

Interactive Writing: An Instructional Tool For Grades K-2

Submitted to Professor David Taylor

By

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**ABSTRACT**

Interactive writing is a powerful approach to literacy which provides primary students a balance of precise instruction and participation in authentic writing activities. This whole-class approach involves both students and a teacher who, together, generate ideas and compose text. In this social context, students are encouraged to take risks and problem solve as a group with support from the teacher. Interactive writing allows students to experience many of the writing situations they will face when independently composing written work. Research shows a situational gap of trainings or courses available to the classroom teacher in this writing methodology. Therefore, the obvious solution was to create an online course offering easy access to educators on how to teach interactive writing. This proposed program consolidates and integrates information regarding interactive writing into a comprehensive course rooted in digital learning techniques. The opportunity for the learner to participate in an online course which incorporates quality content with multimedia integration will foster a sense of community while allowing the learner to work at an individual pace. This learning model will help encourage the dissemination and implementation of interactive writing best practices for the adult learner in the 21st century.

## CHAPTER 1

### Introduction

The title of the course being developed is “Interactive Writing: An Instructional Tool for Grades K-2.” The purpose of this course is to provide primary teachers in grades K-2, literacy specialists, and administrators the opportunity to gain a thorough understanding of Interactive Writing (IW). IW is a best practice tool used to enhance any English Language Arts program. This course will provide the learner an understanding of the historical and theoretical perspectives of IW and the steps necessary to implement this instructional tool.

This online, four-week course on Moodle will use blended learning, incorporating both asynchronous and synchronous learning. Lessons will include PowerPoint presentations and instructional videos. The required text is *Interactive Writing: How Language & Literacy Come Together, K-2* 1st edition. There will be weekly readings, journaling, and discussions board postings. Assignments will include quizzes, essays, video recording, and PowerPoint presentations.

This course is offered to anyone also seeking a Reading Specialist Credential or fulfilling the English Language Arts requirement for a Multiple Subject Teaching Credential, or to those who want to earn units for credit toward professional development. Work by Swartz, Klein, Shook (2001) asks:

What single teaching method can be used to support the development of phonological skills and help children attach meaning to print? How can teachers develop a lesson that allows whole group instruction and individual attention at the same time? How can the teacher practice skills without losing the excitement and enthusiasm of the class?

How can we learn to read and write and still have fun? The answer to these questions is interactive writing. (p. 1)

### **Background of the Study**

Although there is information available on the internet regarding IW, the quality of that information varies from site to site, making it difficult to ascertain what is worth viewing. These resources are wide-ranging, causing the learner to potentially waste time in gathering important information which is valid. There are no available conferences, workshops, or college courses relating directly to IW. Acquiring information on how to incorporate this teaching method should be more easily available. The intention of this course is to consolidate important information about IW by creating a four week online Moodle course rooted in blended learning techniques. It is essential for teachers using IW to go beyond procedural knowledge. These teachers will need to learn how to refine IW lessons to meet the needs of individual students within the group, as well the needs of the whole group.

An effective way to teach literacy instruction is through interactive writing, with which teachers use the process of writing in creating text which has personal meaning to students, helping to engage them in the writing process. This course will help teachers maximize teachable moments in working within each student's Zone of Proximal Development (Vygotsky, 2016), while simultaneously working through the writing process. These lessons are delivered in a whole group setting, where the teacher and students share the pen and paper, both being authors and illustrators of the piece. Teachers and students work together using their creativity and answering powerful questions to improve critical thinking. Communication is ongoing, the class

works collaboratively to complete a piece of writing. The 4 C's (Creativity, Critical thinking, Communication, Collaboration) are easily incorporated in all elementary grades when using this tool. Writing becomes more sophisticated in the upper grades and, as exposure to a variety of genres, higher level vocabulary, and punctuation increases, craft increases. According to McCarrier, Pinnell & Fountas (2000), "Interactive writing enables students to transfer the strategies and skills required for competent writing to their own independent writing" (p. xvii).

Some resources available on IW can be found at the following locations:

- Youtube
- Reading Resources
- Readingrockets.org
- Fountas & Pinnell Resources
- Blogs
- Websites

### **Statement of the Instructional/Training Problem**

According to the National Association for the Education of Young Children (n.d.), "The ability to read and write does not develop naturally, although young children can demonstrate some basic understanding about literacy long before they can actually read or write" (p.1). The process of learning how to read and write is a developmental continuum and IW can help scaffold the process. IW teaches students the connections between reading and writing and helps them move beyond early linguistic approximations. It is important for children to notice the details of written language by understanding the conventions of correct spelling, grammar and



the purposes for writing. Children need to have daily exposure and interaction with oral and written language. Through careful and planned instruction using IW, children will learn that reading and writing are valuable and necessary to help them be successful in life (McCarrier et al., 2000, p. xvi).

The problem at this time is there are no comprehensive sites or available courses for educators on how to incorporate IW into their daily classroom routine. Interactive writing is an instructional tool covering foundational reading skills, reading, writing, listening, and speaking strands of the Common Core State Standards. The aforementioned are all valid indicators of the indispensable power, versatility, and flexibility of interactive writing and the need for this four week online course.

Common Core State Standards covered, but not confined to:

**Speaking and Listening:**

Comprehension and collaboration

CCSS.ELA-LITERACY.CCRA.SL.1

Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

Presentation of Knowledge and Ideas:

CCSS.ELA-LITERACY.CCRA.SL.6

Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

**Writing**

### Text Types and Purposes

#### CCSS.ELA-LITERACY.CCRA.W.2

Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

#### CCSS.ELA-LITERACY.CCRA.W.3

Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequence

### Production and Distribution of Writing

#### CCSS.ELA-LITERACY.CCRA.W.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

#### CCSS.ELA-LITERACY.CCRA.W.5

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

## **Reading**

### Reading, Key Ideas and Details:

#### CCSS.ELA-LITERACY.CCRA.R.1

Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

#### CCSS.ELA-LITERACY.CCRA.R.2

Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

### **Foundational Reading Skills**

Fluency:

CCSS.ELA-LITERACY.RF.1.4

Read with sufficient accuracy and fluency to support comprehension.

Print Concepts:

CCSS.ELA-LITERACY.RF.1.1

Demonstrate understanding of the organization and basic features of print.

Phonological Awareness:

CCSS.ELA-LITERACY.RF.1.2

Demonstrate understanding of spoken words, syllables, and sounds (phonemes).

Phonics and Word Recognition:

CCSS.ELA-LITERACY.RF.1.3

Know and apply grade-level phonics and word analysis skills in decoding words.

### **Purpose**

The purpose of this four week on-line Moodle course, “Interactive Writing: An Instructional Tool for Grades K-2,” is to provide educators with the opportunity to gain a thorough understanding of IW and how to implement this valuable tool into their daily literacy instructional routine. IW helps students to learn how writing works through an invitation to participate, with support, in the process of writing and reading (McCarrier et al., 2000, p. xvi).

**Delimitations**

**Audience:** This course is designed specifically for primary teachers in grades K-2, administrators, reading specialists, anyone fulfilling the English Language Arts requirement for a Multiple Subject Teaching Credential, or anyone wanting to earn units for credit toward professional development.

**Technological:** Basic Web knowledge will be necessary. Learners are required to have their own computer with internet access and a Moodle account. Having pre-knowledge on how to use a Learning Management System (LMS) will help alleviate any problems and/or frustrations.

**Human:** Learners will need to have a positive, growth mindset and be willing to learn new content through the Moodle platform.

**Financial:** This course will be part of an educational online public school system. Depending on the situation, either the institution employing the learner will pay for the course or the learner will have to pay out of pocket for the course.

**Time:** This is a four week course so the learner will have specific due dates each week in order to keep up with the course's demands and deadlines.

**Definitions**

For the purpose of this project, the following words and terms are defined:

**Air writing:** Using the finger of one hand to write a letter or word in large movements in the air.

**Blending:** Combining of sounds in two or more letters.

**Concepts about print:** Basic elements of reading, including book handling, directionality, reading the punctuation, recognizing letters and words, and matching sound to letter symbol.

**Decode:** To analyze spoken or written language in order to understand their intended meaning.

**Directionality:** The ability to accurately perceive and use spatial orientation accurately.

**Encode:** To change a message into written symbols.

**Familiar text:** A previously read text at the instructional or independent level.

**Fluency:** The ability to read with phrasing and expression.

**Genre:** A category system for classifying text, usually by form or content.

**High frequency words:** Words which occur very often in spoken or written language, sometimes mistakenly called, sight words.

**Negotiation:** An interactive writing process of creating text based on student discussion for the purpose of understanding the sound/symbol relationship and the structure of the written sentence, and to support decoding and spelling.

**One-to-one matching:** The ability of a reader to match one word said to one word read: an early reading skill.

**Phonemic awareness:** The awareness of the sounds (phonemes) which make up spoken words.

**Phonics:** A method of teaching reading and spelling which stresses sound/symbol relationship

**Phonological awareness:** The awareness of the constituent sounds of words in learning to read and spell.

**Prompt:** Language used by the teacher to draw the student's attention to a particular aspect of the reading process.

**Stretching words:** Articulating a word slowly and distinctly in order to hear the component (segmented) sounds.

**Think aloud:** To model thinking behaviors to students by talking through a process as it is happening.

**Written language conventions:** The accepted norms of writing in both structure and punctuation.

### Summary

“Interactive Writing: An Instructional Tool for Grades K-2” primary goal is to offer educators a complete and comprehensible four week course on Moodle. Taking this course will allow for immediate implementation to any classroom setting. According to Jordan (2017), “Interactive writing is a process by which teachers and students share the pen, essentially modeling parts of the writing process.” Interactive writing is one of the eight important components of a balanced literacy program and needs to be practiced daily in elementary schools. Writing is a complex process and interactive writing is an effective instructional tool that helps children become literate and supports students success in meeting Common Core State Standards.

## **CHAPTER 2: Review of the Literature**

### **Introduction**

As educators, our responsibility is to help students become literate. All future learning is based on a child's ability to read and write. Interactive writing is an effective teaching strategy which supports children learning how to read and write. IW allows teachers to demonstrate how writing works, while encouraging student participation, with support, in the process of writing (McCarrier et al., 2000, p. xvi). Since there are no available courses, district trainings, or workshops available for educators in this area, the goal for the course, "Interactive Writing: An Instructional Tool for Grades K-2," is to use online learning in filling the need for training in IW and to prepare educators on how to use this effective writing strategy. To understand any current research and development of online learning, there first needs to be a review of relevant literature regarding this methodology. The research was conducted and analyzed through National University Libraries, Google Scholar, Edutopia, eLearning Industry, and Epignosis. Search terms or "keywords" used during the online research: online learning, eLearning, asynchronous learning, synchronous learning, multimedia, and absorb, do, and connect activities.

### **Background of Study**

The following literature review and background study contains a historical background of online learning and the theoretical framework of asynchronous and synchronous eLearning. There is also a discussion on how best practices are used to support the online delivery course entitled "Interactive Writing: An Instructional Tool for Grades K-2." Online learning is often

used synonymously with eLearning and is an umbrella term which includes any type of learning executed on a computer and, usually, over the internet.

### **Historical Background**

Ward (2006) comments, “Distance education implies distance, an actual physical separation, between the learner and the instructor. Distance learning first emerged through correspondence courses that used the postal service as the communication vehicle between student and teacher” (p. 41). According to *E-LEARNING* (2014), “In the 1840’s, Isaac Pitman taught his pupils shorthand via correspondence” (p. 8). According to Ward (2006), “As technology has developed, television, audio conferences, satellites, and computers now bridge the distance between learner and instructor” (p. 41). Bruce (2017) defined online learning as, “The ability to learn on a virtual platform.” Online learning came about to meet the needs of adults seeking higher education, giving them an opportunity to focus on their daily lives while earning a degree (Ward, 2006, p. 41). Learners completed their coursework at their convenience, in accordance with the constraints of their particular lifestyle, work ethic, and most importantly, at their own pace.

Piskurich (2006) contends online learning is a term often used to mean synchronous eLearning. Online learning has unique characteristics which physical classrooms lack. According to Bruce (2017), online learning can take place from different geographical locations and time zones. The ability to record a class session to view at a later time allows for more flexibility and convenience in accessing the instruction. Online learning requires the student to have access to technology, an enabled internet device, and access to the internet. This will allow the learner to connect with the instructor and complete the course. The learner may also be asked to obtain



certain software in order to effectively communicate via audio and video. Lastly, online learning is cost effective and training programs can be used repeatedly with each new learner.

Online learning is most effective when courses extend over a number of weeks. Piskurich stated (2006), “Because you can stretch the learning out over a longer period of time using an online deliver, reinforcement is enhanced, and the complaints of learners that they can’t afford to be out of the office for two, three, or more full days are negated” (p. 378).

The use of eLearning addresses the various needs of learners and supports differing learning styles by using multiple tools and materials for delivery. According to *E-LEARNING* (2014):

It's true that as individuals we don't all respond to one teaching method in the same way.

Some learn visually and others learn with repetition or writing; some prefer to learn by themselves, whilst others need someone to guide them all along the way; some are extroverts and feel comfortable talking in front of people, whilst others are introverts and are afraid to communicate openly inside the classroom. (p. 17)

Piskurich (2006) asserts online learning is an excellent methodology to practice and encourage collaborative learning. Using this technique helps learners in an online course have a sense of community and belonging (p. 401). *E-LEARNING* states (2014), “As technology progresses and eLearning benefits from the advancements being made, learners can now engage more actively with professors or other students using tools such as video conferencing, social media, and discussion forums amongst others” (p. 15).

The course, “Interactive Writing: An Instructional Tool for Grades K-2,” will be delivered online through the Learning Management System of Moodle, allowing educators easy access to IW training through eLearning.

### **Theoretical Framework**

Using Moodle to deliver the course on IW provides the course creator with a variety of tools in creating engaging content. The LMS is specifically developed to manage online courses, including distributing course materials, assignments, assessments, and allowing for collaboration between students and teachers. A good LMS allows the instructor to manage all areas of a course and is the backbone of many eLearning activities (*E-LEARNING*, 2014 p. 34).

Ward explains (2006), “Synchronous and asynchronous communication refers to the communication in an e-learning environment and the time in which it occurs” (p. 42). Synchronous learning consists of “real time” communication between two or more participants in discussion at the same time. This can occur in a chat or a webinar. Asynchronous learning consists of communication occurring at “different times.” This type of communication can occur in a discussion forum or when working on a collaborative project.

According to Brunsell (2012), “Blending online social learning opportunities, like asynchronous online discussions, into your traditional face-to-face classes can be beneficial to your students” (p. 1). At times synchronous conversation can not only be fast-paced but some learners feel they do not have time to think and process information before participating. Asynchronous online discussions allow students to digest information by reading others’ post and having the opportunity to reflect and respond at a later time. Research also shows

asynchronous activities allow learners more time to conduct additional research on the web and refine ideas by keeping an open mind (Burnell, 2007, p. 2). Since asynchronous learning can be used when the student or teacher are offline, students can follow the course curriculum at their own pace and have more time to use the internet as a support tool.

Synchronous learning through online chats, instant messaging, and video conferencing allows students to learn by way of real time interaction with other students and the teacher. This helps students avoid feelings of isolation.

“Interactive Writing: A Instructional Tool for Grades K-2” will include both asynchronous and synchronous learning activities and communication tools, allowing students and teachers to experience different types of delivery formats. According to Piskurich (2006), “Basically online learning is both synchronous and asynchronous because its major delivery processes are chat rooms and threaded discussions via electronic bulletin boards” (p. 378).

## **Current Research and Development**

### **Multimedia**

Some best practices used in the course “Interactive Writing: An Instructional Tool Grades for K-2” are text, photos, PowerPoint, video, and online documents with collaborative ability.

*E-LEARNING* (2014) stated the following:

Technology has advanced so much that the geographical gap is bridged with the use of tools that make you feel as if you are inside the classroom. E-learning offers the ability to share material in all kinds of formats such as videos, slideshows, word documents and PDFs. Conducting webinars (live online classes) and communicating with professors via chat and message forums is also an option available to users. (p. 18)

Using Moodle with discussion board and video conferencing capability will allow for social interaction and the ability for students to learn at their own pace. Other activities to be included in the four week course of IW will include absorb, do, and connect activities. Absorb activities are the nouns of learning. Horton states (2012), “Absorb activities are to inform and inspire. It is the closest activity one can get to pure information. The writer of the content is in control. The learner may be physically passive, but is mentally active” (p. 67). Do activities are the verbs of learning. “Do activities transform information into knowledge and skill. The learner will discover, evaluate, and apply knowledge” (p. 129). Connect activities are the conjunctions of learning. “Learners are given the opportunity to close the space between learning and applying the learning” (p. 163). This course will contain assignments which will include reading, writing viewing, creating, and collaborating to make sure students participate in all three learning activities. Two quizzes will be administered to assess learning.

### **Summary**

The ability of educators to have easy access to online learning through a deliverable eLearning platform provides the learner with the ability to fit higher education into their lifestyles. The review of relevant literature contained herein highlights the benefits of online learning in the learners’ ability to access higher education which is flexible and paced by the learner. Using a platform which includes both synchronous and asynchronous learning allows for easy communication between teacher and student. The use of a variety of multimedia such as photos, videos, slideshows, animation, online documents, and PDFs creates the potential for heightened interest in the course and greater engagement of the learner. “Interactive Writing: An Instructional Tool for Grades K-2” was created on Moodle and multimedia and learning activities

were carefully selected. The entire design of this course is intended to enable educators to acquire a comprehensive training on interactive writing, which is easily accessible and flexible in its pacing of student learning.

### CHAPTER 3: Project Design

#### Learning Theory

“Interactive Writing: An Instructional Tool for Grades K-2” was designed for a specific audience with the intention to provide opportunities for an engaging learning environment which is knowledge based and learner-centered focused on real-world applications.

**Constructivism.** Constructivism is a concept founded on the observation and scientific theory of how people learn. According to *Concept to Classroom* (2004), constructivists believe the following:

People construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences. When we encounter something new, we have to reconcile it with our previous ideas and experience maybe changing what we believe, or maybe discarding the new information as irrelevant. (p. 1)

The principles of constructivism will be represented in this four week Moodle course on IW through carefully thought-out activities, purposefully planned to build upon one another throughout the four weeks.

In the course, students will videotape themselves in a real world teaching activity within their classrooms, after which each will review the recording and provide feedback on their observations. Ongoing discussion boards will offer students opportunities to learn from each other and reflect on how their understanding of teaching writing is changing. The designer will facilitate students to construct their own understanding of experiences, by allowing them to interact with each other through writing and sharing those experiences. A feedback box will be provided as a place in which students can assess how these activities are helping them gain a

better understanding of IW. This collaborative space gives the opportunity for the teacher to clarify any student wonderings. To encourage students to be active creators of their own knowledge, the designer will ask them questions and give them a chance to explore and assess what they know. This all will be accomplished in the course through asynchronous and synchronous learning, engaging activities, reading assignments, reflections, and quizzes.

In the constructivist classroom, the teacher acts more as a facilitator who encourages students to be active participants in building their own knowledge through experience rather than reproduce a sequence of facts (*Concept to Classroom*, 2004, p. 2). Teaching an online course will allow the instructor to act as a facilitator of learning. The goal is to help students construct knowledge of IW by observing, doing, reflecting, wondering, and applying. Using interactive teaching strategies to create meaningful contexts will allow students to construct knowledge through experience.

**Connectivism.** Connectivism is a learning theory which recognizes the ever-changing role technology plays in learning networks and explores ways in which to understand learning in the digital age (Siemens, 2005, p. 3). Connectivism also plays a role in “Interactive Writing; An Instructional Tool for Grades K-2” as the course will be delivered online through a LMS. Internet technologies will be used to create opportunities for students to learn and share information across the World Wide Web, among themselves, and within Moodle as it incorporates peer networks. According to Siemens & Downes (2005), “These technologies include Web browsers, email, wikis, online discussion forums, social networks, YouTube, and any other tool which enables the user to learn and share information with other people” (p. 1).

The designer will guide students to information which supports them along the way and encourages them to research information online and share their findings with their peers.

### **Project Design**

There are a variety of models which provide guidelines or frameworks to organize and structure the process of creating instructional activities. The design model used to create “Interactive Writing: An Instructional Tool for Grades K-2,” was the systematic ADDIE model. ADDIE, is an acronym referring to five key phases: analysis, design, development, implementation, and evaluation. A key tenant of the model is one person/team will not likely move through all five phases of the model independently. Looking at the relationship between ADDIE and instructional design, the analysis phase is often done by field technicians who gather data about current conditions or trends to determine a need. Next, instructional designers develop curriculum/programs to meet the identified need. Finally, field technicians may be asked to implement and evaluate the design for effectiveness. If the intended outcomes are not met, instructional designers may have to go “back to the design table.”

The ADDIE model is a useful, simple framework for instructional design. The process can be applicable in a variety of settings due to its systematic and generic structure. The framework provides developers with a means for identifying the target audiences’s needs and reinforces the use of this information for the design and development of programs (Peterson, 2003, p. 240-241). ADDIE is a thorough instructional design model which can be used to create many types of learning experiences. It is, however, a slow process from start to finish, but will likely result in a learning experience which has little need for adjustment upon completion of the course. “The major goal of instructional design is to demonstrate planning, developing,



evaluating, and managing the instructional process. At the end of this process, it can be seen the student learning performance in instructional activities based upon defined goals and objectives” (Isman, 2011, p. 136).

In choosing to use the ADDIE model the designer can easily make adjustments to ensure she is meeting the needs of her students. The designer was able to systematically proceed through every phase making adjustments along the way. The ADDIE model allows for early testing authorizing the designer to continue designing, while simultaneously receiving feedback. The ability to review, reflect and revise the course enabled the designer to make the necessary changes before the final evaluation was completed.

The course, “Interactive Writing: An Instructional Tool for Grades K-2,” will be delivered online through the Learning Management System (LMS) Moodle. A LMS is specifically developed to manage online courses, including distributing course materials, assignments, assessments, and allowing for collaboration between students and teachers. A good LMS allows the instructor to manage all areas of a course and is the backbone of many eLearning activities (*E-LEARNING* , 2014 p. 34). This will allow educators easy access to IW training through eLearning. Using Moodle to deliver the course on IW provides the creator a variety of tools in creating engaging content.

An aim of the online course is for it to look clean, organized, and professional. This was accomplished by using the four basic principles of design: alignment, proximity, repetition, and contrast (Williams & Tollett, 2006, p. 113). Based on the construct of Moodle, there were some limitations on how to specifically design the course using the four basic principles of design. The creator did her best with what Moodle permitted her to control. The indent feature of Moodle

was used to help accomplish the principle of alignment by making sure the items on the course pages lined up with each other. Although there was limited control, the principle of proximity to create relationships between items on the web page was considered as well as the physical distance between each item. The principle of repetition was realized by using a consistent navigation system and repeating elements such as, color, format, layout, and style. Repetition not only unified my course, but it allowed the learner to move easily through the four week course without having to learn new navigation components in each section. According to William & Tollet (2006), “Contrast draws your eye into a page, it pulls you in” (p. 126). The use of photos, text, titles, labels, and color created contrasting elements which guided the learners’ eyes around the course site by creating a hierarchy of information.

Moodle allowed the designer to create the course “Interactive Writing: An Instructional Tool for Grades K-2” with a goal to be engaging to its audience by offering different resources and activity choices. Both synchronous and asynchronous learning were embedded for ongoing communication. Careful consideration was taken in the selection of videos, photos, PowerPoint presentations, lectures, assignments, and quizzes to ensure a high quality learning experience.

### **Procedure**

The purpose of this course is to provide primary teachers in grades K-2, literacy specialists, and administrators opportunities to gain a thorough understanding of Interactive Writing (IW). IW is a best practice tool to be used to enhance any English Language Arts program. Although there is information on IW available on the internet, it is difficult to find and discern high quality, reliable sources. This diversity and inconsistency makes it time consuming for an interested educator to gather valid information. After researching sites and using the

analysis phase of the ADDIE model, the lack of availability of training on IW was revealed. The designer was also unable to find any conferences, workshops, or college courses relating directly to IW. This instructional tool is too valuable to not be more widely known, and training should be more easily accessible. The intention of this course is to consolidate important information about IW by creating a four week online Moodle course rooted in blended learning techniques.

After determining there was a need for a course, the designer created measurable and specific goals in a variety of areas relating to an IW course. A schedule for development of the course to meet deadlines and time constraints associated with that development was also created.

Table 1

*Schedule for Course Development*

Milestone	Target Completion Date	Status/Comments
Planning Document Report	January 13, 2019	Completed
Completed Literature Review	January 20, 2019	Completed
Working Prototype of Project	January 27, 2019	Completed
Aesthetic, Usability, and Content Testing	February 3, 2019	Completed
Final Draft and Written Review of Report	February 17, 2019	Completed
Completed Project and Report	March 3, 2019	Completed

To develop a successful and purposeful eLearning experience, the designer used a storyboard during the beginning stages of the development phase of ADDIE. This is a crucial step in instructional design. Trivantis (n.d.) stated the following:

A storyboard for eLearning is a document that eLearning developers create in the beginning of the development phase to outline the visuals, text and audio elements, interactions, navigation and anything else that will be used in the eLearning course.

Storyboards serve as the course blueprint and help set the expectations for the development of a course, while saving time and encouraging team collaboration. (p. 1)

A copy of the “Interactive Writing: An Instructional Tool for Grades K-2” storyboard is found in Appendix A. Using a storyboard as a blueprint helped the designer greatly during in the development of the content of this course.

### **Additional procedures**

- Learning theory and best practices for learners were analyzed
- Selected activities and resources kept in mind the needs of kinesthetic, visual, and auditory learners
- Do, absorb, and connect activities were created
- Considered current practices for teaching using new Web 2.0 technologies such as: YouTube, Google Docs, PowerPoint, video creation, and synchronous and asynchronous communication
- Use of the four basic principles of design: alignment, proximity, repetition, and contrast
- Educational testing and usability assessors accessed site and completed additional survey
- Revised areas based on feedback from SME, alpha testers, and usability testers

- Published final site for capstone project

### **Ethical Considerations**

Alpha testing is usually done by a group of software users to field test course software in order to find any glitches which weren't found in previous testing. Alpha testing on "Interactive Writing: An Instructional Tool for Grades K-2" will be conducted by adult volunteers who will be treated with respect and consideration. These persons will not be compensated financially for their cooperation and time during alpha testing. Personal information on volunteers who willingly participate will not be collected. The tester, will not tamper with results collected or give any advice during any segment of the testing. The alpha testers will include, but not be limited to, teachers in kindergarten through second grade, administrators, SMEs, and literacy coaches.

### **Summary**

The design of the course, "Interactive Writing: An Instructional Tool for Grades K-2," was based mainly on the learning theories of constructivism and connectivism: learning is more meaningful when students are given the opportunity to interact with the concept or problem. In this course, both theories are blended together and the use of technology helps to engage students learning in the 21st century. Using ADDIE as the basis of instructional design allowed the designer to make changes and corrections while moving through the five systematic stages of the theory. Using Moodle as my LMS had several benefits, one being the nature of its simple interface. This assisted the creator in meeting design objectives by following the four basic principles of design. Moodle offered many options for embedding Web 2.0 tools, which helped to make for engaging, learner-centered activities. Using a schedule for course development

helped the designer meet the specific timeframe for completing the entire course. The storyboarding tool served as a blueprint in developing and designing content. The extensive research undertaken in course creation was systematically and purposely accomplished in order to meet the need in offering a four week IW course for adults seeking high education through online learning.

## **CHAPTER 4: Project Evaluation and Discussion**

### **Introduction**

An integral part of the design process within the ADDIE model is the evaluation phase. To ensure the four week Moodle course, “Interactive Writing: An Instructional Tool for Grades K-2” was systematically designed, both usability and instructional evaluations were scheduled during the development phase. The ADDIE instructional design model allows for evaluation throughout all stages of a project’s development. This model takes time, but a good designer is continuously striving to remove flaws and defects throughout all the stages of building a course.

The following sections in this chapter will provide information regarding the value of evaluation and summarize the usability and instructional evaluation types used in this project. This chapter will present specific data gathered through the evaluation process and provide a brief overview of usability findings and the limitations encountered during the instructional design process.

### **Project Evaluation**

Project evaluation was used to assess and adapt two areas of concern in the development of this online course, navigation and educational content. Both a usability evaluation and an instructional evaluation were projected to be facilitated before launching the course.

According to Meera:

It is important to periodically assess and adapt your activities to ensure they are as effective as they can be. Evaluation can help you identify areas for improvement and ultimately help you realize your goals more efficiently. Additionally, when you share your

results about what was more and less effective, you help advance environmental education. (p. 1)

The data collected will allow the designer of the course to make improvements in order to impact targeted audience through purposeful activities and smooth navigation. The success or progress of the course design is ultimately determined through evaluation.

### **Instructional Evaluation**

Why is it important to evaluate an online course before it is launched? Assessing an online course is important because it will help reveal how well the course is designed, making sure all required elements are included to ensure a quality learning experience for the students. A well designed course will have engaging instructional strategies, measurable learning objectives, and a variety of assessments, all closely aligned to support the aforementioned student experience. An evaluation should be done before launching an online course in order to pinpoint any issues which could possibly sabotage the integrity and success of the course. Making changes in the early stages, based on assessment, will also help with cost effectiveness of the course.

The evaluations will include level one and level two of Kirkpatrick's Four Levels Of Evaluation. Level one, Reactions, requires the evaluator to preview the course and rate their satisfaction of it. According to Piskurich (2006), "You should design an evaluation instrument that asks the trainees exactly what you want to know" (p. 272). Level two, Learning, deals with the learning that is to take place during the course. Using assessments measures the knowledge acquired as a result of completing the course. Piskurich also states (2006), "As an evaluation



process, the information on who mastered what and who did not and how many they had right and wrong tells you much about the effectiveness of your material and your instruction” (p. 276).

### **Evaluators**

- Kathleen Brown (SME): Reading Recovery Teacher Leader and Early Literacy Program Specialist, Masters in Education with an emphasis in Reading, Reading Specialist Credential, taught in grades first-sixth
- Ana Colvin (Advanced): Has taught kindergarten for over twenty years.
- Veronica Ibarra (Intermediate): Currently a first grade teacher that has also taught second grade and kindergarten.

### **Instruments**

Planning using Instructional Systems Design (ISD) calls for the principles of analysis, design, development, implementation, and evaluation. The evaluation stage attempts to answer the following questions according to Piskurich (2006), “Did it work? Did your training do what it set out to do? Was it good?” (p. 267). The instructional evaluations to assess training effectiveness for this four week online course will include level one and level two of Kirkpatrick’s Four Levels of Evaluation. According to Kirkpatrick’s (2018), Level one, Reactions, measures the evaluator’s feelings on how engaging and pertinent the course will be. Level two, Learning, measures the degree to which students gain new knowledge, skill, and whether they have a positive perception of the course. As suggested by Piskurich (2006), and using the ISD model, the SME will be given a copy of the planning tool, including analysis, design, and objectives. This will be an important stage for discussion, looking at where the course began and assessing the vision for its future. The objectives will be used as a guide and

any changes to them should be done here. The designer will also remind the SME that the course content is not for her, but for people who do not have the same knowledge she does about Interactive Writing. This will help her understand to keep it simple, at a proper level, and to remind her to not skip the basics (p. 147).

- Appendix B (level one) is a Reaction instrument to be used by the SME during the evaluation stage. This tool will be used to gather her reactions and internal satisfaction with the usability of the four week course, its appearance, and content, before it is launched.
- Appendix B (level one) is a Reaction instrument to be used by students to collect their internal satisfaction with the course and the likability of it.
- Appendix B (level two) is a Learning instrument to measure the student's knowledge of Interactive Writing before they take the course, and again after the course is completed, to determine the amount of learning which has taken place.

Krug stated (2012), "Testing reminds you that not everyone thinks the same way you do, knows what you know, uses the Web the way you do" (p. 134).

### **Usability Evaluation Plan**

Usability inspection, usability audit, expert review, and heuristic evaluation are all common terms for usability evaluations. The main objective of a heuristic evaluation is to pinpoint any drawbacks or obstacles with the blueprint of computer software. Heuristic evaluation will help confirm a product will be usable and intuitive. It also helps to identify how the elements of the design impact the overall user experience. In the 1990's, Jakob Nielsen, along with Rolf Molich, created a list of ten user interface design standards which have been used by

many companies, such as Google and Apple, and are still used today. Using this evaluation method during the early stages of a design helps prevent product failure before its public release (What is Heuristic Evaluation?, n.d.).

As stated by Quesenbery (2001), “The definition of usability is sometimes reduced to "easy to use," but this over-simplifies the problem and provides little guidance for the user interface designer” (p. 1). A better definition may need to include the attributes of usability which are known as the five E’s: effective, efficient, engaging, error tolerant, and easy to learn (Quesenbury, 2001). These five components will assist in guiding user-centered designs to create usable products. Usability testing gives evaluators the opportunity to test the scale of ease for which a design or site can be used. Having the ability to observe evaluators using a design and talking and thinking about what they are experiencing during the process will help the designer understand what is going well and what is not going well. This will direct the designer in making any necessary changes to the design before public launching. Usability testing will reveal whether users feel comfortable with the course applications, including flow, navigation, layout, speed, content, and visual appeal (What is Exploratory Testing in Software Testing ? , n.d.).

### **Evaluators**

- Veronica Ibarra (SME): A first grade elementary teacher and an instructional designer on Moodle
- Gabriel Jordan (Advanced): An electrical engineering student at CSULB, familiar with Beachboard (LMS)
- Douglas Jordan (Novice): An elementary school administrator

## Instruments

**Usability testing.** It is imperative to do usability testing to settle any debate over the overall feel and functionality of a program. Krug states (2006), “I used to say the best way to think about testing was that it was like travel: a broadening experience. It reminds you how different and the same people are, and gives you a fresh perspective on things” (p. 13).

**Exploratory Assessment.** Exploratory testing is a question and answer technique used to uncover any issues during, and after, the development stage of a software program. Exploratory testing allows the evaluators to explore what the software is about and discover what is working well and what still needs improvement. According to Dotterweich (2017), “Exploratory testers must be able to think like the application’s users and anticipate how they will behave.”

The instrument test that will be used is a survey format style. The evaluator will be asked to share their feelings and experiences while navigating through the four week Moodle course. Questions will be specific to the user’s ability to navigate the website and its content, including assignments, videos, and all other material, making sure everything is in working order. This will allow me to evaluate my course in its early stages in order to make any changes necessary for its improvement.

**Assessment Testing.** The testing instruments used will help gather information needed from the exploratory test to make effective changes to the four week Moodle course on IW. These instruments will consist of a usability script (see Appendix C), consent to record (see Appendix C), an observation survey form (see Appendix C), and a post-session validation questionnaire form (see Appendix C), which will be the final step of my usability evaluation plan.

## Data Presentation

**Instructional Evaluation Data.** Three instruments were used in evaluating the instructional effectiveness of “Interactive Writing: An Instructional Tool for Grades K-2”. The first method was a Level one Reaction instrument for students of the four week Moodle course. All reactions were positive, confirming the content was interesting and activities were purposeful and engaging. The materials and use of technology aided in student learning and were relevant to learning objectives. All students could easily and immediately transfer learning to their current role and indicated they would recommend “Interactive Writing: An Instructional Tool for Grades K-2” to colleagues interested in learning how to enhance their literacy program.

The second instrument, found in Appendix B, consisted of twelve questions to be completed by the SME. The SME evaluated the course content, making sure it was relevant and activities were purposeful in supporting course objectives and student learning. The SME concluded the course content was not only relevant, but accurate and followed a logical sequence. The use of media added to student learning and engagement. The SME agreed all materials and activities were beneficial and course objectives were met. An area of potential improvement, according to the SME, was in the insufficient time learners had to complete assignments.

The final instruments were a pretest and post test, consisting of fifteen questions including multiple choice, short answers, and true/false. These assessments served as guides to measure students’ prior knowledge and how their knowledge of interactive writing increased after completion of the course. This helped evaluate the quality of the content and its pertinency to learning the theoretical aspects and implementation of interactive writing.

**Usability Evaluation Data.** The three usability evaluators were able to complete usability testing on the Moodle course “Interactive Writing: An Instructional Tool for Grades K-2.” The survey tool used to gather information included the following areas concerning usability: overall rating, registration/interface design, quality, use of media, and lastly connectivity and download speed. The evaluators had the opportunity to answer using strongly agree, agree, disagree, and strongly disagree, and were provided a section to write comments. The evaluators also had the opportunity to rank the overall rating using great, good, ok, so so, and poor. All three evaluators were in agreement with an overall rating of great, but the fun factor was given an “ok” rating. The evaluators ratings were in the strongly agreed and agreed sections on the registration/interface of the course. Quality and use of media, as well as connectivity and download, were also rated by the evaluators in the strongly agree and agree area (see Appendix D).

### **Discussion**

All responses from the evaluators provided the course designer with data which was explicit and assisted in the improvement of the course. Through the findings of the usability evaluations, both strengths and weakness of the course design were revealed. The usability evaluators tested course navigation for ease, simplicity, and active links, each agreeing everything worked efficiently. The area which needed improvement most was the fun factor, evident when this section received only an “ok” rating. The designer believes Moodle functions very well as a learning management system, although there are some design limitations. The designer has plans to incorporate purposeful and engaging activities in the course content, including Web 2.0 tools. This will help increase the fun factor in the learning content.

Feedback regarding instructional effectiveness were all positive. Content was pertinent to learning, while activities and materials, and lecture topics, assisted learners in gaining a thorough understanding of interactive writing. A reassessment of time allocated for assignments will be addressed to ensure learners have plenty of time to complete assignments.

Ongoing evaluation and assessment will be completed to ensure the course remains effective and the content remains current.

### **Limitations**

**Technological.** I will have evaluators use my personal laptop to allow for Moodle login. All evaluation instruments will require an internet connection.

**Human.** Basic web knowledge will be necessary. Feedback is crucial to the success of this four week course and evaluators will be selected based on their dedication to education, work ethic, and possession of a growth mindset.

**Financial.** No compensation will be available and participation is entirely voluntary.

**Time.** Evaluators will be able to schedule a date and time they can review the course, and will be given a timeframe for evaluation completion.

## CHAPTER 5: Summary and Conclusion

### Introduction

The designer's purpose for the four week Moodle course "Interactive Writing: An Instructional Tool for Grades K-2" is to provide primary teachers in grades K-2, literacy specialists, and administrators the opportunity to gain a thorough understanding of Interactive Writing (IW). IW is a best practice tool used to enhance any English Language Arts program. The course will provide the learner with an understanding of the historical and theoretical perspectives of IW and the steps necessary to implement this instructional tool. Although there is information on IW available on the internet, these resources are wide-ranging, making it time consuming for an interested educator to gather valid information. The unavailability of conferences, workshops, or college courses relating to IW also make it difficult to access training on this valuable instructional tool. This four week course aims to close this instructional gap by consolidating important information about IW into a comprehensive course rooted in digital learning techniques.

Through research, design, and development of the course, the designer was able to better understand design methodologies, learning theories, and the importance of the 21st century learner of digital and distance learning. This group is a broad audience of adult learners seeking higher education while working full time and juggling the daily demands of life.



**Conclusion**

In order to create and deliver quality content, the designer had to apply sound instructional design practices. The instructional design approach used for this course was the ADDIE model (Analyze, Design, Develop, Implement, Evaluate). Although this model took time to implement, it was chosen because it allowed the designer to continuously make changes, aiming to remove any flaws or defects along the way.

Technology has transformed the way people learn and communicate, allowing them to access information via new and creative designs, positively affecting the learning process. People have a tremendous amount of information readily available to them via laptops, tablets, smart phones, and even their watches. Learning opportunities have been revolutionized through technology, resulting in collaboration no longer being confined to a classroom or office space. People and students from all walks of life, and from any place in the world, can communicate and learn from each other. Blogs, photos, email, Google Docs, wiki, video conferences, and online learning all have influenced collaboration and how knowledge can be shared.

Technology is constantly evolving, but technology should never overpower the content needed to help people grow in their targeted skill set. The key to creating a successful online learning experience is a designer who uses technology wisely and allows the learner to be at the center of the instructional design. Learning must be a memorable experience which enhances the skills of the student through a personalized, thought provoking message giving the learner exactly what he needs to learn and move their instructional practice forward. The learner has the ability to go back and review the training or course as needed. This is the beauty of developing

learning objects and facilitating trainings which can be revisited, used, and shared over and over again.

Collaboration has long been the practice and teaching method for constructivism, the belief that learning abilities can be improved when learning is accomplished in a group setting rather than in isolation. When designing an online course, it's important to include synchronous learning through chats, webinars, and emails allowing for real time communication. Equally important is including asynchronous learning opportunities, such as discussion forums, where learners can gather information at their own pace. Students also have the opportunity to gain new understandings and insights by reading others' thoughts and allowing time for reflection on the different points of view. Constructivism learning theory was applied to development of this course via activities which foster creativity, self-analysis, and problem solving skills.

Connectivism learning theory was also applied to online learning activities in which internet technologies, such as Web 2.0 tools, were used to create opportunities for students to learn and share information across the World Wide Web, among themselves, and within Moodle's peer networks.

Evaluation will be ongoing, and any feedback will be taken into consideration in making the changes needed to help this course stay relevant, up to date, and continue creating a positive impact on the target audience.

### **Implications for Teaching/Training**

For people new to the field of education, and for veteran teachers, it is important to stay current with effective methodologies of instruction in the 21st century classroom. Living in a digital world, where the use of technology in education is increasing, mandates those who work

there stay current with the times. Learning to use quality instructional tools, such as interactive writing, allows teachers to positively impact the diverse population which constitutes the students in our schools today, but having access to training has proven to be challenging. Online learning allows educators to further enhance their teaching skills and have access to different teaching models, allowing them to become adult learners of the 21st century. Although interactive writing is an instructional tool which has been in practice for over twenty five years, access to training on the process is currently unavailable. The opportunity for the designer to create a four week online course using the LMS delivery of Moodle allowed the instructor to teach this vital writing tool through up to date digital technologies, including the internet. It was here that educators become active learners and experience the 21st digital classroom through synchronous and asynchronous learning and the world wide web.

### **Implications for Further Research**

The designer feels it is the responsibility of school districts to make sure elementary teachers are trained in the basic understandings of a balanced literacy program: read alouds, shared reading, guided reading, independent reading, interactive writing, readers workshop, and writers workshop. “Interactive Writing: An Instructional Tool for Grades K-2” course teaches a vital component of a balanced literacy program. The designer believes more learning objects are needed to close this instructional gap. It is not only cost effective, but the ability to go back to review content and improve content is an important factor in considering its use. Further research could be done on creating an interactive website incorporating all components of a balanced literacy program, as well as a learning object on running records. The designer’s experience in creating a learning object for a website in EDT 607 is the inspiration for development of future

training courses the designer could create for teachers at all levels, administrators, and reading specialists. The designer's skill in using technology has increased considerably, enabling her to continue designing engaging and purposeful content for the 21st century classroom. Content which incorporates the Four C's of 21st Century Learning: critical thinking, communication, collaboration, and creativity.

**REFERENCES**

8 Components of a strong balanced literacy program. (2017, January 24). Retrieved from <http://blog.flocabulary.com/8-components-of-a-strong-balanced-literacy-program/>

Brunsell, E. (2012, March 2). Blended learning: Adding asynchronous discussions to your f2f classrooms [Web log post]. Retrieved from <https://www.edutopia.org/blog/blended-learning-research-eric-brunsell>

Common Core State Standards Initiative. (2019). English language arts standards » anchor standards » college and career readiness anchor standards for reading | common core state standards initiative [Web log post]. Retrieved from <http://www.corestandards.org/ELA-Literacy/CCRA/R/>

Concept to Classroom. (2004). Constructivism as a paradigm for teaching and learning. Retrieved from <https://www.thirteen.org/edonline/concept2class/constructivism/>

Dotterweich, A. (2018, February 21). What is exploratory testing?. Retrieved from <https://www.rainforestqa.com/blog/2017-08-04-what-is-exploratory-testing/>

Epignosis LLC. (2014, January). *E-Learning*. Retrieved from <https://www.talentlms.com/wp-content/uploads/2018/09/elearning-101-concept-trends-applications.pdf>

Horton, W. (2012). *E-Learning by design* (2nd ed.). Hoboken, NJ: John Wiley & Sons.

Isman, A. (2011). Instructional design in education: New model. *TOJET: The Turkish Online Journal of Educational Technology*, 10(1), 136.

Kirkpatrick Partners. (2019, February 17). Kirkpatrick partners, the one and only kirkpatrick company®. Retrieved from <https://www.kirkpatrickpartners.com>

Krug, S. (2006). *Don't make me think: A common sense approach to web usability* (2nd ed.). Berkeley, CA: New Riders.

McCarrier, A., Fountas, I., & Pinnell, G. S. (2000). *Interactive writing: How language and literacy come together, K-2*. Portsmouth, NH: Heinemann.

Meera. (n.d.). Evaluation: What is it and why do it?. Retrieved from <http://meera.snre.umich.edu/evaluation-what-it-and-why-do-it#what>

National Association for the Education of Young Children. (2013, November 7). Learning to read and write: What research reveals. Retrieved from <http://www.readingrockets.org/article/learning-read-and-write-what-research-reveals>

Peterson, C. (2003). Bringing addie to life: Instructional design at its best. *Journal of Educational Multimedia and Hypermedia*, 12(3), 240-241.

Piskurich, G. M. (2006). *Rapid instructional design: Learning it fast and right* (2nd ed.). San Francisco, CA: John Wiley & Sons Inc.

Quesenbery, W. (2001). What does usability mean: Looking beyond 'ease of use'. Retrieved from <http://www.wqusability.com/articles/more-than-ease-of-use.html>

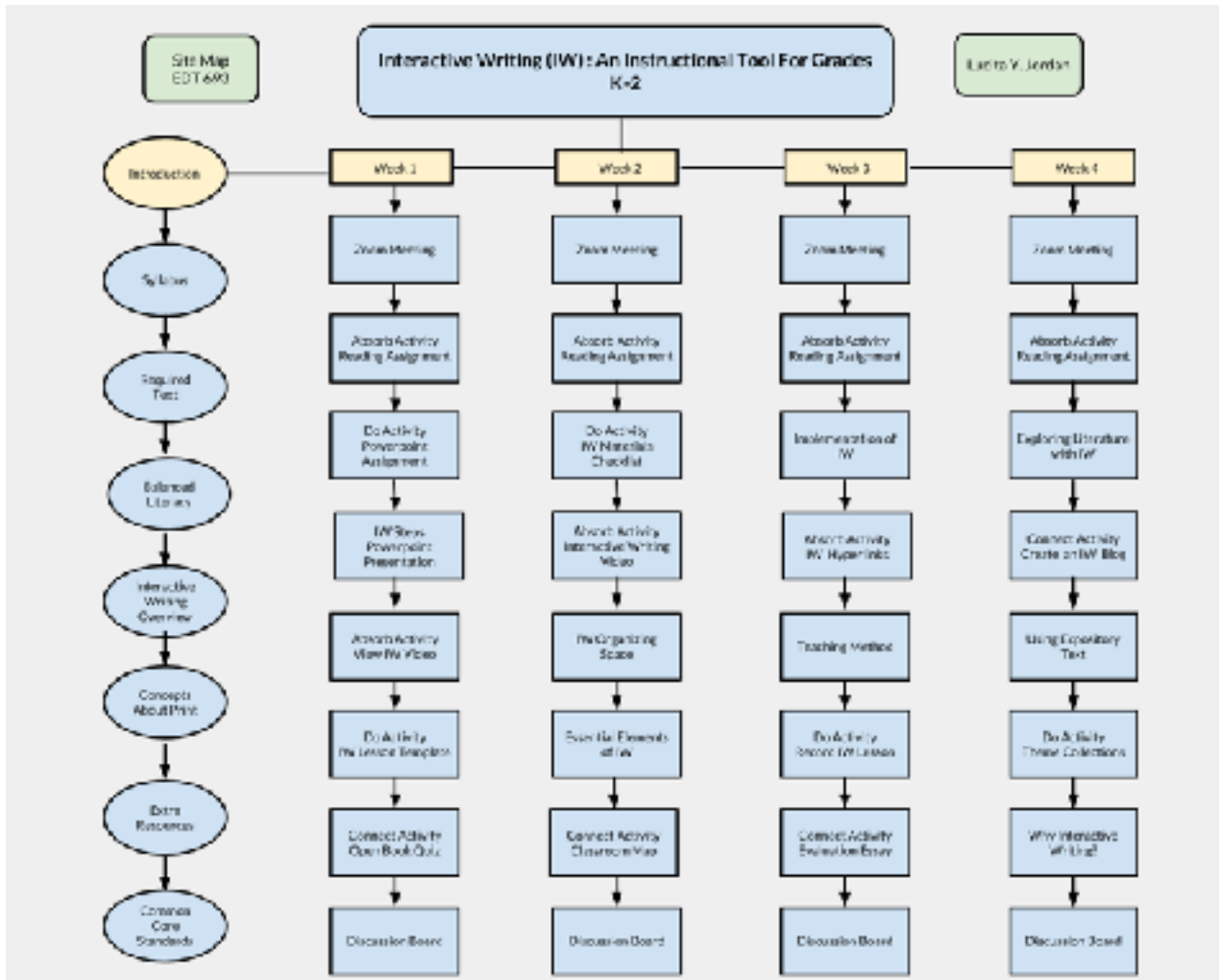
Siemens, G. (2005, January). *Connectivism: A learning theory for the digital age*. Retrieved from [http://itdl.org/Journal/Jan\\_05/article01.htm](http://itdl.org/Journal/Jan_05/article01.htm)

- Siemens, G., & Downes, S. (2017, February 4). Connectivism (siemens, downes). Retrieved from <https://www.learning-theories.com/connectivism-siemens-downes.html>
- Swartz, S. L., Klein, A. F., & Shook, R. E. (2001). Interactive Writing. In *Interactive writing & interactive editing* (p. 1). Carlsbad, CA: Dominic Press, Inc.
- Techopedia. (n.d.). What is alpha test?. Retrieved from <https://www.techopedia.com/definition/5935/alpha-test>
- Trivantis. (2018). Storyboarding for elearning. Retrieved from <https://www.trivantis.com/storyboarding-for-e-learning>
- Try QA. (2017, August 25). What is exploratory testing in software testing? examples, when, how to do, agile. Retrieved from <http://tryqa.com/what-is-exploratory-testing-in-software-testing/>
- Ward, J. (2006). E-Learning. *Journal for Nurses in Staff Development*.
- What is heuristic evaluation?. (n.d.). Retrieved from <https://www.interaction-design.org/literature/topics/heuristic-evaluation>
- What is online learning?. (2017, 13). Retrieved from <https://www.eztalks.com/elearning/what-is-online-learning.html>
- Williams, R., & Tollett, J. (2006). Basic design principles for non-designers. In *The non-designer's web book* (3rd ed., pp. 113-134). Berkeley, CA: Peachpit Press.
- Zone of Proximal Development [Web log post]. (2016, January 29). Retrieved from <https://www.goodtherapy.org/blog/psychpedia/zone-proximal-develoment>

**APPENDICES**



**Appendix A**  
**Visual Storyboard**



**Appendix B**

**Instructional Evaluation Instrument**

## Interactive Writing: An Instructional Tool for Grades K-2 Level One Reaction Instruments for SMEs

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Directions: Please answer the following questions after completing the course and give any feedback regarding your reaction toward the course.

**5** =Strongly Agree    **4** =Agree    **3** =Neutral    **2** =Disagree    **1** =Strongly Disagree

**Use the above scale to specify your opinion on each of the following questions:**

- |   |       |
|---|-------|
| 1. Course content was relevant and accurate                       | _____ |
| 2. Course was well organized and in logical sequence              | _____ |
| 3. Course was easy to navigate from week to week                  | _____ |
| 4. Course materials were beneficial and added to student learning | _____ |
| 5. Course had interesting lessons and supported student learning  | _____ |
| 6. Assignments were engaging and applicable to real life          | _____ |
| 7. Course facilitator was effective                               | _____ |
| 8. Course objectives were met                                     | _____ |
| 9. Time to complete was sufficient                                | _____ |
| 10. Quality Media was used  | _____ |
| 11. There was adequate use of technology                          | _____ |
| 12. I would recommend this course to other educators              | _____ |

**Interactive Writing : An Instructional Tool for Grades K-2  
Level One Reaction Instrument for Students**

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

DIRECTIONS: After completing the entire course please answer the following questions.

REACTION SURVEY QUESTION	YES	NO	UNDECIDED
Did you like the appearance of the course?			
Was it easy to navigate the course?			
Was the course content logical and sequential?			
Was the course interesting?			
Did course meet course objectives?			
Was the amount of weekly information appropriate?			
Were weekly assignments appropriate and relevant?			
Was there appropriate use of technology?			

Pretest/Post Test for Interactive Writing: An Instructional Tool for Grades K-2

← + > | L

Copy of Interactive Writing: What I need to Know!

QUESTIONS      RESPONSES      0 Total points

**What do you know about Interactive Writing?**

\_\_\_\_\_

This is the pre and post test given to assess student learning (level 2)

\_\_\_\_\_

**What year did the term "interactive writing" first appear?**

1989

2014

1933

1991

**What makes interactive writing different from language experience and shared writing?**

Sharing the pen with students.

Using narratives to elicit language.

Narratives

Teaching concepts of (about) print.

---

**Who is Marie Clay?**

Short answer text \_\_\_\_\_

---

**Faculty members from what university comprised the research group who discovered interactive writing?**

Fordham

OSU

OSU

Princeton

**IW shows children how writing works and invites them to participate along with teacher support.**

True

False

---

**An IW lesson allows the teacher and students to share in the joy of collaboratively producing meaningful written text.**

True

False

---

**In IW the student is the apprentice and the teacher is the**

corrective tape supplier

time keeper

guide and scribe

scribe

**The process of IW involves the following, please check all that pertain.**

A purpose for writing

Considers the audience

Choosing type of writing, for example a list or a thank you letter.

Deciding on a message

Constructing the message

Editing and revising

Careless text layout, including punctuation and other text conventions.

---

**What is a good space for group meetings?**

Short answer text \_\_\_\_\_

What items are important to be displayed during an IW lesson, all or some of the items below?

- A paper-choosing chart
- A word wall
- A classroom name chart
- Big books and poems for shared reading
- Completed or work-in-progress of IW.

When would you do an IW lesson in email group?

Long answer text

Name all eight equipment, tools, and materials needed for a successful IW lesson?

Long answer text

Why does paper choice play an important part in an IW lesson?

Long answer text

Literature can be used as a resource in both general and specific ways in an IW lesson.

- True
- False



**Appendix C**

**Usability Evaluation Instrument**



## Usability Test Session Script (Assessment Test)

- Web browser should be open to Google or some other “neutral” page**

Hi, (evaluator’s name). My name is Lucita Jordan, and I’m going to be walking you through this session today.

Before we begin, I have some information for you, and I’m going to read it to make sure that I cover everything.

You probably already have a good idea of why I asked you here, but let me go over it again briefly. I’m asking you to try using a Web site titled “Interactive Writing : An Instructional Tool for Grades K-2” that I am working on so I can see whether it works as intended. The session should take about an hour.

The first thing I want to make clear right away is that I am testing the site, not you. You can’t do anything wrong here. In fact, this is probably the one place today where you don’t have to worry about making mistakes.

As you use the site, I’m going to ask you as much as possible to try to think out loud: to say what you’re looking at, what you’re trying to do, and what you’re thinking. This will be a big help to me.

Also, please don’t worry that you’re going to hurt my feelings. I’m doing this to improve the site, so I need to hear your honest reactions.

If you have any questions as we go along, just ask them. I may not be able to answer them right away, since I am interested in how people do when they don’t have someone sitting next to them to help. But if you still have any questions when we’re done I’ll try to answer them then. And if you need to take a break at any point, just let me know.

You may have noticed the microphone. With your permission, I’m going to record what happens on the screen and our conversation. The recording will only be used to help me figure out how to improve the site, and it won’t be seen by anyone except me. And it helps me, because I don’t have to take as many notes.

If you would, I’m going to ask you to sign a simple permission form for me. It just says that I have your permission to record you, and that the recording will only be seen by me.

- Give them a recording permission form and a pen**
- While they sign it, START the SCREEN RECORDER**

Do you have any questions so far?

Thank you again for being here. I will be asking you to try some specific tasks. I will be reading each task out loud and will also give you a printed copy of each. Please remember to think out loud as you move through the tasks. Please follow the directions in front of you as I read them out loud.

Adapted from Krug, S. (2010). "Rocket Surgery Made Easy"

## Consent And Recording Release Form (Adult)

I agree to participate in the study conducted and recorded by Lucita Y. Jordan for her four week Moodle Course titled “Interactive Writing:An Instructional Tool for Grades K-2.”

I understand the information and recording is for research purposes only and my name and image will not be used for any other purpose. I relinquish any rights to the recording and understand the recording may be copied and used by Lucita Y. Jordan without further permission.

I understand participation in this usability study is voluntary and I agree to immediately raise with the study administrator any concerns or areas of discomfort during the session. Please sign below to indicate you have read and understand the information on this form and any questions you may have about the session have been answered.

Date: \_\_\_\_\_

Please print your name: \_\_\_\_\_

Please sign your name: \_\_\_\_\_

Thank you and I appreciate your participation,

Lucita Y. Jordan

\_\_\_\_\_

Date: \_\_\_\_\_

Overall Rating	Great	Good	Ok	So So	Poor
Ease of use					
Breadth of content					
Educational factor					
Fun factor					

Strongly Agree: Consistently found

Agree: Usually

Disagree: Inconsistency found

Strongly Disagree: Not found

Specifics:Registration/Interface Design	Strongly Agree	Agree	Disagree	Strongly disagree	Comments
Directions are clear and easy to follow					
No modifications to system settings required					
The interface design is intuitive and provides easy navigation.					
Main menu clearly identifies the course layout					
Clear instructions are associated with menu navigation					
Functions of buttons are easily identified					
Locations of where you are in the course is easily identified					

<b>Quality and Use of Media</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>	<b>Comments</b>
1. Graphics reinforce content					
2. Graphics were easy to read					
3. Audio was used to reinforce topics.					
4. Audio quality was consistent with online learning					
5. Animation was appropriately used to reinforce topics					

<b>Connectivity and Download Speed</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Comments</b>
1. Connectivity was consistent					
2. Speed of access was good					

Adapted from Lee & Owens (2004). "Multimedia-Based Instructional Design"

**Appendix D**

**Raw Data**

Interactive Writing : An Instructional Tool for Grades K-2  
Level One Reaction Instrument for Students

**IE 1= X      IE 2= X**

DIRECTIONS: After completing the entire course please answer the following questions.

REACTION SURVEY QUESTION	YES	NO	UNDECIDED
Did you like the appearance of the course?	<b>X</b> <b>X</b>		
Was it easy to navigate the course?	<b>X</b> <b>X</b>		
Was the course content logical and sequential?	<b>X</b> <b>X</b>		
Was the course interesting?	<b>X</b> <b>X</b>		
Did course meet course objectives?	<b>X</b> <b>X</b>		
Was the amount of weekly information appropriate?	<b>X</b> <b>X</b>		
Were weekly assignments appropriate and relevant?	<b>X</b> <b>X</b>		
Was there appropriate use of technology?	<b>X</b> <b>X</b>		

## Interactive Writing: An Instructional Tool for Grades K-2 Level One Reaction Instruments for SMEs

Directions: Please answer the following questions after completing the course and give any feedback regarding your reaction toward the course.

**5** =Strongly Agree    **4** =Agree    **3** =Neutral    **2** =Disagree    **1** =Strongly Disagree

**Use the above scale to specify your opinion on each of the following questions:**

- |   |    |
|---|----|
| 1. Course content was relevant and accurate                       | 4  |
| 2. Course was well organized and in logical sequence              | 4  |
| 3. Course was easy to navigate from week to week                  | 4  |
| 4. Course materials were beneficial and added to student learning | 4  |
| 5. Course had interesting lessons and supported student learning  | 4  |
| 6. Assignments were engaging and applicable to real life          | 4  |
| 7. Course facilitator was effective                               | NA |
| 8. Course objectives were met                                     | 4  |
| 9. Time to complete was sufficient                                | 3  |
| 10. Quality Media was used  | 4  |
| 11. There was adequate use of technology                          | 4  |
| 12. I would recommend this course to other educators              | 5  |



Post-Task Questionnaire (Assessment & Validation Test) -Modified

\*This form contains a combined summary of three usability evaluator data. No data was change. When evaluation took place all volunteers were given a new copy of the test.

Evaluators. UE1, UE2, UE3

Interactive Writing: An Instructional Tool for Grades K-2

Key: UE 1 = **X**    UE 2 = **X**    UE 3= **X**

Overall Rating	Great	Good	Ok	So So	Poor
Ease of use	<b>X</b> <b>X</b> <b>X</b>				
Breadth of content	<b>X</b> <b>X</b>	<b>X</b>			
Educational factor	<b>X</b> <b>X</b>	<b>X</b>			
Fun factor			<b>X</b> <b>X</b>	<b>X</b>	

Strongly Agree: Consistently found  
 Agree: Usually  
 Disagree: Inconsistency found  
 Strongly Disagree: Not found

Specifics:Registration/Interface Design	Strongly Agree	Agree	Disagree	Strongly disagree	Comments
Directions are clear and easy to follow	<b>X</b>	<b>X</b> <b>X</b>			
No modifications to system settings required	<b>X</b>	<b>X</b> <b>X</b>			
The interface design is intuitive and provides easy navigation.	<b>X</b> <b>X</b>	<b>X</b>			
Main menu clearly identifies the course layout	<b>X</b> <b>X</b>	<b>X</b>			
Clear instructions are associated with menu navigation		<b>X</b> <b>X</b> <b>X</b>			
Functions of buttons are easily identified	<b>X</b> <b>X</b>	<b>X</b>			
Locations of where you are in the course is easily identified	<b>X</b> <b>X</b>	<b>X</b>			

Quality and Use of Media	Strongly Agree	Agree	Disagree	Strongly disagree	Comments
1. Graphics reinforce content	X	X X			
2. Graphics were easy to read	X X	X			
3. Audio was used to reinforce topics.	X X	X			
4. Audio quality was consistent with online learning	X X	X			
5. Animation was appropriately used to reinforce topics	X X	X			

Connectivity and Download Speed	Strongly Agree	Agree	Disagree	Strongly Disagree	Comments
1. Connectivity was consistent	X X	X			
2. Speed of access was good	X X	X			

UE 1: Loved the clean lines of this course and the the easy navigation.

UE 2: Everything worked!

UE 3: I think even though the fun factor was not very strong, I also know this is a course and not a gaming learning object.