

Using SMART Notebook

Submitted to Professor George Beckwith

By

Tina Bregder

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The Capstone Project entitled Using SMART Notebook is approved by:

Signature _____ Date _____

George Beckwith, Ed. D.
Capstone Faculty Advisor, Sanford College of Education

I certify that this Capstone Project by Tina Bregder entitled Using SMART Notebook, in our opinion, is satisfactory in the scope and quality as Masters of Science project for the degree of Master of Science in Educational and Instructional Technology in the Sanford College of Education.

Signature _____ Date _____

George Beckwith, Ed. D., MSEIT Program Lead Faculty

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ABSTRACT

Interactive whiteboards (IWBs) are a common feature found in many classrooms today. How they are utilized for student instruction is entirely up to the teacher. Some educators use IWBs to display information from the internet or from their presentation while they lecture to a class full of passive learners. Other teachers want to use this technology to encourage participation and drive student instruction, but they lack the technical knowledge in order to facilitate such a task. Either way IWBs are not being utilized for their intended purpose which is to guide student centered instruction. In order to help facilitate educators' adoption of IWBs, an entirely online course aimed at using the IWBs' accompanying software has been created. This four-unit course takes teachers on a directed journey through SMART Notebook's basic software features. Users will learn how to manipulate text, find images, insert videos, create activities, and layout a fully functioning interactive lesson that can be used in the classroom. Research findings have demonstrated that on many occasions, teachers are not allowing students to touch the board. This is contrary to the purpose of having IWBs. The Using SMART Notebook course encourages students to use the board in order to increase engagement. Thus, a change in teaching pedagogy may be required for those hesitant to learn how to incorporate the software's many interactive features into the classroom of today. This course will help educators become more comfortable with the SMART Notebook software in order to increase engagement and encourage student centered instruction.

CHAPTER 1

Introduction

The purpose of the instructional course Using SMART Notebook is to provide adult learners with the foundation to create their own interactive whiteboard (IWB) lessons. The target users for this course are educators who possess an interactive whiteboard but lack the accompanying software training in order to create interactive lessons for classroom use. This course is intended to guide learners through SMART Notebook's basic software functions. Learners will be able to watch instructional tutorials, complete practice assignments, take quizzes, and discuss the software's attributes through threaded discussions. This course has been created using the Google Sites platform and has four units of instruction. The units include using the software's tools, accessing images, creating activities, and laying out a complete lesson.

There are many school sites that have interactive white boards for some, or all, of their teachers. However, they lack proper training on how to use the software's built in interactive features. This often leads teachers to utilize the IWB as a fancy computer projector (Dostál, 2011).

Some teachers have no training at all, whereas others have only a few hours of instruction. It is rare that schools will follow up with additional ongoing professional development due to the high cost and time constraints. This minimal training is not enough to allow for teachers to be able to absorb and implement curriculum instruction at their grade level or subject specification. Ongoing training with support is necessary to get started using the software (Brió, 2011). Only then will teachers be brave enough to fully implement IWB lessons into their regular classroom instruction.

The course Using SMART Notebook is built around introducing one software feature at a time and then allowing additional time to practice within the software before reviewing and testing. All levels of instructional proficiency can benefit from the video tutorials which allow users who are struggling to pause and rewind for frequent viewing. These same tutorials also allow advanced learners to fast forward through content that they already know and can quickly find new content to learn.

The purpose of this course is to support teachers' implementation of the SMART Notebook software in conjunction with the use of their interactive whiteboard in order to increase student engagement and encourage student-centered teaching (Benedetto, 2005). It is unfortunate that some teachers are afraid to use the IWB as more than just a projector. Some factors that create barriers to learning the software may include technology being given to teachers with little to no accompanying training (Abuhmaid, 2014). Another large barrier is that some teachers are unwilling to change their teaching pedagogy to include IWB components into their regular instruction (Sundberg, Spante, & Stenlund, 2012).

Background of the Study

The available trainings and products similar to this course are limited. The list below constitutes resources akin to the Using SMART Notebook course.

- SMART Technologies (the maker of SMART interactive whiteboards and the SMART Notebook software) has a series of online instructional training videos. They offer professional guidance and professionally done tutorials.
- SMART Technologies also has a lengthy PDF training manual that can be downloaded at no cost (70 pages for beginner and 98 pages for intermediate).

- SMART Technologies will come out and train teachers (of course this is the best option), however it will come at a large monetary cost and is contingent upon availability of instructors and learners.
- YouTube has some instructional videos that may be helpful if you can find what you are looking for.

There just aren't enough resources available to help support novice teachers learn how to implement the Notebook software in order to use the built-in interactive functions of the IWBs. A 2011 study done using IWBs when teaching found that "a lack of digital learning materials along with the amount of time need by the teacher to prepare lesson plans are the primary difficulty cited by teachers" (Manny-Ikan, Dagan, Berger-Tikochinski, & Zorman, 2001, p. 252). Although the SMART Technologies website has an abundance of information, it is often hard to sift through it in order to find what the user is looking for. The SMART Website also assumes that the learner is proficient at using this technology and can read through their technical jargon and not need any review or practice. There is also no flow to support their online training progression. In addition, web navigation conventions are muddled in with the noise of the congested website. In summation, it's just not user friendly. Yet, it is all the quality training and content that is currently available.

The Using SMART Notebook course is unique for several reasons. First, it is very user friendly. The web navigation is very clear and there is little in the way of "noise" that will distract the user from their content search. There is a clear flow to the lessons which all build off one another. The course is aimed at reaching all levels of learners' technical proficiency. The lessons are very simplistic and offer step-by-step instructions for the novice learner. Users are

expected to be active participants and can practice their skills during the course and use them during student instruction. Learners will be able to find content quickly and move within lessons fluidly due to the clean design and functional layout.

Statement of the Instructional/Training Problem

A common occurrence for the arrival of new technology in the classroom happens as follows: one day a teacher is using a projector and a whiteboard for her daily instruction. The next day she arrives to find a new feature added to her classroom in the form of an interactive whiteboard. Thankful and excited the teacher looks around to figure out how to get the board to function by pushing random buttons on the screen. If she is lucky, there will be a training in the not too distant future. Until then, it's all guesswork and research.

The problem is that there aren't enough trainings to support the ongoing needs of classroom teachers. Trainings may be conducted by someone from the SMART company. They will be paid handsomely to come to the school site and spend a few hours lecturing about the specifics of the different software features. However, this training method is very expensive and is usually a one-time occurrence. A teacher can also pay to go to a training given by the company. Cost, time, and location play factors in this as well. In all likelihood, none of these options will be presented to teachers who need ongoing training in order to practice, receive feedback, and be given additional follow-up support.

Another problem is lack of support. There are very few people at the school and district level who have knowledge about this specific software in order to give teachers feedback to support their individual needs. Along those same lines, there are very limited online resources that support this software. The main website is hosted by the software's manufacturer and contains mass amounts of information with technical jargon and digital noise which make it

difficult to find specific information. Also, the website lacks learning objectives and an organized flow. A more orderly and simplified online program that targets the main features of the Notebook software has been the driving force behind creating the Using SMART Notebook course.

Purpose

The purpose of this project is to instruct teachers on how to use the SMART Notebook software in conjunction with their interactive whiteboards. This will be done by implementing a four-unit course design to encourage teachers to start building interactive lessons around their curriculum content in a supportive manner. Teachers will have a digital place to find tutorials, printouts, and guidance on the basic software functions. The overarching goal of this course is to have teachers create interactive, student-centered lessons and incorporate them into their regular instruction.

Delimitations

Some limitations and constraints of the project may include:

- **Technological:** A computer and an internet connection will be required for users to access the course's Google Site. To complete the activities, they will also need to have the SMART Notebook software installed onto their computers. The other programs needed to access information will all be web based. A Google account will also be required in order to view the website and many of the documents.
- **Human:** Since this course is designed to be fully implemented online, learners must possess their own motivation to complete the modules and be dedicated to the learning process.

- **Financial:** Technically there is no cost associated with the course. The SMART Notebook 30-day trial can be downloaded for free. However, if a teacher must incur the cost of the software, it is \$49.05 for one license for one year. The cost is dependent on the number of licenses purchased and the amount of years it is purchased for.
- **Time:** The time designated for this course is four weeks. However, learners may go at their own pace and utilize what is relevant to their needs. At any time, they can go back to their desired location to find tutorials, references, and resources.

Definitions

For purposes of this project, the following words are defined:

- **Dialogic Teaching:** Ongoing talk between teacher and student, as opposed to teacher presentation of materials alone.
- **Gallery:** A place within the SMART Notebook software where images are stored.
- **Graphic:** Any image, text, picture, or design that can be manipulated within the Notebook software.
- **Information and Communications Technology (ICT):** Any communication through computerized technology.
- **Interactive White Board (IWB) also known as a SMART Board or a Webster Board:** A large electronic board that is connected to a computer that has touch screen capabilities.
- **Manipulate:** To move, resize, reshape, or recolor a tangible or digital object.
- **Pedagogy:** The method or approach to teaching or regular teaching practices.
- **Professional Development (PD):** Any training that builds onto new or existing content knowledge.

- **SMART Notebook software:** Software made by SMART Technologies that is specifically designed to use on SMART interactive whiteboards.
- **Student-centered instruction/learning:** Instruction within the classroom setting where students make decisions, find information, and collaborate in order to gather data with the guidance of a teacher.
- **Teacher-centered instruction:** The teacher presents information and the students absorb the information from them (traditional lecture style instruction).

Summary

Using SMART Notebook is a course made for teachers who have interactive whiteboards and want to learn how to use the accompanying software in order to develop and conduct student centered lessons. There are many interactive whiteboards that sit in classrooms and function as a backdrop for computer projections. With proper training and support, those teachers can create and implement student centered instruction in their classroom by using digital lessons. Many teachers have been gifted with interactive whiteboards but lack the necessary training to help them fully utilize their interactive capabilities. This four-unit online course is made for educators who need training on how to build SMART Notebook lessons in order to get their students to be active learners and drive their own instruction.

CHAPTER 2: Review of the Literature

Introduction

The online course Using SMART Notebook offers teachers instructional techniques and step-by-step directions on how to utilize the accompanying software for their interactive white boards. By the end of the course, learners will be able to create their own interactive lessons using the Notebook software. These lessons can be shared and discussed with other teachers thus encouraging collaboration. The course also offers opportunities to share information via an online forum in order to gain further feedback and insight into the software's functions within the classroom environment.

Before creating this course, a review of literature was done using the National University library's EBSCO database for educators. An in-depth search for articles that pertained to using IWBs in the classroom was completed. Subjects that were searched for included: frequency and results of students using the boards' interactive features, the style of teaching that was associated with using the boards interactive functions (pedagogy), and professional development associated with learning how to use the boards.

This chapter starts with a historical overview of IWBs and moves onto how teachers are using them in the classroom today. Several of the most prominent issues associated with using IWBs in the classroom will be addressed including benefits and barriers to instruction. Professional development and building online communities will also be covered.

Throughout the research a common thread was found. Teachers need time, training and support especially when using the interactive features in order to be successful (Karsenti, 2016). Results of the studies found that the focus of teachers' training should include technical skills and pedagogical applications in the classroom in order to have successful IWB implementation

(Sundberg, Spante, & Stenlund, 2012). The online course Using SMART Notebook addresses many of the issues highlighted in the literature review.

Historical Background

Most teachers who are 30 years or older grew up in a time of green chalk boards, and later erasable whiteboards. These were used as the primary source of conveying information during whole class instruction. Following those tools were a projector that displayed information from printed wipe-off transparencies that teachers wrote directly onto and were displayed on a wall or screen. Education was further changed with the invention of projectors that showed what a computer displayed. Thus, displaying information akin to a movie projection. However, it wasn't until SMART technologies invented the first interactive whiteboard in 1991 which allowed the capability of student involvement in lessons to encourage participation and collaborative learning in order to disseminate information.

The world of academics touted this technology as having the ability to revitalize education. Technology companies argued that results would show large academic gains and amazing teacher created lessons would modernize and revolutionize curriculum and instruction. Some countries even made huge investments in obtaining and installing IWBs into schools across grade levels. In 2004 the United Kingdom invested 15 billion pounds into replacing whiteboards across the country. A 2007 study by their government revealed that the IWBs did not result in significant academic growth (Somekh, Haldane, Jones, Lewin, Steadman, Scrimshaw, Sing, Bird, Cummings, Downing, Stuart, Jarvis, Mavers, & Woodrow). The countries of Denmark and Australia had similar purchases that promoted mass use of IWBs throughout their primary and secondary schools. Results did not skyrocket assessment scores, instead many lessons regarding implementation were learned. A 2018 Australian study found that secondary schools didn't

utilize the interactive functions of their IWBs or change their regular teaching practices due in part to having high stakes assessments (Kearney, Schuck, Aubusson, & Burke). Many studies showed a common misappropriation of using the IWB as a glorified computer projector and ignoring the interactive functions altogether (Karsenti, 2016; Stroud, Drayton, Hobbs, & Falk, 2014; Dostál, 2011). A 2018 study done in higher education classrooms showed a significant underutilization of IWB capabilities with 74% of classrooms never to rarely interacting with the whiteboards (Benoit). England, Denmark, and Australia all had the same access to this interactive technology but had limited success. These results and others cause researchers to hypothesize that the technology tools alone are not what makes learning, instead it depends on how teachers and students use them (Karsenti, 2016).

The online instructional course Using SMART Notebook capitalizes on the software's interactive features. The goal of this course is to promote the effective use of the interactive tools, activities, and resources that are available within the software. Teachers may not be aware that these features exist, or they may not know how to access and utilize them. Teachers cannot be expected to use the IWBs as more than just a projector if they have never been given the guidance on how to implement these features using the software. This course will take teachers through a step-by-step process to learn the basic interactive functions and how to modify them for their grade level, curriculum, or subject specification.

Theoretical Framework – Pedagogy

Researchers have found that IWBs alone have no “transformative power on pedagogy” and instead call on a “significant investment in professional development” that can change teacher instruction (Hennessy & London, 2013, p.11). Many teachers with and without IWBs demonstrate whole group direct lecture style instruction. This traditional teacher-centered model

is based on the instructor presenting information and the student passively absorbing it.

According to Manny-Ikan, Tikochinski, Zorman, and Dagan, when working with IWBs teachers need to change their traditional pedagogy to work with students in order to develop their abilities to solve problems and become critical 21st century learners (2011).

Most teachers use the IWBs to enhance traditional teaching methods, however a more dialogic approach is needed (Beauchamp & Kennewell, 2008). Betcher & Lee agree with this sentiment and say that “IWBs should be used to stimulate student thinking, encourage deeper and more robust discussions, provoke thoughtful ideas and make abstract concepts easier to grasp” (2010, p. 13). They go on to add that digitizing old lessons is not using technology in new ways, teachers need to create new things that were not possible with old technology (Betcher & Lee, 2010). This student-centered model needs to encourage interaction and knowledge construction, not memorization (Northcote, 2010). Students must have active involvement in lessons by touching the IWB in order to learn more effectively (Dostál, 2011). A study done in Israeli middle and high schools showed that students want to be “active participants in the lessons” (Manny-Ikan et al., 2011, p. 265). A 2012 study done by Türel & Johnson found that teachers claimed that they didn’t have enough time for students to use the IWBs (2012). It is apparent that teachers are the driving force of using the software’s functions (Armstrong, Barnes, Sutherland, Curran, Mills, & Thompson, 2005) It is the teacher who chooses to use the IWB as a projector to lecture in a traditional manner or as an interactive tool to drive student-centered instruction.

According to Blau, there are “two factors that affect technology implementation. What features of the IWB teachers choose to use and how they choose to use them” (2011, p. 276). In the course Using SMART Notebook, learners are taught to create their own interactive pages

within presentations. In doing so, they can generate specific lessons that can be used in their area of study for their audience of learners. These lessons can be easily shared and used again. Each unit of the SMART Notebook course teaches software manipulation that encourages dialogic teaching and student-centered learning. In the final unit, teachers will create a fully formed student-centered lesson. Since the Notebook software is on the computer and the course is online, the bridge between the two is only a click away.

Professional Development

The traditional training paradigm has teachers attend a one-time training (usually at the implementation stage of a new product or curriculum) that will be immediately used in the classroom. Abuhmaid's 2014 study found that teachers felt that technology was being "dumped" on them with the hopes that it would enhance student learning. This same study found that teachers were "not satisfied" with the amount of IWB training that they received. Darling-Hammond, & Nikole say that this old way of learning is not beneficial and does not lead to long term desired results. They suggest that high quality professional development gives teachers time to absorb the information, use it in the classroom, and then follow-up with observation and reflection (2009). Sundberg, Sponte, & Stenlund say that these trainings should include both technical instructions (using the board and software) and pedagogical discussions (2012).

In order to encourage teachers to use the IWBs as student-centered devices, part of the ongoing professional development needs to include how to implement constructivist teaching using these boards (Betcher & Lee, 2010). They may also include why this is beneficial and how this creates 21st century learners and problem solvers. A 2010 research study done by Northcote found that participants valued IWBs as student-centered tools. Whereas Benedetto found that even with training student-centered learning did not improve. She also found that educators need

information and communications technology (ICT) training, follow-up, and additional support (2005). Levin and Wadmany support the view that given time and training, teachers will embrace new practices and beliefs (2008).

The course using SMART Notebook can be done in as little or as much time as the learner desires. There are no hard time limits and users are encouraged to slow down in areas they feel they need the most. Others may already be proficient in certain features and quickly advance to the next units. Either way, this online course allows professional development to be completed at the learners' own pace and in the comfort of their home. There are many resources offered in this course. Tutorials, examples, classroom printouts, and outside links can be accessed at any time, even after completion of the course. Teachers can come back time and again to relearn or reference instructional techniques after becoming more comfortable with the software use in their classroom.

Current Research Developments – Benefits and Barriers

A variety of studies showed many benefits of using IWBs in the classroom. The most predominate benefit was increased student engagement and motivation (Yang, 2012; Wall, Higgins, & Smith 2005; Dostál, 2011; Manny-Ikan et al., 2011). However, Dostál goes onto say that, over time, interest will wane thus decreasing student attention once again (2011). More studies need to be done to revisit this topic and see what the long-term effects of using IWBs and student-centered pedagogy have on students' attention. Another benefit to using IWBs is that lessons can be saved and shared (Kearnery et al., 2011). A teacher who is proficient at creating lessons can share them with others who want to implement interactive lessons but lack the time or knowledge to do so.

Another benefit to using IWBs is the ability to access or create images that can be manipulated on the screen. The use of visuals and interactive features to focus and engage learners allow time for students to think and verbalize their responses (Redman & Vincent, 2014). Wall, Higgins, & Smith found that visuals promoted effective learning in primary school through color and movement (2005). A barrier to this is that building these lessons with interactive features are time consuming and could over-burdening teachers (Dostál, 2011; Manny-Ikan et al., 2011).

Other barriers to implementation of using IWBs includes lack of ICT skills, low teacher confidence, lack of pedagogical training, inadequate follow up, and differentiated training (Buabeng-Andoh, 2012). To be successful a teacher, one must believe that they are capable of using technology in the classroom in order to implement it (Mueller, Wood, Willoughby, Ross, & Specht, 2008). Another barrier is cost. Most school districts are unable to incur additional funding for follow up trainings. Another reason for lack of professional developments is due to time restraints. With tight schedules and many issues to address, often the only training on a given topic ends up being a one-time occurrence.

The Using SMART Notebook course is built to overcome many of these perceived barriers. The easy to follow tutorials paired with lack of technical jargon, and a flexible timeline help alleviate anxiety of a novice technology learner. Teachers will be able to learn how to use the visuals and built-in activities to increase engagement around their own lessons at no financial cost. They can then use the lesson in their classroom and return to the course for additional information, collaboration, and assistance.

Building IWB Communities Online

Another hinderance that many school sites encounter is not having “experts” to ask their follow-up questions to. Teachers need collaboration in order to develop their interactive lessons. An Australian study showed a need for more training through online professional communities (Kearney, et al., 2018, p.18). Türel & Johnson found that IWB skills improved with use and by collaboration with colleagues (2012). Using SMART Notebook is an online course dedicated to the IWBs features and functions within the classroom along with the addition of a collaborative forum that encourages questions and ideas to be discussed. An online course offers more flexibility than a traditional training environment (Jung, 2005). Learners may access this course from anywhere they have internet and complete the course on their own timetable. Online training is also more cost effective than traditional face-to-face training (Jung, 2005). Using SMART Notebook is a free course and is open to all users, not just educators.

Summary

Technology has come a long way from the days of filling out wipe off transparencies to moving electronic images on a board. Technology has dramatically changed, but the way teachers are instructing learners has not. Teachers are still instructing in the same traditional lecture style manner that they did in past generations. With the invention of the IWB, teachers need ongoing support to change their ways of instructing in order to be less teacher-centered and more student-centered. In order to encourage change, training and support need to be implemented. Barriers to professional development implementation include lack of time and lack of funds. Hennessy and London paraphrased this best when they wrote, “The roles of appropriate professional development and institutional capacity are utterly essential to support the continuous learning through innovation that underpins technology integration” (2013, p. 24). The online course Using SMART Notebook breaks down these barriers and puts the interactive

features into the forefront of education. Teachers who take this free course have access to many resources and are encouraged to complete it in conjunction with using it in the classroom. In doing so, they learn a little at a time and are using what they are learning in order to practice and improve their quality of instruction. By the end of the course, teachers will be able to locate and utilize many basic interactive functions in order to build a fully formed student-centered lesson. This course allows flexibility for learners to go at their own pace and use their own specific grade level or subject content.

CHAPTER 3: Project Design

Learning Theory

The Using SMART Notebook online course is made for teachers to use in the classroom during, and after, completing each unit of instruction. The main modality of this course is direct instruction which would be classified under the cognitivist learning theory. However, the role that learners play in various activities, and in creating and implementing their final summative assessment, would be classified as constructivist. Thus, this course encompasses elements of both cognitivism and constructivism.

The primary component of the cognitivist learning theory is that information is to be given by the instructor to be absorbed by the student (Harasim, 2017). In this case, the information in the course is presented by the instructor in an online learning environment. Learners complete units of instruction by watching tutorials and interacting with the Notebook software. Learners are made aware of objectives, lessons are chunked into smaller pieces, and intermittent quizzes are included, all of which help the learner process the given information in the cognitivist learning style. The focus of this course is for teachers to learn procedures in order to create interactive lessons to be given in their live classroom environments. Each teacher has their own grade level and subject matter to draw from. According the Linda Harasim, “Cognitivism, like behaviorism, focuse[s] on individual learning perspectives, and procedures” (2017).

The course Using SMART Notebook also demonstrates elements of the constructivist learning theory. There are many assignments that require learners to create their own product to demonstrate their understanding of the content. In doing so, they are participating in active learning and learning-by-doing (each of which are key concepts in constructivism). Participants are encouraged to use the products they make with their students in order to see how the lessons

function and how to improve upon them. These concepts and creations are shared with the instructor in order to gain feedback. This collaborative learning environment also constitutes another key feature of the constructivist learning theory.

Using SMART Notebook demonstrates areas of both cognitivism and constructivism which creates a well-balanced course to meet the needs of many different learners. Although much of the course is centered around absorbing content knowledge (instructor-centered), the practice and summative assessment result in learner made products (student-centered) which can be used in the classroom for the individual's desired purpose and geared to a specific set of students.

Project Design

The ADDIE model was the design methodology used for the course Using SMART Notebook. This model is widely used and successful for many reasons, some of which include clear learning objectives, highly structured content, integration of various media, relevant student activities, and assessments that are linked to learning results (Bates, 2016). This model was selected because of its clear linear design and sequential nature. There are 5 steps in the ADDIE model: analysis, design, development, implementation, and evaluation. The following is a description of how each step in the ADDIE model was addressed in creating the online course Using SMART Notebook.

- **Analysis:** Areas of instructional need were identified. For this course, the area of need is lack of software training to become competent users of interactive whiteboards. The main instructional objective was identified - Teachers would learn how to use the basic interactive features and functions in order to build lessons using the Notebook software. The existing skillset of learners is varied.

Thus, the course was built to suit the needs of learners with basic technology skills. Potential learning constraints were weighed, time and cost being of the most concern. The course was created using an online platform that can be accessed at any time from anywhere with internet capabilities. This course is offered at no cost. The online educational deliverables were constructed to include authentic products that would follow a flexible weekly timeline (Morrison, Ross, & Kemp, 2007).

- **Design:** The online platform Google Sites was selected for this course. This platform allows the incorporation of the Google Suite into lesson assignments and submissions. This platform also allows the addition of embedded videos, links, and documents for learners to easily access. The simple color blocking design and clearly marked tabs demonstrate persistent navigation between pages of the course's website (Krug, 2014).
- **Development:** A storyboard was created to identify the various instructional elements included in the SMART Notebook course (see Appendix A). Most of the instructional materials consist of video tutorials and accompanying printable documents. Learners are then expected to practice these skills on their own or with their students in order to improve their retention of the software's functions. Synchronous chats and student forums make up additional elements of this course. Each unit builds on one another until the final authentic assessment.
- **Implementation:** At this point in the ADDIE process, the course is introduced to the target audience of learners. The audience for this course is working teachers who can implement these techniques into their own classrooms immediately. A slow roll

out of this course was intentional (with only 4 initial users) which allowed for any modifications to instruction or design to be made along the way.

- **Evaluation:** Learners are evaluated at the end of each unit in some capacity. There are a variety of assessments that include simple matching of terms, to creating a fully functional lesson. There is also a pretest/posttest that gives data on whether the learner was successful in completing the course (see Appendix B). The results of the evaluation data provide invaluable feedback for improving this course's content and design.

Once the evaluation phase was completed, then the designer was able to take the results and make modifications in specific areas of need, thus starting the ADDIE process again.

Procedure

Students are coming into school with more digital capabilities than ever before. In order to meet the requirements of these learners, teachers need technologically specific trainings to “enhance the use of digital tools in the classroom” (Beach, 2012, p. 256). Unfortunately, there is very little time and budget to make ongoing trainings accessible. The Using SMART Notebook course was created as a response to teachers' constant inquiry at a specific elementary school campus. A survey was informally held at that campus in order to show the greatest area of need when implementing the Notebook software. The results indicated that using the tools, inserting and editing images, modifying the activities, and laying out lessons as the areas of the highest need. Following the survey analysis, research was done on how to best service the maximum number of teachers with the least amount of campus training time and cost. An online course was selected for its flexibility, budget consciousness, and ability to reach many learners.

Once the online course objectives were established, a course map (storyboard) was created. This included many activities, printable documents, forums to collaborate, and authentic assessments that were all built around creating interactive lessons for the IWBs (see Appendix A). After conceptualizing the course, the tutorials, documents, and assessments were developed.

The course's website was then constructed with the user in mind. A simple layout with clear navigation was selected. The home page was designed as a place to go in order to link to each unit. It also stores the class syllabus with instructional goals, and a message from the course instructor. After the online component was constructed, the curriculum pieces were inserted into their corresponding units on the website. Although the course appeared complete, usability tests were done in order to make sure that everything functioned appropriately. Based on these results, the course was modified.

The last procedural piece was to look over the assessments and evaluations. The results were analyzed, and the design, development, implementation, and evaluation process started again. Further improvements to the course are ongoing based on the feedback indicated by the course participants. Units will continually be added in order to meet the needs of learners as they progress through various stages of learning the Notebook software.

Ethical Considerations

There were six voluntary participants that helped with the alpha testing of this online course. All the participants were adults with a bachelor's degree and a teaching credential. Two of the participants were elementary school teachers (first and fourth grade), one was a middle school math teacher, and one was a high school science teacher. Participants were given the pre/posttest (see Appendix B) and were instructed to complete the activities in each unit. Another participant was the subject matter expert (SME) who taught transitional kindergarten and used

the Notebook software daily in order to build customized lessons. She was the primary usability evaluator. A second usability evaluator was an elementary instructional coach that had training and experience using IWBs.

Two of the testers had a very basic knowledge of using the IWB and no knowledge of the accompanying software. The third teacher had been to a few trainings before, but still lacked confidence in her capabilities to build interactive lessons. The middle and high school teachers had a background knowledge of using the Google Sites platform. The rest of the participants only had limited knowledge of using the Google Suite (Docs, Sheets, Forms) and no background in using Google Sites. However, all deemed themselves proficient users of the internet to search for information.

All six teachers were made aware that they were able to opt out of testing the course at any time. The participants were not paid for their time or services. There were no instances of mental or physical damage during the alpha testing process.

Summary

The Using SMART Notebook course demonstrates a combination of cognitivist and constructivist learning theory. The direct instruction approach lends itself well to cognitivism. However, the activities and authentic assessments require learners to build their own products. This paired with student forums and synchronous chats lends itself to constructivism.

The course was created using the ADDIE design model. First, areas of need were analyzed. Next, a simple and streamlined design was constructed using Google Sites as the platform. Tutorials, activities, and assessments were developed. Once the course was completed, it was tested and evaluated by willing participants who were not paid. Data from these assessments were used to improve the course's content and usability.

CHAPTER 4: Project Evaluation and Discussion

In order to make sure that the online course Using SMART Notebook is both functioning properly and is academically enriching; several evaluations were done by test users. First, a usability test was done to make sure that all parts of the course functioned properly. This means that all links, embedded videos, forums, and submission areas worked properly in order to allow students' ease of use. In addition, an instructional evaluation test was completed by users to see if academic growth had been made in order to ensure that the topic was thoroughly taught and well received. Both the usability and instructional evaluation tests were completed for the online course Using SMART Notebook in order to improve its content and user experience. The data from the evaluations prompted the course designer to make changes to meet the needs of future users.

Evaluators

The following is a list of evaluators that tested the usability and academic content for the course Using SMART Notebook. All the test users work in the field of education and possess a bachelor's degree or higher. They vary in technological abilities.

- Samantha Sartoph: Primary usability evaluator and subject matter expert. She is a transitional kindergarten teacher who used her IWB with lessons that she created.
- Kelly Acosta: Her primary role is an instructional coach at an elementary school site. She has been trained on using the IWB and has used them in the classroom. She was recruited to be a usability tester.
- Anita Hermes: First-grade teacher who uses the IWB daily but wants to learn how to create her own lessons. She helped evaluate the instructional materials.

- Jessica Norquist: She is a fourth-grade teacher who is knowledgeable in various technological fields. She knows the basic function of the IWB but is unfamiliar with the software. She helped evaluate the instructional materials.
- Damian Bergeron: He is a middle school math teacher who is very familiar with technology and the Google Suite. However, he rarely uses his IWB and wants to learn how to incorporate it into his daily instruction. He helped evaluate the instructional materials.
- Dustin Rodriguez: He is a high school science teacher who is very familiar with technology and the Google Suite. However, he has never used an IWB. He helped evaluate the instructional materials.

Project Evaluation

According to Jakob Nielsen, “Usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process” (2012, para. 1). Usability testing determines if the constructed course functions as it is intended to. The course designer assumes that everything has been successfully set up. However, “after you’ve worked on a site for even a few weeks, you can’t see it freshly anymore. You know too much. The only way to find out if it really works is to test it” (Krug, 2006, p. 133). There are many ways to test the usability of a course, the most common way is to have someone who is not involved in the project interact with the course and answer key questions about its functionality. This may be done in real time with the moderator asking questions and making notes on the user’s mouse clicks and responses, or it may be done remotely with the user completing a survey after the user has interacted with the course.

Usability testing not only gives information on functionality of the website. It can also give information about the layout. Common questions may include: Does it have an aesthetically pleasing structure? Are users able to scan and search easily? Is it reader friendly (not full of technical jargon)? By approaching these questions early and often in the design process, it will increase the chances that problems will be detected and corrected before the live launch of the course (Fichter, 2004).

Steve Krug says that “the point of testing is not to prove or disprove something. It’s to inform your judgment” (2006, p. 135). The results of the usability testing identified mistakes in the functionality of links, videos, graphics, and typos. The results of the test also influenced the structure, layout, and presentation of the course’s content. For the course Using SMART Notebook, a usability test was conducted (see Appendix C). The testing moderator followed a script and took notes on user comments and questions about the layout, navigation, and functionality (see script in Appendix D). Based on the data received from the usability testing, changes to the course were made.

An additional test that was given to participants to improve course content was the instructional evaluation. Instructional evaluation is “the systematic determination of merit, worth, and significance of a learning or training process by comparing criteria against a set of standards” (Clark, 1995, para 1). If instructional evaluation is done properly, then it will determine if the course is performing at the anticipated level. The data from the evaluations were referred to frequently in order to see if it was still meeting the instructional goals. George Piskurich advises that “you should be able to link the training back through test questions, content, objectives, and tasks, all the way to corporate needs” (2006, p. 269).

Evaluations are an essential part of the design process because they tell you what changes need to be made to ensure that the course has a successful implementation. The designer for this course used Kirkpatrick's first two levels of instruction. Level one is based on learning experiences. A simple survey to see how learners react to the course identified areas that need improvement and pinpointed where modifications could be made (See Appendix E). Level two is about knowledge acquisition (Yardley & Dornan, 2012). The course designer has prepared a pre/posttest that assesses whether the learner has met the instruction goals or not (see Appendix B). The test is comprised of a few questions from each section of the course. By comparing the results of the pre and posttest, growth can be successfully monitored. The data from the test will also show areas that need to be developed further for future users.

For the last unit of instruction, participants are asked to create a 6-slide presentation using what they have learned throughout the course. This authentic, summative assessment is a great representation of what the learner can accomplish using the SMART Notebook software. William Horton said, "There is no clearer and more precise statement of a learning objective than a test question that measures whether that objective has been accomplished" (2012, p. 50).

In order to ensure that the course remains effective and the content is current, a survey will be the final component of this course for future users (see Appendix F). This survey includes questions about usability, content pacing, and opinions about overall quality of the course. The results of this survey will drive any alterations that could be made to the course in the future. The updates can also coincide with software or technological upgrades.

Data Presentation

The usability testing data was collected, and the results were averaged out and shown in the chart below.

1 – No Problems

2 – Minor Problems

3 – Major Problems

Unit & Destination	Average of Scores - Usability	Average of Scores - Design	User Comments
1: Main home page	2	2	Too busy, was not clear where to click first to get started.
1: Tools Home Page	1	1	
1: Pen Page	1	1	
1: Lines & Shapes Page	1	2	Lines were difficult to see with the light gray background.
1: Inserting & Changing Text	1	1	
1: Using the Shade	1	1	
2: Images Page	3	1	The inserting images using the Bing search engine video had no sound.
2: Inserting Images	1	1	
2: Manipulating Images	1	2	Maybe skip the basic editing techniques and just focus on what is unique to the Notebook software.
2: Using the Gallery	1	1	
3: Activities Home Page	1	1	
3: Editing Activities	3	1	The super sort and matching activities did not link properly.
3: Additional Interactive Tools	1	2	A list of all the interactive activities that are available and how to find them would be useful.
4: Layout Homepage	1	1	
4: Animation & Grouping	1	1	
4: Inserting Videos	3	1	The main video cut off halfway through. The PDF was blank.

The results of the usability test indicate areas that have function issues as Unit 1 (Main Home Page), Unit 2 (Images Page), Unit 3 (Activities Home Page), and Unit 4 (Inserting Videos). Areas that need further design edits are Unit 1 (Main Home Page), Unit 1 (Lines & Shapes), Unit 2 (Manipulating Images), and Unit 3 (Additional Interactive Tools).

The instructional evaluation was completed with two types of tests. The first test was the Learner Reaction Survey. It allowed users to say how they felt about the overall presentation of the course content. The data from this survey is listed below.

Learner Reaction Survey

Ratings Include: Poor, Fair, Good, and Excellent

Response Items	Average Score
The course goals were clear.	Poor
There was enough built in practice to support the assessments.	Good
There were enough examples to use for reference when practicing.	Good
The content was easy to transfer into your live classroom to use with students.	Fair
The course navigation was easy to use.	Good
The video tutorials were well paced.	Good
The course gave you adequate instructions to insert and edit your own SMART activities.	Excellent
This course gave you the ability to insert and manipulate images in SMART Notebook.	Good
This course gave adequate instruction on finding and using the software's tools.	Excellent
This course gave you the ability to construct an interactive whiteboard lesson.	Fair

The second instructional evaluation test that was given was the pre/posttest. This test asked about specific areas of content knowledge from the four units of instruction. The table below

shows the percentage of users who answered the question correctly. The areas that scored below a 75% need more support within the course.

Pretest/Posttest

Question	Pre % Correct	Post % Correct
Unit 1: Using the Tools		
What does the shade tool do?	25%	100%
Name two of the creative pen designs.	25%	75%
What letter is on the insert text icon?	25%	75%
Unit 2: Images		
What is one way you can insert images into your presentation from the internet?	0%	75%
Name two ways that an image can be manipulated once it is inserted into a slide?	25%	100%
What pull down menu allows you to save gallery items to use later?	0%	50%
Unit 3: Activities		
Identify a topic that you can use when building a super sort activity.	0%	100%
What is the name of the activity that requires students to flip cards to improve matching skills?	0%	75%
Where would you find images within the software to insert into your interactive presentation?	0%	100%
Unit 4: Lesson Structure and Layout		
What is one way to add a slide to your presentation?	50%	100%
On the left pull down menu, what do you need to click on in order to access the YouTube links?	0%	75%

Discussion

The data found in the usability and instructional evaluations are critical to modifying and refining the course to meet the needs of its future users. The following paragraphs will look

closely at the assembled data in order to make changes to the course website so that it is in perfect working order and will relay critical information in order to be as effective as possible.

The usability test showed areas of concern in both function and design. According to testing data, the main home page “is too busy” and students may have a hard time finding where to start the course. In response to this, the course designer has made significant changes to the home page. The redesign clearly indicates where to start and extraneous information has been deleted. Next, the usability testers said that “the lines and shapes were difficult to see because of the light background color.” The color has now been changed to create more of a contrast in order to see the images better. Another major area of concern indicated that a main tutorial video had no sound. The video was reloaded and tested to ensure proper functionality. An additional comment advised the designer to skip basic editing techniques that are common knowledge. The designer decided to keep the course ‘as is’ in this area because not all users possess this specific technical knowledge. In unit three, there was a link to the super sort activity that did not function. This was easily fixed and is ready to use. Another comment indicated that “a list of interactive tools would be useful.” A list was created and posted for users to reference. Unit four was found to have a defective video that cut off halfway through as well as a blank PDF. These were both taken down and reposted and tested to ensure functionality. Without a usability test, these changes would have been overlooked. Now the course is functioning properly, and the course survey ensures that students have a place to voice any further concerns that may arise in the future.

The data from the Learner Reaction Survey and the pre/posttest determined how well students absorbed the information presented throughout the course. Items from the Learner Reaction Survey that tested ‘fair’ or ‘poor’ needed reevaluation. The only area that tested ‘poor’

indicated that the goals were not clear. The goals for each unit were written and posted in the unit headings. The following area that tested ‘fair’ was *the content was easy to transfer into a live classroom*. The designer has deemed this an area for future development. Each classroom is unique and individual grade levels or topic specific curriculum takes time to develop. An additional unit called *Classroom Implementation* with examples is currently in construction and will be tested and posted upon completion. The last area that scored ‘fair’ was *the course gave you the ability to construct an interactive whiteboard lesson*. This is concerning because the end goal of the course is to construct a fully functioning and usable lesson within the classroom environment. The addition of more lesson examples and tutorials on how to create lessons led by different instructors may help bring this score from ‘fair’ to ‘good.’

The data from the pre/posttest showed areas of increased content knowledge. There were four tested areas that included eleven questions in all. Five of the questions received perfect scores of 100%. Five of the questions received 75%. One question scored 50%. This low score indicates that more support needs to be in place regarding the importance and function of *my content items*. An additional video that specifically goes over the usage and benefits of *my content* was constructed and added to the course.

Limitations

There are always study limitations. Identifying these constraints ahead of time can help the developer when analyzing data in order to modify the course’s website. The online course Using SMART Notebook is subject to the constraints listed below.

- **Technological** – A computer and an internet connection will be required for users to access the course’s Google Site. In order to complete the activities, they will also need to have the SMART Notebook software installed onto their computers.

- **Human** – Since this course is designed to be fully implemented online, learners must possess their own motivation to complete the modules and be dedicated to the learning process. The course designer and subject matter expert need to be responsible and thorough when evaluating the product. Test subjects must be forthright in their examination of the course. They must give an accurate account of their experiences with the course through dialogue with the moderator or through written notes. They must finish the course entirely in order to give a wholistic accounting.
- **Financial** – Technically there is no budget for this project. The SMART Notebook 30-day trial can be downloaded for free. However, if a user must incur the cost of the software, it is \$49.05 for one license for one year. The cost is dependent on the number of licenses purchased and the amount of years it is purchased for. Due to lack of funds, participants testing the course will not be paid.
- **Time** – Time to develop, assess, and modify is limited to time that the developer and evaluators have after working hours. Users can complete the testing of this course at a time that is convenient for them (unmoderated). The moderated testing needs to be done at a time that both the participant and the moderator are available. This can be done in person or online while screen sharing.

CHAPTER 5: Summary and Conclusion

Educational technology has come a long way from looking at stagnant green chalkboards to interacting with computerized whiteboards. Teachers now have the capability to make content come alive with large touch screen displays and student-centered lessons that take collaboration and communication to the forefront of 21st century learning. Getting classroom instructors to embrace student-centered teaching using the IWBs requires ongoing training and a shift in pedagogy. The online course Using SMART Notebook provides teachers with training at their own pace while learning how to utilize the IWBs' software to meet the needs of their technologically proficient learners. This four-unit course guides teachers on how to use the software's tools, implementing activities, editing images, and constructing a fully formed lesson that is ready for student use in their classrooms.

Conclusion

Türel and Johnson said, "If we are to expect students to improve their learning in the classroom, teachers need to develop their technology skills and positive attitudes through continued collaborative training and practice" (2012, p. 392). Many teachers are simply given an interactive whiteboard and expected to be able to change their teaching to match this technology. As a result, many teachers simply use IWBs as glorified projectors. Often students are not allowed to touch the board. The boards just become a prop for teacher centered instruction.

Due to time and cost limitations at the school level, training is limited or nonexistent. An initial training on the basic functions of the device may be provided by a school site, however software implementation and lesson integration are sidelined. Follow up training is limited, and on-site subject matter experts are rare. The course Using SMART Notebook encourages teachers to try new activities and implement them in a student driven atmosphere. Teachers can

collaborate with others via a discussion board. Sharing resources across grade levels help build a lesson repertoire full of interactive tools and ideas. This course also gives teachers a place to reference back to after trying and succeeding or trying and failing to implement their lessons.

A combination of learning theories lends themselves to the course Using SMART Notebook. The constructivist learning theory is shown in the direct instruction tutorials. However, the authentic assessments, lesson creation, student forums, and synchronous chats are all parts of the constructivist learning theory. Thus, the Using SMART Notebook course combines both the cognitivist and constructivist learning theories to form a multifunctional professional development training device good for a variety of teachers looking for a way to use their IWBs for student centered instruction.

Data from the usability tests and instructional evaluations indicated where users were successful and identified areas of weaknesses. In response, modifications to the course were made to ensure functionality and academic enrichment for users of various ability levels. Upon completion of the course, students are asked to fill out a survey. The survey contains both usability and instructional evaluation questions. The results will be used to identify maintenance issues and make improvements to suit the needs of future users.

IWBs can be a major component in changing how students are taught in schools today. However, most of these boards are not being utilized to their full potential due to lack of training. If teachers are supported properly, then students will benefit in the long run. The state standards have already changed, now it is time to change teaching pedagogy to support student learning.

Implications for Teaching/Training

Simply proving a teacher with the necessary tools for instruction is not enough to build curriculum rich content in order to successfully implement 21st century teaching. According to

Armstrong, et al., “Training and ongoing support is required for teachers to appropriately use IWBs and to support their selection of appropriate software” (2005, p. 465). The Using SMART Notebook course was created in response to software training needs. Teachers need a place to go to ask questions and get feedback on lesson development. Student-centered instruction takes the focus away from the teacher and places it on the student in order to facilitate knowledge acquisition.

Since most school sites are unable to provide follow up training to support teachers use of their IWBs, the Using SMART Notebook course was created. It provides teachers with step-by-step instructions to improve their software skills. These skills allow teachers to develop lessons that puts IWBs in the hands of students. They can use what they are learning in the online course immediately in their live classroom before even proceeding onto the next task. By doing this, teachers are practicing what they are learning and are able to get constructive feedback. This also helps establish a knowledge base for the upcoming units of instruction.

As more teachers take this course, they will be able to pass along the knowledge that they take with them. They can also encourage others to take part in this free online course in order to better their understanding of the Notebook software. The proficient teachers may even lead professional developments at their school site by guiding learners to participate in various areas of the Using SMART Notebook online course. This would give them another resource in order to build interactive lessons for classroom implementation. As a result, more teachers will use the SMART Notebook software in a student-centered way.

Implications for Further Research

The Using SMART Notebook course is centered around the needs of teachers who have IWBs but lack the training to execute the interactive software components. Studies have shown

that many teachers with IWBs are not using them as an interactive device for student use. With the execution of the Using SMART Notebook course, teachers are encouraged to change their teaching style to a more student-centered model. As more and more teachers are using this technology to lead classroom instruction, it has become paramount to instruct students in a way that suits their skill sets and academic needs.

Further research can be done which identifies areas that learners from this course utilize the most and what areas are the most difficult to implement in a live classroom setting. Teachers can be interviewed and observed in order to see what methods from the course were absorbed the most and which need further development. The findings from this research could be used to further improve the course in order to meet the needs of a variety of classroom learners.

Further additional research needs to be done that compares data from classrooms with IWBs to see how they address different subject matter, build collaborate environments, and addresses differentiation among the wide array of classroom students. Additional research should also be done on the long-term results of sustained student engagement using IWBs.

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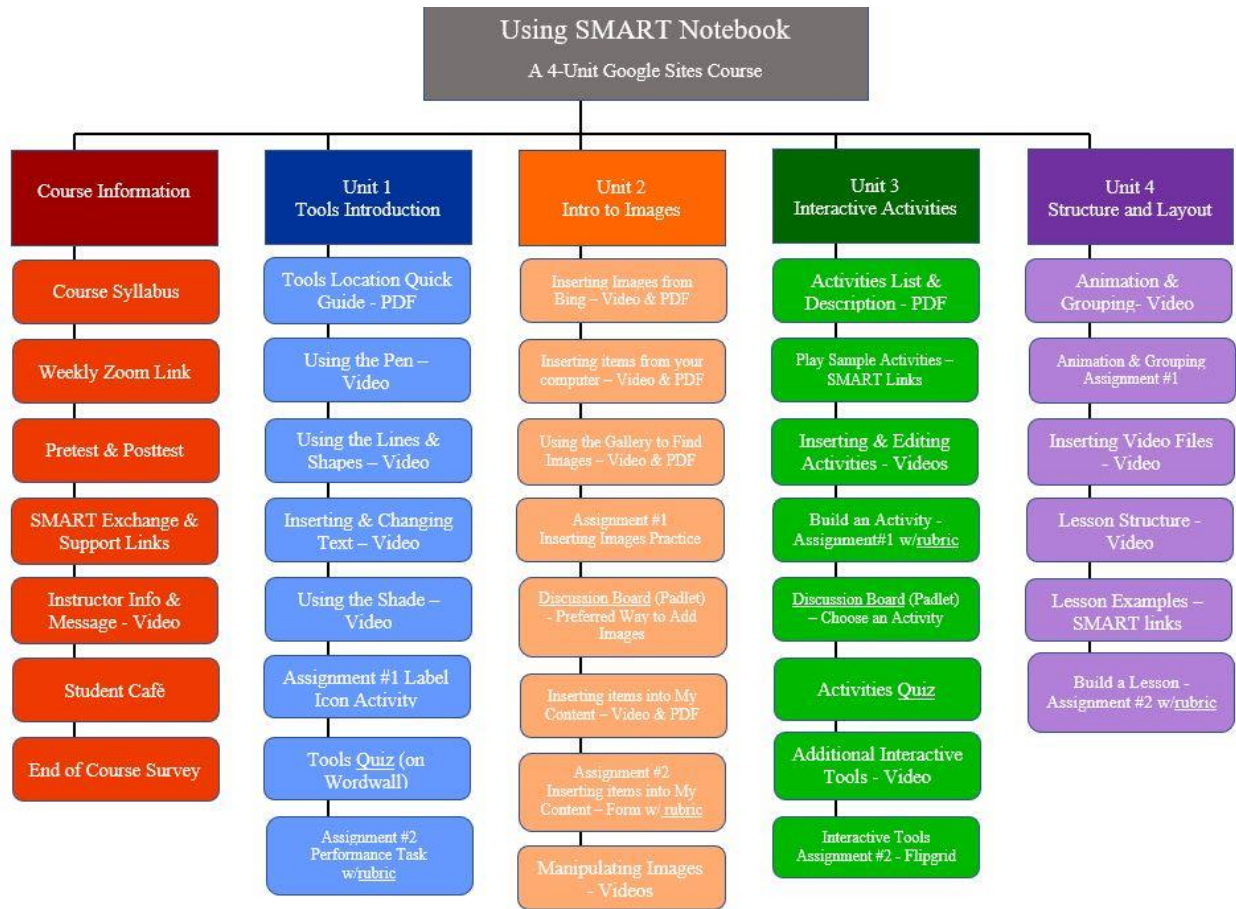
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APPENDICES

Appendix A

Storyboard



Appendix B
Pretest/Posttest

Pretest/Posttest**Using the Tools:**

1. What does the shade tool do?
2. Name two of the creative pen designs.
3. What letter is on the insert text icon?

Images:

4. What is one way you can insert images into your presentation from the internet?
5. Name two ways that an image can be manipulated once it is inserted into a slide.
6. What pull down menu allows you to save gallery items to use later?

Activities:

7. Identify a topic and categories that you can use when building a super sort activity.
8. What is the name of the activity that requires students to flip cards to improve matching skills?
9. Where would you find images within the software to insert into your interactive presentation?

Lesson Structure and Layout:

10. What is one way to add a slide to your presentation?
11. On the left pull down menu, what do you need to click on in order to access the YouTube links?

Appendix C
Usability Test

Course Evaluation Survey/Usability Test

Thank you for taking the time to give your feedback in order to improve this course.

Your opinion and suggestions are highly valued and appreciated. Please use the scale below to identify areas that need to be addressed. Feel free to make notes in the space provided.

Score	Usability	Design
1	No problems detected.	Satisfactory
2	Minor problems detected.	Needs Improvement
3	Major problems detected.	Confusing

Main Home Page

Usability: _____ Design: _____

Notes: _____

Unit 1: Tools Home Page

Usability: _____ Design: _____

Notes: _____

Using the Pen Tutorial Page

Usability: _____ Design: _____

Notes: _____

Lines and Shapes Tutorial Page

Usability: _____ Design: _____

Notes: _____

Shade Tutorial Page

Unit 2: Images Page

Usability: _____ Design: _____

Usability: _____ Design: _____

Notes: _____

Notes: _____

Inserting Web Images

Manipulating Images

Usability: _____ Design: _____

Usability: _____ Design: _____

Notes: _____

Notes: _____

Using the Gallery

Unit 3: Activities Home Page

Usability: _____ Design: _____

Usability: _____ Design: _____

Notes: _____

Notes: _____

Inserting and Editing Activities

Additional Interactive Tools

Usability: _____ Design: _____

Usability: _____ Design: _____

Notes: _____

Notes: _____

Unit 4: Structure Layout Homepage

Adding Slides

Usability: _____ Design: _____

Usability: _____ Design: _____

Notes: _____

Notes: _____

Inserting Videos

Images: Inserting, Layering & Locking

Usability: _____ Design: _____

Usability: _____ Design: _____

Notes: _____

Notes: _____

Appendix D
Usability Testing Script

Usability Testing Script

Welcome to Alpha Elementary School. Thank you for taking the time to participate in a new training course entitled “Using SMART Notebook” offered as an entirely online course. My name is Tina Bregder. Please read and sign the document stating that you are willing to complete the usability study. This course is designed for educators to learn how to navigate the software program used to build lessons for interactive white boards. It is designed with elementary school teachers in mind but can benefit anyone who has access to an interactive white board and its accompanying software. The data from the usability tests will help improve navigation, functionality, and content of the course’s lessons. Please remember that this course is not intended to test your knowledge of technology or lesson building. It is simply to make sure that the website functions as it is intended to and to improve any aspects that might prove problematic before the live launch of the course. Your honesty and feedback are encouraged and appreciated.

This test should take no more than three hours. Please feel free to verbalize any thoughts about layout and functionality or you may write them down on the paper provided to you. We are specifically looking for anything that might cause user confusion, so please let us know if anything is problematic or can be improved in any way.

Today you will be testing the course “Using SMART Notebook.” You will be asked specific questions about the course and be allowed time to work on your own. This is not the final version of this course. The information provided by the testing participants will be used to modify instruction in an ongoing effort to improve user experiences. Please sign the provided consent forms which will allow the tester to use the data provided and gives you anonymity when data is compiled.

Please keep in mind that the goal of this test is to make sure that all parts of this course work as they are intended to. This means that all links, videos, hyperlinks, images, and assessments function properly. Please bring any questions or concerns to the attention of the moderator. The goal of this user testing is to improve the course.

The moderator will be with you the entire length of the test. Feel free to narrate your mouse clicks or identify what you are looking for and are unable to locate quickly. The moderator may stop and ask questions periodically to get your input and write down notes. Do not hesitate to discuss ideas with the moderator. Are there any questions or concerns before we get started? (Pause for questions.)

Please enter the course website address located on the paper in front of you. Take a moment to look at the homepage. What is your initial reaction? (Write down feedback.) Is the order of Units clearly marked? Are the images on the page clear? Should they be bigger or smaller? Is the font color and size appropriate and appealing? (Write down feedback.)

Next, click on “Unit 1: Tools” to open up the first set of lessons. What is your initial reaction to the page? Is it clear where you should start the lessons? (Write down feedback.) Take your time and click through the various tutorials for the software’s basic tool selections. Make notes on anything that seems confusing or doesn’t appear to work correctly. When you are finished completing the lessons for the first unit, please let me know so that I can look at your notes and follow up with any additional questions.

Once the user is done completing unit one, then additional questions will be asked: Did you have any functionality issues? Was the layout confusing? Overall, what is your impression of the course? What are some things that you would like to see changed? Are there any other comments or questions that you would like to add?

Thank you for your time and commitment to making this course better. I appreciate all of your feedback. If you remember something else that you would like to add, please do not hesitate to contact me.

Appendix E
Learner Reaction Survey

Using SMART Notebook: Learner Reaction Survey

After completing the course on Using SMART Notebook, complete the form below. Your information will be used to enhance the learning process for incoming users.

Circle the answer that best represents your opinion.

1. The course goals were clear.

Poor Fair Good Excellent

2. There was enough built in practice to support the assessments.

Poor Fair Good Excellent

3. There were enough examples to use for reference when practicing.

Poor Fair Good Excellent

4. The content was easy to transfer into your live classroom to use with students.

Poor Fair Good Excellent

5. The course navigation was easy to use.

Poor Fair Good Excellent

6. The video tutorials were well paced.

Poor Fair Good Excellent

7. The course gave you adequate instructions to insert and edit your own SMART activities.

Poor Fair Good Excellent

8. This course gave you the ability to insert and manipulate images in SMART Notebook.

Poor Fair Good Excellent

9. This course gave adequate instruction on finding and using the software's tools.

Poor Fair Good Excellent

10. This course gave you the ability to construct an interactive whiteboard lesson.

Poor Fair Good Excellent

Appendix F
Course Survey

Course Survey

(This is posted on the course website.)

After completing the entire course “Using SMART Notebook,” please complete the rating scale below.

1. The course had a clear layout.

Strongly Agree				Strongly Disagree
1	2	3	4	

2. The links functioned properly.

Strongly Agree				Strongly Disagree
1	2	3	4	

3. Technical knowledge is not required to complete this course.

Strongly Agree				Strongly Disagree
1	2	3	4	

4. The videos all worked and were of good quality.

Strongly Agree				Strongly Disagree
1	2	3	4	

5. The still images were appropriately sized.

Strongly Agree				Strongly Disagree
1	2	3	4	

6. The video tutorials were well paced.

Strongly Agree				Strongly Disagree
1	2	3	4	

7. The course navigation was easy to use.

Strongly Agree				Strongly Disagree
1	2	3	4	

8. All documents were able to be opened and printed.

Strongly Agree				Strongly Disagree
1	2	3	4	

9. I feel competent adding and editing images using SMART Notebook.

Strongly Agree				Strongly Disagree
1	2	3	4	

10. I feel competent inserting and editing activities using SMART Notebook.

Strongly Agree				Strongly Disagree
1	2	3	4	

11. I feel like I could make a basic SMART Notebook lesson.

Strongly Agree				Strongly Disagree
1	2	3	4	

12. Is there any part of the course that you would like to see changed?

13. Is there anything that you would like to see added to the course for future users?