



CALIFORNIA STATE UNIVERSITY  
MONTEREY BAY

Instructional Technology Leaders Introductory Training

CAPSTONE Report

Submitted in partial satisfaction of requirements of the degree of

MASTER OF SCIENCE in

Instructional Science and Technology

Evan Ryan Willig

12/5/2014

Capstone Approvals: (At least one advisor and capstone instructor should approve)

Advisor Name	Signature	Date
Capstone Instructor Name	Signature	Date

## Table of Contents

Executive Summary .....	4
Introduction.....	4
Problem Description .....	4
Target Audience.....	5
Context.....	5
Literature Review.....	6
Solution Description .....	7
Proposed Solution .....	7
Goals of the Project.....	7
Learning Theories and Instructional Principals .....	8
Media Components .....	10
Methods.....	11
Development .....	11
Finishing the Project .....	12
Resources .....	12
Tools .....	12
Technical Skills.....	13
Timeline .....	13
Milestones of Production .....	13
Major Deliverables.....	13
Evaluation & Testing .....	14
Usability Testing.....	14
Field Testing .....	15
Final Thoughts .....	16

References.....	17
Appendix A – Proposed Roles and Responsibilities.....	18
Appendix B – Usability Testing .....	19
Questions.....	19
Results.....	20
Appendix C – Pre/Post-Test Questions.....	20
Questions.....	20
Results.....	23
Analysis.....	24

## **Executive Summary**

The Instructional Technology Leaders Introductory Training program is a self-paced asynchronous lesson that can be used to support new Instructional Technology Leaders (ITLs) in the Ukiah Unified School District (UUSD). UUSD is in the second year of implementing a 1-1 student to Chromebook ratio from grades 2-12. This Chromebook plan is also coincides with UUSD's switch to Google Apps for Education for technology services for the staff and students. The shift to 1-1 computing and Google Apps for Education has created an identifiable gap in the technological skill base of teachers and students; UUSD's response was to identify a group of school site representatives to be leaders in the implementation and training of staff members.

The members of the ITL group have the task of exploring the Google Apps for Education (GAE) and supporting their staff in implementing the use of Google and web based products in their instruction and professional work. The purpose of the product described in this document is to help new ITL members become familiar with the expectations and behaviors needed to complete the goals of the ITL group. The product has had a successful field test that shows there are instructional gains when completing the course. Success of the field test shows that the product could be used as intended if the Education and Instructional Services Department recommends the product to the UUSD School Board for approval. This document provides a description of the development and academic justification for the design of the product.

## **Introduction**

### **Problem Description**

UUSD has invested in GAE for all their staff and students to support the purchase of Chromebooks for students. Chromebooks are being purchased with the goal of providing two grade levels worth of devices each year until there is a 1-1 student to computer ratio in UUSD (Ukiah Unified School District [UUSD], 2013). With the availability of new software and hardware resources the instructors will need professional development to support their use of these tools. In particular the Education and Instructional Services Department has the goal: "To support the Ukiah Unified School District goal of 'success for all students' by providing to teachers, administrators and parents the resources, training, and guidance necessary for effective instruction and learning programs" (UUSD, 2014).

The district has responded by creating a group of teachers and staff that will act as leaders and site level support for the use of GAE and Chromebooks. This group has a variety of roles and responsibilities that are still in development; however, there is a need to make sure any new member can work effectively in the group under its current training and support roles. Although the group is volunteer based, it requires participation from each of the twelve school sites there is a need to make sure the ITL members can be productive in their roles. The roles and responsibilities are available in Appendix A; to summarize: ITL members will manage student Google accounts and lead training programs on the tools available through Google Apps for Education. The eLearning course will address the specifics of the roles and responsibilities of the ITLs, ensuring that any new member has the appropriate skills and knowledge to perform their duties.

## **Target Audience**

Members of the ITL group are either No Child Left Behind (NCLB) High Qualified instructors for their subject and grade levels or support staff like librarians (State of California Commission On Teacher Credentialing, 2012). However, NCLB compliance does not have any provisions for technology competency, and specifically using or training others in GAE. The ITL members all have varying levels of experience and competency with GAE, creating supporting documents for GAE, or leading professional development events for peers. All current UUSD instructors are receiving professional development on the use of basic GAE, but new instructors may not receive the same trainings nor are they necessarily ready to produce content to support their peers. For example, a new ITL member will have little to no knowledge of Google's Admin Console or the tasks they will be expected to complete using the Admin Console. All current ITL members have been self-taught, or have learned through group work, the tasks required of them to operate the Admin Console and produce support documents.

## **Context**

The training program will be sent to new ITL members through a link that describes the purpose of the course and how to complete the course. The learners will be expected to complete the training individually, at their own pace. They may try to complete the course during their preparation period or at home on a personal device. Because ITL members are volunteers, it is

not critical that they complete the training before they begin any of their duties. It is not uncommon for alternates to attend ITL meetings as temporary substitutes. This creates a situation where the product will not be used as a requirement to be an ITL member, but as a highly encouraged training program.

## **Literature Review**

Because the implementation of the Common Core State Standards (CCSS) and GAE is so recent, there is little research available on its impact on education. Research regarding peer led technology professional development is not available. This creates a situation where most articles on the subjects are in the form of editorials or news articles. However, there are impressions and ideas that were useful in the development of the eLearning product. Robertson claims that teacher collaboration is required to synthesize the CCSS benefits from the use of cloud based technology like GAE (2013). This supports the goal of UUSD's Education and Instructional Services Department; specifically, supporting teachers with effective programs. The ITL group supports the technology skills of the educators so that they can analyze the CCSS effectively.

CCSS has standards for students demonstrating the ability to be college and career ready (National Governors Association Center for Best Practices & Council of Chief State School Officers [NGA], 2010). The use of technology is included in these standards and GAE is a tool that can be used to develop these skills in students; however, instructors will need to use the GAE in their instruction. A case study by Midler (2012) also shows how the GAE can be used by librarians and other para-educators. The case study demonstrated how a librarian was able to support elementary school educators, and parents, by using GAE and activities for student research projects. Feedback and communication with students is also a powerful aspect of GAE. "What the judicious use of technology in schools *does* do is support, extend, and amplify identified best practices in education that help students learn and grow" (Johnson, 2012. p.84). This supports the idea that GAE can be used to enhance instruction of CCSS, and justifies training staff members to improve their proficiency with the tools.

## **Solution Description**

### **Proposed Solution**

UUSD needs a training solution to individually train new ITL members at any time a new member may be added to the group, so they understand the roles and responsibilities of the group. To meet these needs the eLearning product is an asynchronous event located on the UUSD Staff Google Training Site. The product was developed using Adobe Captivate, and available in Flash and HTML5 formats. The staff training site is available to all UUSD employees, and is intended for the use of all instructors to improve their skills and knowledge of the GAE. Elements of the course included text based instruction, software demonstrations, and evaluation items. The product gives the option for the user to print a personalized certificate of completion for the learner. The certificate available for completion is for the ITL member's records, with the intent that it can be added to their professional portfolio.

### **Goals of the Project**

The eLearning product prepares new ITL members to meet the needs of the school district by learning how to effectively complete most of the tasks from Appendix A. Dick, Carey & Carey describe the cognitive domains of Bloom's taxonomy, which is used as the guideline to describe the levels at which the learners will demonstrate their knowledge (2009). Learners reach the Application level of Bloom's Taxonomy for specific technology based skills; for example, learners will be able to construct student passwords, as they would be required in the creation of a student account. The skill deciding whether a task is appropriate for an ITL member or for the Tech Department requires the learner to demonstrate knowledge on the Evaluate level. Additionally the instruction includes a scenario based interaction to test the learners' knowledge for this level; it is common for ITL members to be approached by a colleague asking for help, but who needs to ask the Tech department instead of an ITL member. "In order to fully engage learners, the scenarios must be as realistic as possible, while still providing students or employees with the required information" (Pappas, 2014).

The purpose of the eLearning course is not to instruct the ITL members on how to teach a group of peers, but to identify what is required to meet the expectations of UUSD. For example, learner identifies required materials like a sign in sheet, but ITL members will already be expected to know how to instruct a group of learners. How to instruct a group of learners will not

be included because all the teachers are already considered Highly Qualified and have demonstrated their ability to instruct by the nature of their profession.

## **Learning Theories and Instructional Principals**

Instruction is constructed with Operant Conditioning as described by Gredler (2009). As the learner progresses through the instruction, the checks for understanding are accompanied by reinforcement of the desired behavior, mainly properly identifying the correct response to the stimulus. Each question has an affirmative and negative response based on the user's answer. The users is then allowed to review or immediately correct his response. At the end of a module the points earned are listed for the students; moreover, if the student has not reached the desired number of points there is a button that prompts him to return to the beginning of the module. When the student has reached 100% completion for the points during that section the Lesson Selection Screen changes the button color to a white to signal its completion. There is a progress point counter on the main page that lets students know how close he is to completing the lesson.

Merrill's First Principles of Instruction is used as the instructional. Sections of the product begin with modeling a task that is representative of what learners may come across in their duties. According to Merrill (2002), "Learning is promoted when learners are engaged in solving real-world problems" (p. 44). A real world situation is used to review the content, focused on identifying what is not considered an ITL responsibility; for example, a character is used to create a scenario which prompts the learner to identify whether or not it is a situation to which member of the ITL group has a responsibility to respond to.

The second aspect of Merrill's First Principles is to activate prior knowledge. The instruction relies heavily on the learner's experience as an instructor. The course asks the learner to prepare for a training session as they would prepare for a lesson in their class. This prevents the product from stagnating on instructional choices like learning theories or instructional strategies and allows the product to focus on the difference between teaching K-12 students and instructing teachers. For example, teachers are familiar with the theories and strategies they use in their classroom, but they may not think to check an unfamiliar location in a district led training for something as simple as the projector remote. The real-world problems are scenario based interactions where the ITL is either helping a character make a decision, or interact with a character in a way that requires the ITL member to make a decision similar to what the learner



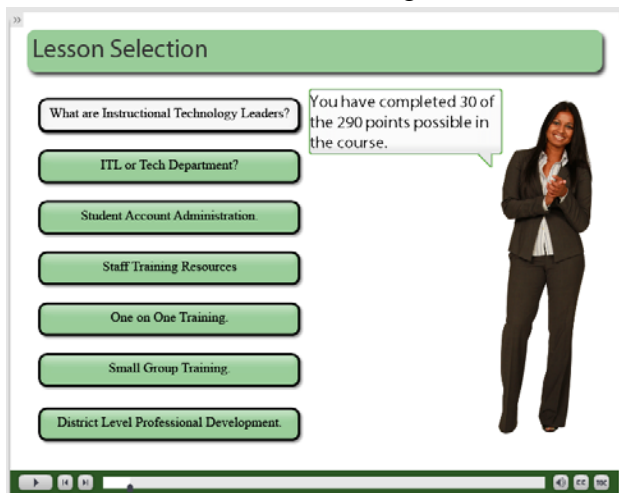
will need to demonstrate in their duties.

Figure 1 is a scenario based question. When they are able to identify the correct behaviors, the instruction will continue to ask the learner to apply that information to the situation. Full integration, the final step in Merrill's First Principles, would be to integrate that knowledge to a new, but similar, real-world problem.

According to Clark and Mayer (2008, p. 321-322.) "...we recommend that when selecting or designing courseware for novice learners, look for greater program control- at least in the beginning of lessons in a course." Because the learners will be new to the roles and responsibilities of ITL members, the course will begin with control over which lesson the student can access. However, the target audience is composed of highly educated individuals who have



*Figure 1 Screen capture of scenario based question.*



*Figure 2 Screen capture of the main menu. Completed lessons have changed visually to mark completion.*

sufficient metacognitive skills to take control of the course. The menu in Figure 2 shows the lessons available to the learner, with their virtual guide. The white buttons represent completed lessons, which allows the learner to track his progress. Clark and Mayer (2008) also suggest breaking the lesson into more manageable chunks of information. Though the task analysis has one main point to address leading peer trainings and professional development, the information in each section is broken into separate lessons.

## Media Components

Adobe Captivate was used for the content delivery, published in HTML5 and Flash. HTML5 will be used most often because it is most compatible with the variety of devices that may be used. Devices may include Windows 7 or Windows 8 desktops, MacBooks, and Chromebooks; all of these devices are in use throughout UUSD. The introduction also notifies the learner that they will need audio to best complete the lesson. Narration, audio, and video content are abundant throughout the lesson although the standard teacher desktops do not come with speakers. The document will be accessed through a Google Site that is currently being developed by the ITL group, and owned by UUSD. The product will also be stored on external or 3<sup>rd</sup> party servers because UUSD does not have its own web servers.

Image content was gathered from creative commons, or developed in production itself. For example, the background images and buttons used in Adobe Captivate will be created by the production team to best match the color and style of UUSD's website. Characters come from free or creative commons resources; these are used to personalize the real-world situations. Audio dialog was recorded by the production team, and most pages will have audio for narration, direction, or content delivery.

Video of an actor used in the timesheet demonstration was recorded with a document camera and edited using Windows Movie Maker. Software demonstrations were recorded and edited using Adobe Captivate. The software simulations of the Google Admin Console were not used because Captivate was not able to capture all mouse activity nor all the screen changes of the Admin Console. To make up for the loss of the software simulation, participants are encouraged to follow along with the demonstration using their access to the Admin Console. To support the instruction Adobe Captivate's Advanced Actions were used to calculate and report student progress.

## Methods

### Development

After the proposal had been approved, the production began with the creation of an instructional design document (IDD). The IDD was created with rapid prototyping as described in Dick, Carey & Carey:

The first strategy used in rapid prototyping is to go light on the early analysis steps of an instructional design model, then develop prototype instructional materials rapidly, and use quick iterative cycles of formative evaluation and revision to shape the final form of the materials. (2009, p. 233)

Rapid prototyping was helpful in the development of the content because of the flux of the roles and responsibilities, as well as the difficulties in the production itself (e.g. software simulations). The first part of the product produced was the lesson on deciding if a task is an ITL task or a job for the Tech Department. This skill required focus because several of the ITL monthly meetings had discussions about these Tech vs. ITL decisions and the proper responses. More content was created and tested as part of assignments for other courses, specifically, the three training lessons developed as an HTML document for a course's final. Development of individual lessons led to creating independently scored quizzes using a method modeled after Monkeylogic Design's incremental quiz grading (2013).

The overall design of the product was produced in a storyboard in Google Presentations. This allowed for quick editing of the content for skills, and a fluid arrangement of the skills in the flowchart of the product. Because each module is very similar in format, production of the layout of the modules was developed in a consistent format. This not only allowed the product to be faster, but helped the end product be more uniform in its layout. Writing and mapping the advanced actions was planned in the framework before the content was fully developed, which allowed for adjustments as the content was added.

Content development and the recording/editing of the software demonstrations and simulations was delayed until the production nearly ended. This was useful to assure that the video content was accurately aligned. After sections of content were finalized, simple testing by the production team helped identify needed changes in the content as well as the format/layout.

## **Finishing the Project**

When the product was completed as a whole, usability tests and the insight of the CSUMB advisor, Dr. Lara, helped identify formatting and content improvements. As the product was tested, informal evaluations of the product took place through discussion. This included demonstrating the product to the ITL group and UUSD's Technology Committee. Each identified concern from the interested parties was addressed unless it was supported by a specific design principle. Most of the concerns were for spacing, coloring, editing, and navigation. The usability testing section of this document discusses the most critical aspects of the needed improvements and how they were corrected.

Temporary deployment of the product to the Instructional Technology & Communication Design (ITCD) department's student servers will be used for demonstration and project evaluation. If the UUSD School Board decides to use the product as a training device, the product will be stored on 3<sup>rd</sup> party servers and linked through the Google Staff Training Page.

## **Resources**

### **Tools**

The most heavily used digital tool was Adobe Captivate. The product was developed using this product, but other tools were used in its creation. Adobe Photoshop was used to create the slide backgrounds and button images. Windows Movie Maker was used to edit video for the timesheet demonstration that was captured on a document camera. Google presentation and Forms were used in the development and evaluation of the product, respectively. All the software was used on a Windows 7 PC. Audio and software demonstrations were recorded using Adobe Captivate and a wireless headset. The actor images were from Adobe's free Captivate actor package, but Mourcefile was also used to find a picture to represent a professional development situation. The production had no cost because all the equipment and software was already owned by the production team, and any multimedia that could not be produced was found on free sources.

Because the ITL group was created in the winter of 2013, there were no subject matter experts to consult. The content was completely developed by the production team for this project. The roles and responsibilities were reviewed by Katie Sommer, the Associate Director of UUSD's Education and Instructional Services department. The production team was supported

with the instructional design expertise of the project's advisor, Dr. Lara. There was also input from colleagues in the Masters of Instructional Science and Technology (MIST) program Cohort IX who provided critique and suggestions to help the development of the project as part of class assignments.

## **Technical Skills**

Training in the use of Adobe Captivate was provided by the MIST program's course. The MIST courses also covered the instructional design, evaluation methods, and content development methods that are being evaluated in the design of the product. The use of Adobe Photoshop was through a self-directed study of the product, mostly accomplished through learning the use of Photoshop was mostly accomplished through instructional videos on YouTube and web documents. When Google products were used in the production of content, everything was self-taught. Little to no training was given by UUSD in the use of the products; however, UUSD did provide professional development opportunities that lead to exploration and experimentation with the use of the Google product mentioned throughout the document.

## **Timeline**

### **Milestones of Production**

After a long search of topics, the acceptance of this capstone project's proposal was the first milestone of the production. This required communication with UUSD's Education and Instructional Services department. The next milestone was the first lesson of the product's peer review as a course assignment; the peer and instructor feedback helped guide the development of the product. Content development was also used in an assignment in the HTML course in the MIST program. The first usability test was carried out late November of 2014, and sparked revision of the product. December 2014 had another usability test which informed the revisions that were seen in the Field test during late December 2014 and early January 2015.

### **Major Deliverables**

Other than the supporting documents and reports required for the MIST program's evaluation, the only deliverable is the published version of the product. Both HTML5, Flash, and the captivate file are loaded to ITCD servers. Currently the product is not hosted on any other

service, or linked through any permanent website other than the MIST Capstone Festival webpage.

## **Evaluation & Testing**

### **Usability Testing**

Initial evaluation steps can begin, starting with a one on one testing with two to three individuals. The intent was to use at least one current ITL members; however, willing participants were not easy to find so the usability testing was completed by non-ITL member. The participants in the usability testing were moderate computer users, but not experts as an ITL member would have represented. Interviews were conducted to assess the navigation, content, and perceived usefulness of the product after a short survey. The appendix of Likert scale questions from Davis (1989) were used as a model to develop the usability questionnaire.

The usability test (Appendix B) focused on the audio and visual aspects of the product. A link to an early version of the product was given to the two testers who were asked to complete one section of the learning product and then take a Google Forms based survey. The participants followed the instructions via email and were debriefed the next day.

The results and the debriefing discussions showed that design was acceptable except in three critical areas. The navigation buttons built into the page sometimes did not work, this was fixed by checking the functionality of the buttons in the Captivate and adding next/back buttons to the play bar. The buttons also seemed to malfunction when using the HTML5 output from Adobe Captivate. The Flash version had fewer issues with the image buttons not working.

Another issue was in calculating the points earned. When completing a lesson, the points weren't added to the course total until the student returned to the lesson selection page. This caused confusion for the testers because the results showed that they had earned points for the lesson, but not for the course. This was corrected by showing the point total for the course on the lesson selection page. To help users identify whether or not the lesson was completed, a button appears at the end of a lesson that will take them back to the beginning of the lesson if it is incomplete. They are still able to return to the lesson selection menu, but the lesson will not be complete until they answer all questions completely.

One tester also found it difficult to tell when a lesson had been completed on the lesson selection screen. This was fixed by creating a greater difference of color between the complete

lessons and the incomplete lessons. Originally an incomplete lesson was light green and would turn dark green when it was completed. To make the color change more obvious, the buttons now turn white for completed lessons. Lesson buttons sometimes did not work because they had become inactive before the end of the slide; the fix was to adjust the timing of the buttons of the lesson selection page.

To improve navigation a table of contents was added. Because the table of contents was not part of the original design and the dimensions of the product could not accommodate losing the space it needed, a collapsible table of contents was used. This also helped keep the width of the project to fit on a 4:3 ratio monitor, the standard monitor of instructor desktops in UUSD.

## **Field Testing**

The field test was conducted using volunteers and a one group pre/post-test design. Russ-Eft and Preskill (2009) described the design, “This design involves data collection before the learning, performance, or change intervention as well as following it” (p.190). The purpose of this method of evaluation is to test the knowledge of the participants coming into the instructional intervention, and their knowledge as they leave the training program. The hope is to test a statistically significant gain in knowledge to support the claim that the instructional product was able to meet the identified goals. This method does not have a control group; also, when participants do not follow through with the post-test, data can be lost.

The participants can be described as purposive and convenience samples. “A purposive sample selects specific individuals because of their position, experience, knowledge, or attitudes” (Russ-Eft & Preskill, 2009. p. 348). The first group asked to participate in the field test was the current ITL group; however, only two members of the group followed the entire process. The small sample size spurred a search for more participants. This prompted the author to ask colleagues from his work site. This group of participants was a convenience sample; though the sample group was easy to access, the participants likely don’t represent a random sample of the teacher population (Russ-Eft & Preskill, 2009). Though both groups do not create a truly random sample of the population of those who might participate in this training in the future, selection of the ITL members will likely not be random. Principals will have to choose ITL members from their staff using a private selection criteria that is not shared or prescribed by the district.

The pre/post test questions in Appendix C were formatted from the questions in the instruction to fit in a Google Form. Although several of the participants did not complete the

post-test, enough completed both pre and post-test to run Excel's t-Test: Paired Two Sample for Mean with a 95% confidence interval ( $\alpha = .05$ ). The null hypothesis is that there the pre-test score is greater than or equal to the post-test scores ( $H_0: \mu_1 \geq \mu_2$ ); concurrently, the alternative hypothesis was that the post-test scores were greater than the pre-test scores ( $H_a: \mu_2 > \mu_1$ ). The t-Test returned the result that the t Stat is larger than the t Critical Value (see Appendix C: Analysis) for a one tailed test so the null hypothesis is rejected. This suggests that the product is successful in instructing users in the roles and responsibilities of the ITL group. Based on the time stamps of the pre and post-test, it took an average of 63 minutes for the users to complete the course and the post-test.

### **Final Thoughts**

There are some aspects of the proposed product that were not viable during the production. The proposal suggested that at the end of the course should notify the participants' administrators of its completion by email. This portion was omitted because the schools sites will likely make staffing changes in the administrator position and the product would need constant revision. Without these constant updates to the product its project' life span would only be one school year. Currently the product could be used for a longer period of time, thus increasing the likelihood that the training program would be accepted as a professional development tool. Also, the certificate of completion does not have a signature of verification because the product has not yet been adopted by UUSD as a professional development tool.

Missing aspects of the product notwithstanding, the production and evaluation of the product was a success. The production team believes that the product demonstrates a level of mastery of the skills and knowledge required of the MIST program's requirements. Development of the project is based on accepted learning theories and demonstrates a breadth of knowledge of the technical skills expected of a professional instructional designer.



## References

- Clark, R. C. & Mayer, R. E. (2008) *E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning*. San Francisco, CA: Pfeiffer.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- Dick, W., Carey, L., & Carey, J. O. (2009). *The systematic design of instruction* (7th ed.). Upper Saddle River, NJ: Pearson.
- Gredler, M. (2009). *Learning and instruction: Theory into practice* (6<sup>th</sup> ed.). Upper Saddle River, NJ, Pearson.
- Johnson, D. (2012). Power up! Electronic feedback. *Educational Leadership*, 70 (1), 84-85.
- Merrill, M. D. (2009). First principles of instruction. *Educational Technology Research and Development*. 50(3), 43-59.
- Midler, Z. (2012). Case profile: Zoe Midler and google docs. *Library Technology Reports*, 48(2), 12-15.
- Monkeylogic Design. (2013). Incremental quiz grading in captivate. Retrieved from: <http://monkeylogic.us/blog/incremental-quiz-grading-in-captivate/>.
- National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). *Common Core State Standards for Mathematics*. Washington, DC: Authors.
- Pappas, C. (2014). The basics of scenario-based e-learning. Retrieved from: <http://elearningindustry.com/the-basics-of-scenario-based-e-learning>.
- Robertson, C. (2013). Using a cloud-based computing environment to support teacher training on common core implementation. *TechTrends*. 57(6), 57-60.
- Russ-Eft, D. & Preskill, H. (2009). *Evaluation in organizations*. New York, NY: Basic Books.
- State of California Commission On Teacher Credentialing. (2012). *Subject matter authorizations*. Sacramento, CA: Authors. Retrieved from: <http://www.ctc.ca.gov/credentials/leaflets/cl852.pdf>.
- Ukiah Unified School District. (2013). Ukiah unified school district board of education

minutes – 12/10/13. Retrieved from:

[http://www.uusd.net/files/\\_weK1g\\_/086cbc569769eddb3745a49013852ec4/Board\\_Minutes\\_12.10.13.pdf](http://www.uusd.net/files/_weK1g_/086cbc569769eddb3745a49013852ec4/Board_Minutes_12.10.13.pdf).

Ukiah Unified School District. (2014). Our purpose. Retrieved from:

[http://www.uusd.net/pages/Ukiah\\_Unified/Departments/Education\\_Instructional\\_Serv/Our\\_Purpose](http://www.uusd.net/pages/Ukiah_Unified/Departments/Education_Instructional_Serv/Our_Purpose).

## **Appendix A – Proposed Roles and Responsibilities**

As an Instructional Technology Leader (ITL) your roles and responsibilities at your site are:

- Support colleagues in using Google Apps for Education.
  - Using the standard suite of Google Applications.
  - Suggesting and Using 3rd party applications.
- Manage student accounts.
  - Reset student passwords.
  - Whitelist applications for student use.
  - Managing student access to their Google accounts.

As an ITL your roles and responsibilities at the district level include:

- Communicate with ITL members through Gmail and Drive.
- Participate in the monthly group meetings.
- Participating in technology based professional development at the discretion of the Education and Instructional Services department or site administrators.
- Lead peer training opportunities on staff development days or in Professional Learning Communities.
- Manage and Update the Staff Training website.
  - Edit website according to the style guide.
  - Create How To articles for different Google Applications or 3rd Party Apps.
    - Delivery via text based directions, embedded presentations, or video demonstrations.
  - Add to the Application databased.

As an ITL, your roles and responsibilities do not include:

- Manage colleagues Google accounts.
  - e.g. resetting passwords
- Maintain or train colleagues on 3rd party programs and databases purchased by the district without proper training.
  - e.g. Setting up Illuminate accounts at a staff meeting.
- Computer & Chromebook maintenance.
  - e.g. installing hardware on desktops.
- Responding to Help Desk tickets.
  - e.g. fixing printer problems.
- Purchasing software applications for site or district level.
  - The process for purchasing applications suites for the site or district must go through the District Curriculum Committee.

## **Appendix B – Usability Testing**

### **Questions**

1. What kind of computer are you using?
2. What browser are you using?
3. Did the lesson automatically start when opening?
4. Was it clear that you needed audio when the project started?
5. Was the audio at a good level?
6. Was it clear how to select a lesson?
7. Were you able to navigate between pages without direction?
8. Were you able to submit answers for the questions without direction?
9. Were you able to open the table of contents without direction?
10. Were you able to open the closed captioning without direction?
11. Please add any comments or concerns you have about the module.

## Results

	Tester 1	Tester 2
1	Windows	Mac
2	Chrome	Chrome
3	No	Yes
4	Yes	Yes
5	It was just right.	It was just right.
6	no	yes
7	Yes	Yes
8	Yes	Yes
9	Yes	Yes
10	Yes	No
11	<p>Why are there arrows at the top that don't do anything? (except randomly sometimes they let you go back)</p> <p>Why can't I click on the lesson I want?</p> <p>Why does it require me to continue to hit play to keep going? Why doesn't it just keep playing?</p> <p>How do I respond to the slide "Sharing Information" When it asked how else could you find out where the meeting is?</p> <p>Why did my score change when I didn't do anything except go back and then forward?</p> <p>What do I click at the end of the lesson to go back to the beginning of the lesson?</p> <p>Why would I need to go back to the beginning of the lesson?</p>	<p>There are a few spelling errors. Also the points didn't seem to add up correctly and some of the lessons were not highlighted when I finished them. Liked the diversity in the presentation.</p>

## Appendix C – Pre/Post-Test Questions

### Questions

1. Which of the following will likely not take place at an ITL meeting?
  - a. Sharing a new application you found.
  - b. Discussing which grades get the next batch of Chromebooks
  - c. Choosing digital textbooks
  - d. Preparing for Google Classroom Training.

2. Which of the following is not a recommended way to find out when the next ITL meeting is?
- Google+ ITL community
  - Email the previous ITL member.
  - Ask your principal
  - Have a current ITL member invite you to the calendar event.
3. Identify if the task should be for ITLs or Tech department.

	Tech Department	ITL
Teacher needs an App to teach typing		
Teachers wants to make a Class website		
Forgot Illuminate password		
WiFi won't connect		
Computer won't print		
Student forgot Google Password		

4. Which of the following items is not needed to create a student account?
- Student Identification number
  - Student name
  - Student graduation year
  - Student address
5. There are two ways to find a student account in the admin console, which of the following is not one of those methods?
- Search for the student using their first and last name
  - Find the student using the directory tree
  - Search for the student using their student ID
6. If you don't have the Google Application Staff Training site bookmarked, where can you find it?
- Linked through the UUSD website
  - By searching the web for Google Staff Training
  - The site can only be accessed by invitation

7. ITL work completed during your prep period can be claimed on a supplemental time sheet.
  - a. True
  - b. False
8. When do supplemental timesheets need to be turned into the district office?
  - a. After completing a training event.
  - b. On the first of the month.
  - c. On the last business day of the month.
  - d. On the 20th of the month.
9. How long should a One on One training take?
  - a. No more than 15 minutes
  - b. No more than 30 minutes
  - c. No more than 45 minutes
  - d. No more than an hour
10. Who do you not need to contact before a small group training
  - a. The education and Instructional Services Department.
  - b. Your site administrator.
  - c. Your staff, to see if there is anyone interested.
  - d. The participants of the training session.
11. If the participants want to use the time spent in a training for the buyback hours, what is your responsibility?
  - a. Turn in the sign in sheet to the district office.
  - b. Sign their timesheets in the "Approved By" column.
12. Which of the following should not be used as a sign in sheet?
  - a. A Google form
  - b. Binder paper
13. It is not your responsibility to turn in a timesheet for a district led training.
  - a. True
  - b. False

## Results

Results are coded with a 1 for correct, 0 for incorrect. Names coded for anonymity.

User Code	1	1	2	2	3	4	5	5	6	6
Pre (0) or Post (1) test	0	1	0	1	0	0	0	1	0	1
Question										
<b>1</b>	0	1	1	1	1	0	0	1	0	1
<b>2</b>	1	1	0	1	0	1	1	0	0	1
<b>3a</b>	1	1	0	1	1	1	0	1	1	1
<b>3b</b>	1	1	0	1	1	1	1	1	1	1
<b>3c</b>	1	1	1	1	1	1	1	1	0	1
<b>3d</b>	1	1	1	1	1	1	0	1	1	1
<b>3e</b>	1	1	1	1	1	1	1	1	1	1
<b>3f</b>	1	1	0	1	1	1	0	1	1	1
<b>4</b>	1	1	1	1	1	1	1	1	1	1
<b>5</b>	0	1	0	1	0	0	0	0	0	1
<b>6</b>	1	1	1	1	1	1	0	1	1	1
<b>7</b>	1	1	0	1	1	1	1	1	0	1
<b>8</b>	1	1	1	1	0	1	1	1	1	1
<b>9</b>	0	1	0	1	0	1	0	1	0	1
<b>10</b>	1	1	1	1	1	1	0	0	1	1
<b>11</b>	0	1	1	1	1	1	0	1	0	1
<b>12</b>	0	1	0	1	0	0	0	1	0	1
<b>13</b>	1	0	0	0	1	1	1	1	1	1
<b>Total</b>	13	17	9	17	13	15	8	15	10	18

## Analysis

t-Test: Paired Two Sample for Means

	<i>Post-Test Score</i>	<i>Pre-Test Score</i>
Mean	16.75	10
Variance	1.583333333	4.666666667
Observations	4	4
Pearson Correlation	0.490511472	
Hypothesized Mean Difference	0	
df	3	
t Stat	7.131652341	
P(T<=t) one-tail	0.002837616	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.005675231	
t Critical two-tail	3.182446305	