Digital storytelling and Students’ Self-reports of Intellectual Engagement

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April 2013
Abstract

The purpose of this study was to explore the impact of Digital storytelling (DST) on the intellectual engagement of Grade 6/7 students in their language arts classes. The six-week study adopted a pre-test and post-test mixed methods design. Quantitative data was collected before and after measuring intellectual engagement using the same survey used by Willms, Friesen and Milton (2009) in their National study titled *What Did You Do In School Today?* Qualitative data was also collected to further allow Grade 6/7 students the opportunity to say more about whether they feel what they learn in language arts is relevant to their everyday lives, and whether or not they feel motivated to do well in language arts. The intellectual engagement mean scores were calculated for each of the ten quantitative questions before the DST project resulting in an average mean for the group that was below the cutoff for indicating intellectual engagement. The same survey was given again after the DST project resulting in all mean scores falling above the cut-off signifying that intellectual engagement increased. These findings highlight the important educational value of DST by engaging students intellectually by bridging the gap of what students are doing at home informally to what they could possibly be doing in the language arts classroom.
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Chapter One: Problem to be Investigated

Purpose of the Study

In 2009, the Canadian Education Association (CEA) conducted an online survey designed to capture, and assess Canadian adolescent students’ feedback about their levels of engagement in classrooms and schools. The survey focused on levels of student engagement in mathematics and language arts, the only two subjects studied. What the 32,322 students in 93 schools from 10 school districts have clearly stated is that the learning environments created in schools have low levels of intellectual engagement (Willms, Friesen, & Milton, 2009, p. 31). Intellectual engagement is defined by Willms et al. (2009) as a “serious emotional and cognitive investment in learning, using higher-order thinking skills (such as analysis and evaluation) to increase understanding, solve complex problems, or construct new knowledge” (p.43). The resulting numbers begin low in elementary schools, with only 62% of the students reporting that they are intellectually engaged, then drop to 44% for middle school students, and then finally to a low of 30% in secondary schools (p.23). The fall in student attendance parallels the fall in intellectual engagement through to about Grade 9 where intellectual engagement then remains at a fairly constant level at slightly above 30% (Willms et al., 2009). Students do not want to simply go through the motions; they are looking for personal meaningful learning opportunities (Willms et al., 2009). Educators need to create a learning environment that increases adolescent students’ intellectual engagement. One way to accomplish this goal is for educators to offer new hope to our disengaged students by bridging the gap between what adolescent students are doing informally at home, and what is being asked of them at school.

Dumont and Istance (2010) make this suggestion:
Understanding how young people learn, play and socialise outside the classroom may thus prove to be a useful inspiration for educational innovation. Digital media have the potential to transform learning environments permitting intensive networking and access anywhere and at anytime, thus helping solder connections in the fragmented worlds and experiences of young people in school and outside. Technology can help empower learners to become active in shaping their own learning environments (p. 25).

One method of change, which has had promising results, is in the area of implementing digital media as a powerful learning tool. The implementation of digital media, such as cameras, computers, iPods, cell phones and video editing software into the classroom can create alternative modes of learning and expression that are not only keeping students intellectually engaged but are also enthusiastically surpassing teachers’ expectations (Swan, Hofer, & Levstik, 2007, p.3). Part of the reason students are engaged when using digital media is because it is their language. Adolescents spend much of their time on the Internet, watching films, playing video games, and listening to music (Hartley & McWilliam, 2009). They are developing attitudes, knowledge, and skills closely intertwined in digital media.

The purpose of this study was to explore the impact of Digital storytelling (DST) on the intellectual engagement of Grade 6/7 students in their language arts classes. This was a project where students created and shared a digital story about a social issue of interest and suggested ways of making the issue better. These students used iPods, computers and a web based service called Animoto to create their digital story.

**Justification of the Study**

The goal of this study was to learn more about a learning environment where all students are intellectually engaged. Student engagement, regardless of how it was defined, and achievement are strongly linked in the research. Klem and Connell (2004) have stated:
Researchers have found student engagement a robust predictor of student achievement and behavior in school, regardless of socioeconomic status. Students engaged in school are more likely to earn higher grades and test scores, and have lower drop-out rates (p. 262-263).

Therefore, it is critical for educators to focus on increasing intellectual engagement of adolescent learners in order to increase academic achievement and “…show better personal adjustment to school” (Skinner & Blemont, 1993, p. 572).

One way of accomplishing this goal is for educators to offer new hope to our disengaged students by bridging the gap between what adolescent students are doing informally at home, and what is being asked of them at school (Dumont & Istance, 2010).

Cadreva (2011) points out in her study, which focuses on Digital storytelling (DST) as a literacy pedagogy, that students who struggled with print literacy, fine motor control, and English became much more confident and eager to participate because they were not confined to traditional print. She found that these potentially “at-risk” students demonstrated academic growth and increased personal agency. Sylvester and Greenidge (2010) also worked with a group of struggling writers and found that these students were not only engaged in creating a digital story using multimedia but also spent more time polishing their story by editing their stories using traditional print.

Likewise, Vasudevan, Schultz, and Bateman (2010) witnessed a transformation of an adolescent student named Michael in their study. Initially, Michael had a reputation for “restlessness and resistance” (p.461) but after sharing about his life at home and in the greater community using multimedia, Michael took on the identity of a composer of stories. This transformation continued as he became much more helpful to his teacher and classmates. By employing DST, these researchers and educators may have unlocked a door that allows these at-
risk students to continue to grow personally and academically, and to remain intellectually engaged through the use of multimedia, throughout their schooling years.

Another possible advantage of implementing DST as an intellectually engaging learning tool is that rather than the more traditional “low tech” resources such as textbooks or print media it has a greater potential for creating a culture of shared learning. When students are aware that they are creating a story, for example, using multimedia, and find out that the project will be shared with a greater audience, they take their learning more seriously (Cadreva, 2011; Sylvester & Greenidge, 2010; Vasudevan et al., 2010). The focus is on the life of the child at home and at school, which is expressed in a story using photos, drawings, videos, and the recorded narration of the student creator. However, also knowing that the students’ digital stories will be viewed by the class, parents, and even possibly the entire school, helps create a culture of shared learning. Students exhibited more helping behaviours such as students helping students with the use of technology (Vasudevan et al., 2010). They also shared music, and were continually self-assessing their material and demonstrating supportive peer-assessment behaviours.

**Research Question and Hypothesis**

The research question explored by the present study was “What is the relationship between digital storytelling as a teaching methodology and Grade 6/7 students’ self-reports of intellectual engagement in their language arts classes?”

My hypothesis was that implementing digital storytelling will result in increases in adolescent students’ rating of intellectual engagement in their Language Art classes.

**Definition of Terms**

In order to provide clarity for the purposes of this study, intellectual engagement was defined by using Willms, Friesen, and Milton’s (2009) definition as a “serious emotional and
cognitive investment in learning, using higher-order thinking skills (such as analysis and evaluation) to increase understanding, solve complex problems, or construct new knowledge” (p. 43). With permission, the current researcher used the same survey tool as Willms et al. (2009) to measure intellectual engagement.

Digital storytelling was defined as “the art of oral storytelling and engages a palette of technical tools to weave personal tales using images, graphics, video, music and sounds mixed together in an author's own story voice” (Porter 2005, p. 12) and was implemented in a Grade 6/7 language arts class as an intervention. The DST methodology was intended to replace more traditional story writing of putting pen to paper. During DST, the students learned film grammar which included learning different camera shot sizes and angles in order to create a persuasive digital story. All filming was captured with either the student’s own iPod, or one belonging to the school. Accompanying music and video editing software were provided by the free online web service called Animoto.

**Brief Overview of the Study**

The participants of this study were a class of twenty-five Grade 6/7 elementary students from Vancouver Island. Students and parents were informed about the nature of the study and consent was attained from those students who chose to participate with their parents’ consent. As a pre-survey of intellectual engagement, the participants completed the same survey (Appendix A) designed and used by the Canadian Education Association (CEA) in the National study *What did you do in school today?*, which contains 10 Likert-style questions measuring students intellectual engagement in their Language Arts classes. In addition, two open-ended questions were added to the survey to provide participants an opportunity to expand on their thoughts and feelings about being intellectually engaged in their language arts classes. Digital
DST AND INTELLECTUAL ENGAGEMENT

storytelling (DST) was implemented as a teaching methodology for the six-week study. Participants were then again asked to complete the post-survey in January, two weeks after returning from the holiday break to allow time for students to get into the routines of being back in school. The pre- and post-survey data were then analyzed to determine if there had been any change in students’ rating of intellectual engagement as a result of the implementation of DST.
Chapter Two: Review of Related Literature

Student Engagement

There is ample evidence that student engagement is a robust predictor of student achievement in school regardless of socioeconomic status, and that these engaged students earn higher grades and have lower drop-out rates (Klem & Connell, 2004). What is not always clear is what engagement looks like, or how do we create the conditions that help promote it. Research shows that students become more disengaged from school as they move up the grades, especially into the middle and high school grades (Klem & Connell, 2004; Willms et al., 2009).

There is evidence that in order to engage students the educational system needs to change to meet 21st century needs. Spires, Lee, Turner, and Johnson (2008) conducted a study “…to learn from middle grades students, through surveys and focus groups, what engages them to achieve in school” (p. 497).

In this mixed methods study, 4,000 out of a possible 12,000 middle grades students were randomly selected from a North Carolina state-wide after-school program and completed a survey measuring their uses of technologies in and out of school, as well as levels of academic engagement. In addition, six focus groups consisting of eight to ten students in each group, from the same after-school population were randomly selected. The focus groups followed semi-structured interviewing processes focussing on their perspectives of school, uses of technologies in and out of school, and academic engagement. The interviews were videotaped and lasted approximately one hour each.

The analysis variance (ANOVAs) of the quantitative results of the student surveys demonstrated that students reported significantly more computer usage at school ($M=3.46$, $SD=0.71$) than at home ($M=3.11$, $SD=1.20$). For skills related to the use of technology outside of
school, “…students classified themselves as high users of digital music (83%), video games (76%), and cell phones (71%)” (Spires et al., 2008, p. 506). Students also reported significantly higher academic engagement when using computers in general and when researching a project on the Internet than their least preferred activities of listening to a teacher talk and completing work sheets (Spires et al., 2008).

Analysis of the qualitative data revealed four broad themes that emerged: “Do U Know Us?” “Engage Us,” “Prepare Us for Jobs of the Future,” and “Let’s Not Get Left Behind.” (Spires et al., 2008, p. 506). The overall message provided by middle grade students was that teachers did not understand the important role technology plays in their lives outside of school, and if teachers really understood they would find ways to incorporate technology into classrooms in meaningful ways (Spires et al., 2008). As part of the focus groups interviews Spires et al., (2008) captured this relevant response from a student:

When asked to imagine new uses of technology, students constructed uses that were interactive and media-oriented. For example, one student suggested that she would like to use digital video cameras to create an oral history of her town (p. 509-510).

This study makes an important contribution to advancing knowledge about what engages middle school students in using digital technologies at home and at school. This knowledge supports the need for the current study of implementing DST as a teaching method that included implementing digital media to engage middle grades students intellectually. For example, integrating the capabilities of the camera and music storage found on most cell phones and iPods into the digital storytelling lessons the teacher not only now has a surplus of digital equipment at their disposal, but they can also assign more complex assignments as the students can be capturing photo and video footage they experience in everyday life.
Willms et al. (2009) conducted a study measuring four dimensions of adolescent students’ engagement. In the study, there were two dimensions of social engagement (participation and sense of belonging); one dimension of academic engagement (attendance); and a fourth dimension of intellectual engagement. Although there were some variance between schools and classrooms for the first three dimensions of engagement, it was the final dimension, intellectual engagement that showed the greatest decreases as students moved through the grades.

Willms et al. (2009) concluded this about engagement from their study:

“What is happening in classrooms to promote student engagement is the primary focus of the What did you do in school today? Initiative because we know that effective learning environments do make a powerful difference. We know, for example, that interesting work, collaboration among students, effective modeling, and high academic expectations all contribute to student success.” (p. 41)

The results from this national study informed the current study by implementing DST as interesting work and collaboration among students. In addition, effective modeling of the teacher’s own DST video, and high expectations were set by having an audience observe the DST after completion.

**Collaboration**

Since learning is a social endeavor, which requires positive relationships, learning environments should be community oriented. Our brains are not only primed to relate to others, they are also primed to learn from them (Hinton & Fischer, 2010). Therefore, the current researcher was interested in the role that collaboration plays in promoting intellectual engagement for Grade 6/7 students.
Building upon previous research of utilizing video-based microworlds to facilitate problem solving in mathematics, Barron (2000) focused her research on measuring the effect of collaboration on problem-solving performance and learning. Barron (2000) provides the following two directional causal hypotheses to guide her research: a) That triads (groups of three) would perform better than individuals when first presented with the problems and b) that students who had first worked in triads would perform better than students who had worked individually when asked to solve the same problem and a near-transfer problem on their own (p. 391).

This experimentally designed study involved randomly selecting ninety-six American sixth-grade students from a magnet school that serves academically talented students. Half of the students were assigned to the control group (individual) with the other forty-eight students being assigned to the experimental group (triads). Both groups were asked to solve a series of mathematical problems posed to the main character in "Journey to Cedar Creek", a staged, 15-min video adventure. The data was collected by calculating the average performance of collaborative groups with the average performance of individuals on three measures: responses to the general planning questions, responses to subproblem planning questions, and attempts to solve each of the three subproblems. On the first day of the four consecutive day experiments, both groups watched the “Journey to Cedar Creek” video. The second day saw the experimental group work collaboratively to solve the problems while the control group students worked individually. On the third day all students worked individually on solving the same problems. Finally, on the fourth day all the participants individually solved a similar problem.

The analysis of the survey results demonstrated, on average, that “…collaborative groups produced protocols earned higher scores than those produced by students in the individual
condition” (p. 395). Therefore highlighting the effectiveness of students collaborating on what they know collectively about the given topic, as well as having others to aid in clarifying any misunderstandings of what is expected from the assignment.

This study delivers a good model for the current study since Barron (2000) provided rich knowledge about the benefits of collaboration in problem solving in just four days of active research. This is positive news since the current study will also have limits on access to classroom space and time for research and thus having students work together in small groups was part of the intervention for the current study.

Digital Storytelling

Porter (2005) proposes that Digital storytelling (DST) “…takes the art of oral storytelling and engages a palette of technical tools to weave personal tales using images, graphics, video, music and sounds mixed together in an author's own story voice” (p. 12). Several studies have demonstrated that DST lends itself to greater equity for all the students in the class, including the students “at risk” because they are not confined to print (Cadreva, 2011; Sylvester & Greenidge, 2010; Vasudevan et al., 2010). DST also lends itself to connecting to the creator on an emotional level not often achieved in print. Porter (2005) explains:

“The digital storytelling process helps us transform isolated facts into illuminated, enduring understandings. By “living in the story,” we make information come emotionally alive. By exploring “lessons learned,” we go beyond telling about content to find its deeper meaning” (p. 7).

Evidence is mounting which suggests that DST has many pedagogical uses including improving writing and technology skills.
Figg and McCartney (2010) conducted a study with the purpose of promoting writing improvement and technology skills in student learners and to provide teacher candidates with technologically enhanced field experience. With this mixed-methods study, Figg and McCartney (2010) asked three research questions to guide their longitudinal study: What impact does the process of learning how to create digital videos stories have on teacher candidates who are facilitating a shared process between middle school student learners and their “very important persons” (VIPs)? What impact does the process of establishing student learners as subject matter experts and providing them with an opportunity to design and create positive learning climates have on student learners? What impact does the process of learning how to create digital video stories have on VIPs who are being taught by the middle school student learners?

This mixed-methods study involved recruiting fourteen African American school student learners- six female and eight male- ages nine to 12 from a summer enrichment program to first learn how to create a digital story and then to teach and create a family history digital story with their family members (VIPs). Also, the participants from the university included eighteen teacher candidates- five male and 13 female- who were also taught the digital storytelling process with the student learners before the study. The digital storytelling process took place over four weeks with the student learners teaching their VIPs how to create a digital video capturing their family history. To ensure triangulation of data, interviews, exit surveys, reflective journals, recorded field notes of observations, and student/parent-created artifacts were collected. The researchers employed emergent coding during content analysis to guide data collection and analysis.

The analysis of the quantitative results demonstrated that 86% of student learners were “not meeting expectations” on pre-test skills and knowledge of technology. After participating
in the four-week study, these same students had a score of 85% “meeting expectations” on post-test results. The qualitative results were also positive: “[f]our of the teacher candidates commented that they felt the facilitated learning environment promoted a sense of ownership in the learning process for students” (p. 11). The student learners demonstrated excitement during the process of creating a digital story with comments like this one: “I like making movies because it shows biographies of yourself and your VIP” (Figg & McCartney, 2010, p. 12). Also, 57% of the student learners indicated the project resulted in a greater interest in school.

Figg and McCartney (2010) had this to say about choosing digital storytelling:

> Digital storytelling was selected as the activity that would promote the development of writing and language skills while allowing individual expression and creativity for two reasons. First, the use of computer technology to motivate engagement complements the learning style of this Net Generation of students- these digital natives who are instinctive visual communicators and inductive learners….Second, digital storytelling uses authentic real-world skills (videography, video construction, and video editing skills) in a situated learning experience while stimulating practice in writing skills (p.4).

Overall, this study provides a greater knowledge base of the benefits of both incorporating digital technologies as teaching tools to engage students, as well as, the powerful influence of including a VIP in the educational process. The current study also attempted to gain greater insights into the overall benefits of utilizing digital storytelling for intellectual engagement and a culture of sharing.

Although this literature is promising, many of the studies about the effect digital storytelling has on student engagement and achievement have been produced in the United States with little research conducted in a Canadian, and more specifically within the British Columbia
context. The researcher of the current study explored how implementing digital storytelling as a methodology in a Grade 6/7 elementary setting, impacts students’ ratings of their intellectual engagement in Language Arts class.

There is growing evidence that DST has many educational uses as Kearney (2009) highlights in his research when he stated that DST “…can support a rich, authentic learning experience, encouraging student autonomy and ownership, meaningful student roles and interactions, especially when students are given an opportunity to discuss and ‘celebrate’ their products with a relevant audience” (p. 28). The current researcher’s goal was to see if DST did indeed support a rich, authentic learning experience whereby Grade 6/7 students felt they were intellectually engaged or not.
Chapter Three: Procedures and Methods

Description of the Research Design

The overall purpose of this study was to explore how implementing digital storytelling as a teaching pedagogy impacts student ratings of their intellectual engagement in Grade 6/7 language arts classes. Based on the literature review it was hypothesized that implementing digital storytelling (DST) would result in increases in adolescent students’ rating of intellectual engagement in their language arts classes.

To address this hypothesis, a mixed-methods approach was used combining both quantitative and qualitative methodologies (Fraenkel, Wallen, & Hyun, 2012). A quantitative survey created by the Canadian Education Association (CEA) for the study What Did You Do In School Today? (2009) was used in this study to measure students’ ratings of intellectual engagement pre-and-post implementation of the digital storytelling instructional method. Qualitative data was obtained from two open-ended questions that accompanied the pre-and-post-test intellectual engagement survey.

Description of the Sample

The current study took place at an elementary school on north central Vancouver Island, British Columbia. The school was a suburban school with approximately 370 full time English speaking students, which also included a Montessori program. Participants in this study were from a class of 25 English-speaking Grade 6/7 elementary school students. Out of the 25 participants, 14 were male. After obtaining informed consent, 9 out of the 25 Grade 6/7 students participated in the study with five of those participants being male. No other demographic information was collected.

The present study took place in a Grade K-7 elementary school where the teacher of this class was a colleague and an acquaintance of the researcher therefore; this was a sample of
convenience. The age range of the participants was 11-12 year olds. One of the 9 participants who consented to participate was designated, however, because of the group work with story mapping and filming scenes, the participant was able to complete the necessary learning successfully without modifications. The classroom teacher had been teaching in the Comox Valley for 10 years and had taught Grade 6/7 for the past three years.

This Grade 6/7 elementary class was chosen for two reasons. First, the researcher is employed by same school district, which makes the research both convenient and relevant. The second reason why these participants were chosen for this study was because Willms, Friesen, and Milton (2009) found that students’ ratings of intellectual engagement dropped significantly from 58% in grade five to 44% by grade seven. Therefore, the Grade 6/7 students from the current study provided rich data about how teachers might make changes such as implementing digital storytelling into their classrooms in order to increase students’ intellectual engagement in language arts classrooms.

Description of the Instruments Used

The quantitative instrument used for this study, with permission, was an intellectual engagement survey (Appendix A) created by the Canadian Education Association (CEA). It included ten statements concerning the students’ enjoyment, interest, and motivation to do well in their language arts classes, as well as the degree to which students see their language arts classes as relevant to their everyday lives (Willms et al., 2009). Students responded on a five-point Likert type scale that was scored as follows: 0 (strongly disagree), 1 (somewhat agree), 2 (neither agree nor disagree), 3 (somewhat agree), and 4 (strongly agree). The scores were averaged across the 10 items to produce an average score that ranged from 0 to 4. Participants with an average score that was above 2.4 were considered to have positive intellectual
engagement. This was in accordance with the study conducted by the CEA who surveyed over 32,000 adolescent students across Canada.

Although there were no validating documents from the CEA study, the current researcher felt the intellectual engagement survey used by Willms et al., was a good instrument for the current study for two reasons.

The first reason is the way the survey was designed. The ten quantitative questions covered a very broad understanding of intellectual engagement and focused on the learning experience in language arts. There was ample flexibility for participants to choose from the five point Likert type scales, which ranged from “strongly disagree” to “strongly agree.” As a reminder, the definition provided by Willms et al., in that intellectual engagement is a “serious emotional and cognitive investment in learning, using higher-order thinking skills (such as analysis and evaluation) to increase understanding, solve complex problems, or construct new knowledge” (p. 43).

In order for students to invest emotionally and cognitively in their learning, students must first be interested in what they are learning, the learning must be relevant to their lives, and believe they have the skills to be successful. Therefore, allowing students the opportunity to provide feedback such as the following survey questions: “I spend a lot of time day-dreaming, socializing, or pretending to pay attention”, “I enjoy learning new concepts and ideas”, “We explore ideas and topics that are meaningful”, “I enjoy our class projects so much that often I do not want to stop”, “I wish we did not have to take language arts”, “We cover topics that are useful in everyday life”, “I enjoy language arts classes so much that I lose track of time”, “I try hard to improve my skills in language arts”, “I find myself thinking about what we are learning even after the lesson is over” and “I know the purpose of what we are learning” the researcher
gains a better understanding of the emotion and cognitive investment by those particular participants.

The second reason the survey was a good fit for the current study is the instrument was created for, and completed by adolescent students from 93 schools all across Canada, with the exception of British Columbia. By repeating the implementation of intellectual engagement survey with students of the same age from British Columbia, then the research data became increasingly more reliable as is the instrument. Friesen (2009) explains that “learning that invites students to engage intellectually awakens the human spirit’s desire to know. The result is a deep, personal commitment on the part of learners to explore and investigate ideas, issues, problems or questions for a sustained period of time” (p. 4). The experience of intrinsic motivation that Willms et al., call intellectual engagement, is one in which the learner is so focused and engaged that they lose track of time.

In order to support the quantitative survey instrument the current research also crafted two open-ended questions that were designed (Appendix A continued) for expanding on why creating digital stories was intellectually engaging or not. Willms et al. (2009) pointed out in their study that the 10 quantitative statements were intended to measure the relevancy of what was learned in their language arts to their everyday lives, and to what extent students felt interested and motivated to do well in their language arts classes. Therefore, question number eleven and twelve read as follows: “In you opinion, do you feel what you learn in Language Arts is relevant to your everyday life? Why, or why not?” and “In your opinion, do you feel you are motivated to do well in your Language Arts class? Why, or why not?”. The researcher of this study set out to measure students’ perceived levels of intellectual engagement using both quantitative and qualitative measures.
Procedures Followed

After approval from Vancouver Island University research ethics board and acceptance by the superintendent of the School District, the current study was conducted in January 2013 and lasted six weeks (14 instructional hours). Two weeks prior to the study, with permission of the principal and the classroom teacher, the researcher announced the study to the students, explained the purpose of the study, and then distributed the informed letter of consent to be taken home for the parents to examine. The parents were given two weeks to return the consent form. When the consent letter was signed and returned with the student’s approval then the students were eligible to participate in the study. The digital storytelling unit was taught as part of British Columbia curriculum regardless of informed consent of the parents or students. Informed consent meant that the nine students wrote the survey and their results were used as data.

Once informed consent was attained from parents and participants, the intellectual engagement survey (Appendix A) was administered the following Tuesday during a language arts block, January 15, 2013 by the researcher. The survey results were anonymous to the teacher, thereby protecting the anonymity of the students. The researcher also collected the surveys after 30 minutes or when all participants had finished. The pre-test survey completed by consenting participants established whether they felt that their language arts classes were intellectually engaging or not. The pre-test survey also acted as a control against which participants’ post-test self-reports from after the digital storytelling intervention could be compared. Participants’ responses were collected in sealed envelopes and stored in a locked drawer in the principal’s office.

After the pre-test survey was completed, the classroom teacher with the help of the researcher, introduced the digital storytelling (DST) project. The remainder of the DST project was carried out by the classroom teacher. The unit focussed on social responsibility, whereby
students formed groups of three and four members around a common concern. Some of the
topics included littering, poverty, hunger and global warming, and were chosen by the students
after brainstorming their ideas. After forming into groups the unit followed three stages. The
first stage was to introduce the film grammar (Appendix B) to the students by viewing a digital
story the classroom teacher made about littering.

The second stage included having students try out their new knowledge by constructing a
thirty-to-sixty second video using either their own iPods, or one of the school’s. Each group was
assigned a different short scene they needed to act out using each of the screen shot sizes and
angles they learned in stage one about film grammar (Appendix B). Some example scenarios
included: “taking a test you know you are going to fail”, “going down the stairs attempting to
find a missing friend”, “making a game winning free throw”. Scenarios were all edited using the
free online service Animoto. Students completed these scenarios by adding some text and music
from Animoto’s copyright free music bank.

The third and final stage was to now create their three to five minute digital story using
Animoto. In order to successfully create both the short scenario and the final digital story the
students were first required to complete a story map (Appendix C) which included identifying
which shot sizes and angles they would be using as well as writing any text they would be
including in their stories. The students understood that the classroom teacher and the researcher
represented the executive producers, therefore approval for filming only came when it appeared
that the students understood which camera shot size and angle to use and why. This was another
great opportunity to provide feedback about next steps for students.

After the six-week DST project ended, students who consented completed the post-test
survey rating their level of intellectual engagement. Once again, the researcher conducted this
survey and the results were placed in a locked drawer in the principal’s locked office. The surveys remained there until the researcher collected them for analysis.

Discussion of Validity

One of the many advantages of action research is that it can help improve educational practice (Fraenkel et al., 2012). Thus the intent of this research study was to find out more about how digital storytelling can improve students’ intellectual engagement and thus make recommendations for teachers on how to take advantage of existing digital equipment found in schools. However, action research studies, like the current study, in general are considered to be weak when it comes to external validity and generalizability (Fraenkel et al., 2012). Therefore, steps were taken in the current study to strengthen the external validity. Both quantitative and qualitative data from students were obtained to gain a more comprehensive understanding of the research results. External validity was also strengthened by using a survey tool that was created and validated by the CEA for measuring adolescent students’ perceived levels of intellectual engagement in their language arts classes.

Internal validity is also threatened in action research studies like the current study by data collector bias, implementation and attitudinal effects (Fraenkel et al., 2012). The threat of data collector bias was greatly reduced in the current study because the researcher was not the teacher implementing the digital storytelling teaching method, therefore, data collection and analysis was conducted more objectively than would be otherwise. Also, since the researcher was not the classroom teacher during the intervention then the threat of personal bias in favour of the digital storytelling method was reduced, thereby reducing both implementation and attitudinal threats.
Although it is suggested that the results from this action research study cannot be generalized beyond the school and grade, they can be used to inform teaching practice and to provide information for those who wish to replicate the study (Fraenkel et al., 2012).

**Data Analysis**

The participants’ responses to the quantitative portion of the intellectual engagement scale were scored using a Likert 5-point scale where a mean score of 2.4 or higher was interpreted to mean that they found their Language Arts classes intellectually engaging. Those participants who scored below the mean 2.4 were recorded as not finding their language arts classes intellectually engaging. All quantitative data were analyzed using EXCEL software to determine the mean scores for each of the ten quantitative survey questions. The data were analyzed to determine numerical difference between the pre-test and post-test means and was presented in Data Table 4.1. The quantitative data were also displayed in a bar graph demonstrating visually the impact digital storytelling had on participants’ self-reports of intellectual engagement (Figure 4.1). Participants’ responses to the two qualitative open-ended questions in the pre-test post-test were analyzed and coded for emergent themes related to intellectual engagement. The qualitative data were also displayed on a bar graph demonstrating the frequency of student comments within emergent themes from Questions 11 and 12 from the pre-test post-test survey.
Chapter Four: Findings and Results

The purpose of this study was to explore the relationship between digital storytelling (DST) as a teaching methodology and Grade 6/7 students’ self-reports of intellectual engagement in their language arts class. The participants were from a convenience sample of 25 students from an elementary school on Vancouver Island. Of the 25 students, 9 consented to participating in the study. The mixed method research design included, with permission, the same 5-point Likert survey (Appendix A) that was created, and used by Willms et al. (2009) in their Canadian National study titled What Did You Do In School Today? The ten question quantitative survey, measured students’ self-reported levels of intellectual engagement before and after a digital storytelling intervention was implemented in the Language Arts classroom. The two qualitative questions for measuring students’ self-reports about whether they felt what they learned in their language arts classes was relevant to their everyday lives and whether they feel motivated to do well, were also administered before and after a six-week (14 instructional hours) unit on digital storytelling.

Quantitative Data Results

Table 4.1 shows the mean scores attained from each of the 10 statements, as well as the shift in mean scores pre-and-post DST. The statistical data found in Table 4.1 is based on a score from student responses on a five-point scale that is scored as follows: 0 (strongly disagree), 1 (somewhat agree), 2 (neither agree nor disagree), 3 (somewhat agree), and 4 (strongly agree). The scores were averaged across the 10 items to yield an average score that ranged from 0 to 4. Students with an average score that was above 2.4 (i.e., slightly higher than neutral) were considered to have positive intellectual engagement.
Table 4.1

*Mean scores from the intellectual engagement questions for all participants (n = 9)*

<table>
<thead>
<tr>
<th>Intellectual Engagement Question</th>
<th>Pre-DST mean</th>
<th>Post-DST mean</th>
<th>Shift in mean scores pre-and-post DST</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I spend a lot of time daydreaming, socializing, or pretending to pay attention.</td>
<td>2.0</td>
<td>3.1</td>
<td>1.1</td>
</tr>
<tr>
<td>2. I enjoy learning new concepts and ideas.</td>
<td>2.2</td>
<td>3.1</td>
<td>0.9</td>
</tr>
<tr>
<td>3. We explore ideas and topics that are meaningful.</td>
<td>2.0</td>
<td>3.0</td>
<td>1.0</td>
</tr>
<tr>
<td>4. I enjoy our class projects so much that often I do not want to stop.</td>
<td>1.6</td>
<td>2.8</td>
<td>1.2</td>
</tr>
<tr>
<td>5. I wish we did not have to take language arts.</td>
<td>2.4</td>
<td>3.6</td>
<td>1.2</td>
</tr>
<tr>
<td>6. We cover topics that are useful in everyday life.</td>
<td>2.0</td>
<td>3.0</td>
<td>1.0</td>
</tr>
<tr>
<td>7. I enjoy language arts classes so much that I lose track of time.</td>
<td>1.6</td>
<td>3.0</td>
<td>1.4</td>
</tr>
<tr>
<td>8. I try hard to improve my skills in language arts.</td>
<td>2.4</td>
<td>3.4</td>
<td>1.0</td>
</tr>
<tr>
<td>9. I find myself thinking about what we are learning even after the lesson is over.</td>
<td>1.8</td>
<td>3.0</td>
<td>1.2</td>
</tr>
<tr>
<td>10. I know the purpose of what we are learning.</td>
<td>1.8</td>
<td>3.4</td>
<td>1.6</td>
</tr>
</tbody>
</table>

As seen in Figure 4.1, the data clearly showed that mean scores for the pre-DST survey for each of the ten questions fell either on the 2.4 cut-off score or below. After six weeks of creating their digital stories, mean scores for the group fell above the 2.4 cut-off score indicating that on average the group reported being intellectually engaged in their language arts classes.

The two largest gains pre-and-post DST, occurred in questions seven and ten, where the shift in mean scores nearly doubled. In Question Seven, “I enjoy language arts classes so much that I lose track of time”, students’ mean score shifted from 1.6 to 3.0. The data from Question Ten, “I know the purpose of what we are learning”, shifted from a mean score of 1.8 to the second highest overall score of 3.4. These large shifts in students’ self-reports from pre-and-post DST
will be further explored and expanded with the analysis of the qualitative data and in Chapter Five in the discussion.

![Figure 4.1](image)

**Figure 4.1.** Mean scores from each of the Intellectual Engagement questions for all participants (n = 9)

**Qualitative Data Results**

Participant responses to the qualitative pre-and-post questions were coded for themes related to students’ intellectual engagement. All nine participants responded to both sets of the pre-and-post survey questions. Frequency tables were created to summarize the frequency of statements categorized within each theme. Participant responses to the pre-and-post survey Question Eleven, “In your opinion, do you feel what you learn in Language Arts (LA) is relevant to your everyday life? Why, or why not?”, were coded into four themes: LA skills not used at home, LA skills used at home, LA is fun/like it, LA is boring/dislike it. Table 4.2 provides students’ responses to Question Eleven; the responses with the green font signified the post-test data. As seen in Figure 4.2, there were initially four participants’ comments stating that they
believed they use the skills learned in language arts at home. After the DST project, that number significantly jumped to nine whereby participants felt they used these skills at home.

Table 4.2

Categorical data in response to Pre- and Post-survey Question 11 (n = 9 participants)

<table>
<thead>
<tr>
<th>Categorical Data</th>
<th>Tally</th>
<th>Example Student Responses</th>
</tr>
</thead>
</table>
| No, skills not used at home       | ||||  | “I feel like when we do book reports or stuff like that it was a waste of my time because I don’t use those skills again.”  
                                    |       | “I feel language arts is not relevant to my everyday life because I do not use language arts that much in my home.”  
                                    |       | “No I will just type on the computer or iPhone.”  
                                    |       | “I rarely write at my house and once in a while I will read.” |
| Yes, skills are used at home.     | ||||  | “Sometimes because the writing helps and I am getting better at writing.”  
                                    |       | “… I fell I use a lot of what I use outside of school so I use most of the stuff in language arts in my everyday life.”  
                                    |       | “Yes it will help me with writing and it will be helpfull in my future jobs and in school.”  
                                    |       | “I think Language arts is relevant to my everyday life because, I read and write both at home and school.”  
                                    |       | “I do look at things differently sometimes because of language arts but it is not a constant thing to where it has a huge impact on my life.”  
                                    |       | “Yes, because we begin to notice things on TV and radio.”  
                                    |       | “Yes, because we can use digital storytelling cause at home I look at all the film scences.”  
                                    |       | “Yes I do because I understand more about movies and what they are trying to show like if it is up close there trying to show detail or facial expression.”  
                                    |       | “Yes, because I usually do a lot with electronics…” |
| Yes, Language Arts is fun and I like it. | |||| | “Well I love language arts…”  
                                    |       | “Yes it will help me with writing and it will be help full in my future jobs and in school.”  
                                    |       | “Yes because sometimes we learn about video making, map making and more tech knowlagey stuff…it’s a lot more fun…”  
                                    |       | “Well I love language arts and I fell I use a lot of what I use outside of school so I use most of the stuff in language arts in my everyday life.”  
                                    |       | “I like writing about everyday life, and other topics. It’s fun to read and write.”  
                                    |       | “Yes because I do a lot with electronics and I love it, want to keep doing this.” |
Some of the comments after DST specifically identify how their new skills were used:

“Yes I think its cool to learn about different things filming has been really fun to learn. I’ve learned about shot sizes and different angals witch is really cool.”
“I love electronics and I really want to keep on doing this.”

| No, Language Arts is not fun and I do not like it. | “…tecknawagey stuff…It’s a lot more fun than writing stuff.” |
| “…I don’t like the book studies.” |

Some of the comments after DST specifically identify how their new skills were used:

“Yes, because we begin to notice things on TV and radio.”; “Yes, because we can use digital storytelling cause at home I look at all the film scenes.”; “Yes I do because I understand more about movies and what they are trying to show like if it is up close there trying to show detail or facial expression.” Participants made three more comments about language arts being fun and liking it post-DST, while there were no responses about not using their new skills at home or not liking language arts post-DST.
When looking at the pre-and-post data for Question Twelve, “In your opinion, do you feel you are motivated to do well in your Language Arts class? Why, or why not?”, three themes emerged. Three participants reported the first theme that language arts is boring and is not liked, as seen in Figure 4.3. The responses varied from “I don’t really feel motivated, I mean I only try hard so I will get good grades if grades didn’t matter I wouldn’t even both because it’s boring.”, “Not really because Language Arts is my least favourite subject. Also because I find Language Arts as reading and writing and I hate doing both of those.”, and “No I donot like Language Arts b/c Im not good at wrighting and I don’t like to wright.” The complete list of these participant responses can be found in Table 4.3.
Table 4.3

*Categorical data in response to Pre- and Post-survey Question 12 (n = 9 participants)*

<table>
<thead>
<tr>
<th>Categorical Data</th>
<th>Tally</th>
<th>Example Student Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA is boring/dislike it</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Not really because Language Arts is my least favourite subject. Also because I find Language Arts as reading and writing and I hate doing both of those.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“No I donot like Language Arts b/c Im not good at wrighting and I don’t like to wright.”</td>
</tr>
<tr>
<td>LA is fun/like it</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Yes, because my teacher encourages me, and I like the stuff we do in it.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Yes I am for one my parent’s would kill me if I didn’t do well and most of the time it is fun.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Yes because its more interesting and you get up and so things instead of just listening and writing on paper.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Yes because its easy to follow and fun to learn about.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Yes, I didn’t really think that we were do L.A. because it was so fun doing the videos.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Yes I do I really enjoy filming with my friends.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Yes, because I lik what we are doing.”</td>
</tr>
<tr>
<td>LA is useful for my future</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“… I only try hard so I will get good grades…”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I’m motivated because we never do the same thing and it is better to learn now than latter.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Yes, because I feel now that electronics are part of everyday life. We should use them in school because they help us learn and do our work.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I do feel motivated to do well in language arts because if I don’t I get bad marks and language arts can actually help you so I do feel motivated to do well.”</td>
</tr>
</tbody>
</table>
The second theme to emerge from Question Twelve was that participants reported they found language arts to be fun and liked it. In Figure 4.3 there were three responses about liking and finding language arts fun pre-DST and that number climbed to eight responses post-DST. One post-DST response read as follows: “Yes because it's more interesting and you get up and do things instead of just listening and writing on paper.”

The final theme of the qualitative data from Question Twelve was that participants reported that what they learned in language arts was useful for their future. The number of responses began at three, before DST, and then climbed to five after the DST project. Two pre-DST comments included, “… I only try hard so I will get good grades…”, and “I'm motivated because we never do the same thing and it is better to learn now than latter.” After the DST project, one participant said, “Yes, because I feel now that electronics are part of everyday life. We should use them in school because they help us learn and do our work.” The comments shifted from language arts being useful in more of a vague way to speaking about how it specifically helps them learn.
Figure 4.3. Individual participant responses to pre- and post-DST Question 12 (n=9)
Chapter Five: Summary, Discussion, and Conclusions

Research Summary

The goal of the current study was to explore Grade 6/7 students’ self-reports of intellectual engagement before and after implementing digital storytelling (DST) as a teaching methodology in their language arts classes. The study was conducted over a six-week period (14 instructional hours) beginning in the middle of January and concluding the first week of March 2013. A mixed-methods approach was used combining both quantitative and qualitative methodologies. A pre- and post-survey was administered to measure students’ self-reported levels of intellectual engagement in their language arts classes.

The participants’ responses to the quantitative portion of the survey, which was first designed and used by the Canadian Education Association (CEA) for their study What Did You Do In School Today? (2009), of the intellectual engagement scale were scored using a Likert 5-point scale where a mean score of 2.4 or higher was interpreted to mean that they found their Language Arts classes intellectually engaging (Willms et al., 2009). Those participants who scored below the mean 2.4 were recorded as not finding their language arts classes intellectually engaging. The data were analyzed to determine numerical difference between the pre-test and post-test means and were presented in Table 4.1. The quantitative data were also displayed in a bar graph demonstrating visually the impact digital storytelling had on participants’ self-reports of intellectual engagement (Figure 4.1). Participants’ responses to the two qualitative open-ended questions in the pre-test and post-test were analyzed and coded for emergent themes related to intellectual engagement. The qualitative data were also displayed on a bar graph demonstrating the frequency of emergent themes from Questions Eleven and Twelve from the pre-test and post-test survey.
The DST project focused on social responsibility, whereby students collaborated around common concerns, such as littering, poverty, hunger and global warming, which were chosen by the students after brainstorming their ideas. After the forming of the groups the unit followed three stages. The first stage was to introduce the film grammar (Appendix B) to the students, the second stage included creating a short video such as “taking a test you know you are going to fail”, and the final stage included creating a three to five minute digital story using the free online video service called Animoto.

**Discussion**

The results of the quantitative data found in Table 4.1 show a marked increase in mean scores for all ten questions of the survey after the DST project. Pre-DST data as seen in Figure 4.1, clearly showed that mean scores for each of the ten questions fell either on the 2.4 cut-off score or below. This is well below the mean scores found by the Willms et al. (2009), whereby roughly 44% to 62% of Grade 6/7 reported they were intellectually engaged in their language arts classes. Six weeks later (after 14 instructional hours in digital storytelling) post-DST, the self-reported mean scores for each of the ten questions increased to well above the cut-off of 2.4 signifying that the majority of students were intellectually engaged (see Table 4.1). Although the hypothesis of the current study was that implementing DST as a teaching methodology would cause an increase in students’ self-reports of intellectual engagement the goal now is to uncover why that is by first examining the greatest shifts in mean scores from the quantitative data, then exploring the themes that emerged from the qualitative data.

The four largest shifts in mean scores came from Questions Four, Nine, Seven and Ten (Table 4.1). On a couple of occasions when the bell had rung to end the day, the current researcher witnessed teams continuing to work on their digital stories which supports the results
for Question Four (shift = 1.2), “I enjoy our class projects so much that often I do not want to stop.” Another large shift in mean scores (shift = 1.2) in the quantitative data came from Question Nine: “I find myself thinking about what we are learning even after the lesson is over.”

Klem and Connell (2004) have found in their own study that middle school students, like the participants in the current study, who had high levels of self-reported engagement were 75% more likely to achieve high levels of academic performance and commitment than average students (p. 270).

The second largest shift in mean scores from Table 4.1 (shift = 1.4) came from Question Seven which was “I enjoy language arts classes so much that I lose track of time.” According to Csikszentmihalyi, (1990) these students were in a “flow” state, whereby the challenge of the activity slightly exceeded their abilities creating the conditions for complete cognitive and emotional engagement. One student commented that he or she “…didn’t really think that we were do L.A. because it was so fun doing the videos.”

The statement that had the largest shift in mean scores (shift = 1.6), which represented an almost doubled pre-and-post mean score came from Question Ten which was “I know the purpose of what we are learning.” The current researcher was not surprised by the large shift in mean scores from Questions Four, Nine and Seven based on his experience implementing DST in his past practice as a teacher. However, seeing the largest shift in mean scores from Question Ten did come as a surprise. This large shift in mean scores from Question Ten becomes clearer after examining the qualitative data next.

The current researcher pooled all of the qualitative data for Question Eleven “In your opinion, do you feel what you learn in Language Arts is relevant to your everyday life? Why, or why not?, and coded for four emergent themes: LA skills not used at home, LA skills used at
home, LA is fun/like it, LA is boring/dislike it (see Figure 4.2). Table 4.2 provided all participant responses to Question Eleven; the responses with the green font signified the post-test data. After the DST project, that number significantly jumped to nine whereby participants felt they used these skills at home. Some of the comments after DST specifically identified how their new skills were used: “Yes, because we begin to notice things on TV and radio.”; “Yes, because we can use digital storytelling cause at home I look at all the film scences.”; “Yes I do because I understand more about movies and what they are trying to show like if it is up close there trying to show detail or facial expression.” These comments suggest that the participants clearly understood and could articulate the purpose of what they were learning.

Csikszentmihalyi (1990) highlighted two conditions of intrinsic motivation and engagement: “There cannot be learning unless a person is willing to invest attention in a symbolic system” and that in order to enable a deep emotional and cognitive investment in learning then there must be great “…clarity of goals and the immediacy of feedback” (p. 135). The DST project and methodology provided both, as participants were both interested in creating a digital story using digital media and received immediate feedback from both group members as well as from teachers while their videos were playing.

Willms et al. (2009) spoke about the “disconnect between the ways that students use technology in and out of school, the urgent demand for public education that benefits all young people….” and with the above large shift in mean scores, DST is an effective way based on the results of the study (p. 39). These digital natives participating in the current study understand the relevance and purpose of crafting a digital story because it is their language. The 4000 middle grade students from Spires et al. (2008) also reported that if educators knew them they would be
willing to integrate technology in meaningful ways. DST is one method of implementing technology that engages learners intellectually.

Also, Kearney (2009) draws attention to the importance of students knowing that their digital story will be shared with a broader audience. How often do we as educators provide students meaningful opportunities to share their written stories? Once a student creates a digital story using Animoto, with permission, they are able to share that video with family, friends and quite possibly the entire school.

Overall, DST lends itself for greater equity for all students in language arts classes because “at risk” students are not confined to traditional print (Cadreva, 2011; Sylvester & Greenidge, 2010; Vasudevan et al., 2010).

**Limitations**

One of the many advantages of action research is it can help improve educational practice (Fraenkel et al., 2012). However, action research studies, like the present study, in general are considered to be weak when it comes to external validity and generalizability (Fraenkel et al., 2012). Therefore, steps were taken in the current study to strengthen the external validity. Both quantitative and qualitative data from students were obtained to gain a more comprehensive understanding of the research results. External validity was also strengthened by using a survey tool that was created and validated by the CEA for measuring adolescent students’ perceived levels of intellectual engagement in their language arts classes.

In action research studies like the current study, internal validity is threatened by data collector bias, implementation and attitudinal effects (Fraenkel et al., 2012). Although the threat of data collector bias was greatly reduced in the current study because the researcher was not the teacher implementing the digital storytelling teaching method, the researcher was required to
code emergent themes of the qualitative data, which was still threatened by bias. Also, the DST teaching methodology was a novel idea for the Grade 6/7 students resulting in higher engagement levels that quite possibly would decline with repeated use throughout the school year.

During the six-week study the classroom teacher was away for over a week due to both personal and business reasons, resulting in having a substitute teacher covering the absence. During this time the DST project was delayed since the substitute teacher did not have access to the iPods for filming. Even with all of the disruption this caused for carrying out the DST project, the students’ mean scores for each of the ten questions increased to show that students were intellectually engaged at the end of the project.

The small sample size (n=9) and the fact that this was a convenience sample of participants was another limitation to this study. This action research study may not be generalizable beyond the school and grade, nevertheless, the results can be used to inform teaching practice and to provide information for those who wish to replicate this study (Fraenkel et al., 2012).

**Conclusions**

For educators to move forward in their practice and begin bridging the gap between what students are doing informally at home and what they are doing in schools it appears that implementing DST as a teaching methodology is a sound idea for increasing self-reports of intellectual engagement in their language arts classes. The overall message from the participants of this study was that DST was able to make the connection between the digital media they use at home and what they learned at school. Participants made comments such as “Yes, because we begin to notice things on TV and radio.”; “Yes, because we can use digital storytelling cause at
home I look at all the film scences.”; “Yes I do because I understand more about movies and what they are trying to show like if it is up close there trying to show detail or facial expression.”; “Yes, because I usally do a lot with electronics…” that illustrate how students made connections between the technology they use outside of school and what they learned in school which helped to increase engagement in meaningful ways (Spires et al., 2008; Willms et al., 2009; Kearney, 2009).

Also, the largest shift in mean scores (shift=1.6) came from the quantitative survey Question Ten (Table 4.1), which read: “I know the purpose of what we are learning”. The pre-test mean score was 1.8, the post-test mean score jumped to 3.4 resulting in a shift of 1.6, nearly doubled. When students understand the purpose of what they are learning and can articulate that understanding by discussing how they are using what they learned at school at home, then intellectual engagement becomes possible. In fact, the mean scores of each and every one of the 10 intellectual engagement questions post-DST fell above the 2.4 cut-off point signifying that the majority of students were intellectually engaged.

Recommendations

Based on the current research study process and results, implementing DST as a teaching methodology for teaching language arts is recommended. Students were excited about using their own or the school’s iPods to capture the necessary video including camera shot sizes and angles. What was key for the success of the DST project was to have students first create their story using the story maps. Each group was responsible for drawing each scene indicating the camera shot size as well as any text they wanted to add. The teacher acted more as a facilitator by circulating the room providing feedback. For future DST projects, the current researcher will implement this methodology more frequently during the course of the week in keeping pace with
the engagement levels of the class. This might look like spending an hour a day instead of two and a half hours per week like with the current study.

Also, for future use, the current researcher will use the DST method in other subject areas such as art, social studies, math and Science. Regardless of what subject is being taught the goal is to have the students construct their understanding in a deep and meaningful way that engages them intellectually. Therefore, DST is an effective way to bridge what students are doing at home with what they are doing at school. DST is a great way to engage students intellectually.
References


http://dx.doi.org.ezproxy.viu.ca/10.1177/0741088310378217

Appendix A: Intellectual Engagement Survey

Date: ______________  Grade 6/7 Language Arts

Research Survey
Please read the following ten statements and indicate on the right with an X, which best represents your feelings towards each statement with language arts in mind. Do not put your name or any other identifying marks on the survey, as responses are to be anonymous.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Neither Agree Nor Disagree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I spend a lot of time daydreaming, socializing, or pretending to pay attention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy learning new concepts and ideas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We explore ideas and topics that are meaningful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy our class projects so much that often I do not want to stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I wish we did not have to take language arts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We cover topics that are useful in everyday life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy language arts classes so much that I lose track of time</td>
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<tr>
<td>I try hard to improve my skills in language arts</td>
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<tr>
<td>I find myself thinking about what we are learning even after the lesson is over</td>
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<tr>
<td>I know the purpose of what we are learning</td>
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</tbody>
</table>
Appendix A continued

Date: _______________  Grade 6/7 Language Arts

Research Survey

Please read the following two open-ended questions and answer the questions on the space provided as clearly and concisely as you are able. When you are finished the survey please place it into the envelope provided and bring it the front of the room. Do not put your name or any other identifying marks on the survey, as responses are to be anonymous.

1. In your opinion, do you feel what you learn in Language Arts is relevant to your everyday life? Why, or why not?
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
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   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
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2. In your opinion, do you feel you are motivated to do well in your Language Arts class? Why, or why not?
   ____________________________________________________________
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When you are finished the survey please place it into the envelope provided and bring it the front of the room.
Appendix B: Film Grammar

The ‘Grammar’ of Television and Film

Television and film uses certain common language that is often called ‘grammar’. These techniques help communicate meaning through the camera, but they aren’t rules written in stone: expert film makers intentionally break them to create certain effects, which is one of the rare occasions that we become aware of what the convention is.

Camera Techniques: Distance and Angle

Shot Sizes

- Long shot (LS)
  A long shot shows all or most of a fairly large subject (e.g. a person) as well as a lot of the surroundings.

- Extreme Long Shot (ELS)
  In this type of shot the camera is at its furthest distance from the subject, emphasizing the background.

- Medium Long Shot (MLS)
  In the case of a standing actor, the lower frame line cuts off his feet and ankles. Some films, like documentaries, focus on this type of shot to emphasize a character’s social circumstances rather than the individual.

Establishing shot
This is the opening shot or sequence, frequently an exterior ‘General View’ as an Extreme Long Shot (ELS). Used to set the scene.
Medium Shot or Mid-Shot (MS)
In an (MS), the subject or actor and the setting take up approximately equal areas in the frame. If the actor is standing, the lower frame of the picture passes through the waist. There is space for hand gestures to be seen.

Medium Close Shot (MCS) or Medium Close-Up (MCU)
The setting can still be seen. The lower frame of the picture passes through the chest of the actor so the head and shoulders are included in the shot. Medium shots are frequently used for the tight presentation of two actors (the two shot). MCUs are preferred for important public figures.

Close-up (CU)
This is a picture that shows a fairly small part of the scene, such as a character’s face. It shows a lot of great detail so that the subject fills the screen. Close-ups focus attention on a person’s feelings or reactions, and are sometimes used in interviews to show people in a state of excitement, grief or joy.

BCU (Big Close-Up)
This is a picture that shows only the forehead and chin of a character. In interviews, BCUs are used to emphasize facial expressions and tension, especially if they can suggest lying or guilt. BCUs are rarely used for important public figures.

Note: that in western cultures the space within about 60 cm is generally felt to be private space, and BCUs may be invasive.

Shot Angles

Low  Eye-level  High

Worm’s eye  Cantied  Bird’s eye

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Appendix C: Story Map

Assembled by Mrs. Jackie Braidwood