieldsedge Dr.
Moore SC 29369
US (United States)

Bill To:

Susan Miles
s.e.miles@hotmail.com
864-542-4269

224 SW Fieldsedge Dr.
Moore SC 29369
US (United States)

Product	Code	Quantity	Price/Each	Total
FLOW Online Survey Long State Scale - General Licenses: 50 Includes data + scale scores	FLOW-Survey	1	\$120.00	\$120.00
FLOW Manual Format: downloadable PDF file	FLOW-Manual	1	\$40.00	\$40.00
Shipping: Online Product Delivery:				\$0.00
Sales Tax:				\$0.00
Order Total:				\$160.00

Payment method: MasterCard

This order has been paid in full.

Appendix D

FSS Customization Receipt



**855 Oak Grove Ave., Ste. 215
Menlo Park, CA 94025**

Invoice

DATE	INVOICE #
2/2/2012	25346

BILL TO
Susan Miles 224 SW Fieldsedge Dr. Moore, SC 29369 US

SHIP TO
Susan Miles s.e.miles@hotmail.com

P.O. NUMBER	TERMS	DUE DATE	REP	SHIP	VIA
	Credit Card	2/2/2012	CC	2/2/2012	Online Product

ITEM CODE	DESCRIPTION	QUANTITY	PRICE EACH	AMOUNT
Custom Form	Forms Customization Fee - Customize the FLOW Long FSS-2 General online survey (for data collection) to include the three items as referenced in Susan Miles' February 2, 2012 email.	1	150.00	150.00
	- Price includes two editing sessions following initial creation of the custom survey form (preview link). Additional editing sessions may require a charge of \$50 each.			
	CA Sales tax		8.25%	0.00
	Pay your bills online at: https://www.intuitbillpay.com/mindgarden			
	Customer Phone			
	864-542-4269			
	Customer E-mail			
	s.e.miles@hotmail.com			
			Total	\$150.00
Thank you for your business.			Payments/Credits	\$0.00
			Balance Due	\$150.00

Ph (650) 322-6300 Fax (650) 322-6398 info@mindgarden.com www.mindgarden.com
Make check payable to Mind Garden, Inc. We accept Visa, MC, AmExp, & Discover.
Vendor Federal ID# 77 0380 245. Please put your invoice number on your check.