## Rationale Paper

EdTech 592 - Portfolio

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# Introduction

Knowledge is power! My goal is to learn as much as I can about subjects that interest me. As I started my career, I never dreamed of returning to school because I thought I knew enough to further my career. Seven years into my career as an application developer and adjunct instructor, I became more interested in education technology. So I applied for candidacy in the Master of Educational Technology program to follow through my life mission: to enhance and promote education to all through the use of technology.

I began preparing for this mission by completing a Bachelor of Science in Computer Science from Mississippi State University. After graduation, I acquired a position with the University of Alabama at Birmingham as an Information Specialist. There at the university I assisted faculty in preparing blended learning courses for the online environment, WebCT. I developed course shells and provided assistance in complimenting their courses with multimedia tools. While working for the university, I desired a need to obtain a Master of Science in Information Systems and Management. While pursuing a degree in Management of Information Systems, I could apply the skills learned to build a foundation to transform my career options.

I currently work for the local government as a Web Surveyor and Multimedia Developer. In this position, I create and develop intricate examination videos as well as web-based applications. This position allows me to be creative and serve as my own project manager for small projects. I create online examinations with the use of object-oriented languages and relational databases using Microsoft SQL Server.  I oversee database development/management, using Entity Relationship Diagram (ERD) and data normalization, ensure project planning is achieved, and manage team members through the process of Software Development Life Cycle.

My short-term goals was to progress toward an extensive knowledge of educational techniques and technology and acquiring an understanding to become a leader in an educational environment. This program has made this goal possible. My aspiration is to use this expertise to promote rational studies that can help embrace technology with education. I want to provide the faculty with the best strategies to deliver course materials through technology in the classroom or media center whether it is virtual or traditional. The courses taught at the university helped to develop the necessary skills to design course materials that will encourage the students to learn and be enthusiastic about learning. I believe that technology in the classroom is the key to future learning.

My long-term goal is to use my experiences and Boise State University training to enhance and promote education to all through the use of technology. I look forward to promoting educational technology to all schools and universities that I encounter.

This paper serves as a defense of the work that was done in the program. Each artifact shows my mastery of the AECT Standards which were adopted by the Educational Technology program.

# STANDARD 1 DESIGN

Candidates demonstrate the knowledge, skills, and dispositions to design conditions for learning by applying principles of instructional systems design, message design, instructional strategies, and learner characteristics.

### *1.1 Instructional Systems Design*

Instructional Systems Design (ISD) is an organized procedure that includes the steps of analyzing, designing, developing, implementing, and evaluating instruction.

### 503- Creating a Website for Corporate America (Final Project)

In this course, I learned the difference in a teacher and instructional designer. This was an eye-opener, because the two positions to me before the course were one in the same. The purpose of the Instructional Design project was to develop self-paced instructions on how to create a website for Corporate America. This project was based on the ADDIE process of Analyze, Design, Develop, Implement and Evaluate. The learning goal for this project is "Students will be creating a website (wireframe) that they can use as part as their portfolio for experience. Students will be able to gain confidence of web design through this project." This project helps develop "intellectual skills". The students will learn procedural knowledge and then apply that knowledge to a new experience (Smith & Ragan, 2004). At the end of the instruction, the students will learn how to create a website for Corporate America. I have used this project in one of my recent courses. Students were eager to learn and were able to utilize their skills as a group.

### *1.2 Message Design*

Message design involves planning for the manipulation of the physical form of the message.

### 506- Justification Paper

When planning a lesson, visual context and design should be considered. This project demonstrates my mastery of the standard of visualization of design and commentary regarding elements, principals and guidelines utilized in designing the visuals. These visuals were created with Adobe Illustrator and Photoshop.

The graphics used within the lesson plans were guided by the leading theories in the field of instructional design, graphic design and visual literacy for instructional media. When considering the lesson plan, graphics should be added to help the student thought process. The graphics allow for the students to think about what the objective being taught and how they could apply it to their assignment. The focus on the graphics will be helpful when trying to teach any lesson. From this assignment, I learned that the uses of graphics are needed to assist the students with learning concepts.

## *1.3 Instructional Strategies*

Instructional strategies are specifications for selecting and sequencing events and activities within a lesson.

### 503-ARCS Table

This artifact provides activities with specific strategies for establishing relevance, gaining attention and inspiring confidence. The table provides different strategies for my instruction. Several studies have shown that when applied to instructional design, the ARCS model can have positive motivational effects on learning (Colakoglu & Akdemir, 2010). Since learning about the ARCS model, I have recently tried this type of motivation learning in my course. The activities keep the students engaged and aware of the lesson.

### 504- Learning Theory

This artifact provides demonstrates mastery in knowing that teaching could be based on the way that students learn. Instructors should focus on the learning styles of the students. Survey data was sampled often to determine the different behaviors needed

upon entry. Education, prior content knowledge and ability levels were also used in the sample data. The information was gathered in the systematic way in which drove the development and design of instruction.  This type of theory had a major impact on usability.

### *1.4 Learner Characteristics*

Learner characteristics are those facets of the learner's experiential background that impact the effectiveness of a learning process.

[504- Synthesis Paper](#)

This paper demonstrates my mastery by distinguishing what type of activities should be created for students with different learning theories. As an instructor, the advances of technology have been increasing according to our level of distance learning. The theoretical explanations of how we teach and learn have become the highlight of the way we communicate. The theory that I discovered was the transaction distance theory. This theory provides technologies supportive to process of teaching and learning in distance education context.

# STANDARD 2 DESIGN

Candidates demonstrate the knowledge, skills, and dispositions to develop instructional materials and experiences using print, audiovisual, computer-based, and integrated technologies

### *2.1 Print Technologies*

Print technologies are ways to produce or deliver materials, such as books and static visual materials, primarily through mechanical or photographic printing processes.

504- Annotated Bibliography

This artifact includes resources used to prepare for the synthesis paper for the course. I researched and acquired sources relative to constructivist theory and education technology. Each source has a description provided. I was astonished how the prior research and making notation of what each article entails helped with the final paper. By having this type of bibliography, it helped me stay on tasks on right subject.

## 2.2 Audiovisual Technologies

Audiovisual technologies are ways to produce or deliver materials by using mechanical devices or electronic machines to present auditory and visual messages.

554 - Technology Use Plan

This artifact provides demonstrates the use of audio and visual technology to stimulate the student. This was a group a project that was created with Voice Thread and PowerPoint. Voice Thread was introduced in the first course of the EdTech program. I used this application in one my courses to provide a verbal discussion for their weekly discussion. It adds more to a discussion to listen to your peers instead of reading their responses. The presentation provides a set of guidelines for an organization to obtain goals for their technology. The plan provides recommendations for the school districts in the area of learning, assessment, teaching, infrastructure and productivity.

## 2.3 Computer-Based Technologies

Computer-based technologies are ways to produce or deliver materials using microprocessor-based resources.

[502- Scavenger Hunt](#)

This artifact provides emphasis on delivering learning materials through computer-based technologies. Many resources are available for instructors and students to enhance their learning. This artifact was created online adult learners entering their first program of online instruction. Definitions are defined such as copyright to help the student to understand that just because something is available to you to copy does not mean that it is yours to use as your own. A scavenger hunt exercise is provided so that the students will be able to have fun while learning the fair use guidelines.

## *2.4 Integrated Technologies*

Integrated technologies are ways to produce and deliver materials which encompass several forms of media under the control of a computer.

[502- Virtual Tour](#)

This artifact utilizes a variety of tools such as websites, YouTube Videos and Google Maps to take learners on a virtual tour of the four top places in Canada. This was one of my favorite projects. It allowed using a multitude of resources to create a website that can be utilized for touring. Ragan & Smith (2005) stated that enthusiasm learning in a constructivist approach can lead to trivial learning. The students are able to brainstorm about what was learned. The virtual tour provides a higher order of thinking and eliminates the concern of false learning. Students learn differently; therefore, integrated technologies should be used.

# STANDARD 3 UTILIZATION

Candidates demonstrate the knowledge, skills, and dispositions to use processes and resources for learning by applying principles and theories of media utilization, diffusion, implementation, and policy-making.

### 3.1 Media Utilization

Media utilization is the systematic use of resources for learning.

503- Reading Quiz

> This artifact provides the use of media to interpret different styles of instructional design (metaphors). This assignment was particularly fun and frustrating. The frustration came from finding images that would fit the definition for instructional design. Upon reading the definitions, I had a hard time translating the definition to a picture. It made me think outside of the box. After completing the assignment, I was proud that I was able to interpret all of the metaphors with images that I thought were relevant to instructional design.

541- Technology Integration Website

> In the EdTech 541, I created a website that was dedicated to integration technology. In this website, we created lessons and activities that related to high school students. This website used a variety of media such as YouTube Videos, PowerPoint, XtraNormal (3D video maker), photos, Camtasia. The media was selected based on the lesson. For example, the XtraNormal video was created to provide a short lesson on why it's important that students are aware of Internet security. Dick and Carey (1996) states "present stimulus situations that would be hard for a teacher to present in any other

way". This provided a visual story line. Compiling this website took numerous hours to build. The website I think is a good basis to use for any course. You are able to provide multiple lessons while using different media.

## 3.2 Diffusion of Innovations

Diffusion of innovations is the process of communicating through planned strategies for the purpose of gaining adoption.

### 501- Digital Inequality

This artifact demonstrates the digital divide that is present in society which was created with PowerPoint. Many may be confused or unaware about the digital divide and its impact on student learning. This presentation provides some suggestions on how to narrow the gap between the "haves" and "have-nots" (DiMaggio & Hargittai, 2001). I was intrigued to review the statistics on the digital divide that is present. I was aware of the divide but did not know the effect that it is having. It is evident that those with without technology do not have resources to narrow the gap. I made recommendations to narrow the gap by providing low cost internet services and internet able kiosks to the communities that are lacking technology.

### 541- Microsoft Access Tutorial/Assessment

This artifact demonstrates the process of communication materials and then having the learners interpret what was learned. This is a basic lesson on Microsoft Access. Upon going through the lessons, the learners will take an assessment to demonstrate what was learned. This lesson was created with PowerPoint and used the objects to create an assessment within the application.

### 3.3 Implementation and Institutionalization

Implementation is using instructional materials or strategies in real(not simulated) settings. Institutionalization is the continuing, routine use of the instructional innovation in the structure and culture of an organization.

502- WebQuest

> This artifact provides an emphasis on activity. Strickland (2005) described an activity such as this as promoting student motivation and authenticity, develop thinking skills and encourage cooperative learning. The students will complete each task before moving to the next tasks. This particular WebQuest provides a real scenario students will be facing upon graduating from high school. The students will have to decide which career path to choose. The website provides a multitude of information and resources that support the objectives of the lesson. Educators and learners have all the information needed stored on a website which makes it easy for students to understand and follow. The WebQuest is well-constructed lesson that provides explicit steps for applying an educational activity based on instructional strategies.

### 3.4 Policies and Regulations

Policies and regulations are the rules and actions of society (or its surrogates) that affect the diffusion and use of Instructional Technology.

502- Netiquette

> Policies and regulations for the use of technology are in place in school districts. The policies are strictly enforced. This artifact is a one page website that contains a learning activity so that students will be able to quickly adapt to the rules of the internet. The tone in an online environment can quickly be misinterpreted due to lack of understanding how to communicate online. This website provides an guidelines to follow in an online

environment. Since creating this page, I have provided this page as an introduction into each of my online courses so that students will have a reference in communicating online.

# STANDARD 4 MANAGEMENT

Candidates demonstrate the knowledge, skills, and dispositions to use processes and resources for learning by applying principles and theories of media utilization, diffusion, implementation, and policy-making.

### *4.1 Project Management*

Project management involves planning, monitoring, and controlling instructional design and development projects.

### 505- Evaluation Proposal

This artifact was chosen because it demonstrates project management. This was a proposal on preparing training for the Far West Laboratories. The proposal provided a proposal of a timeline, market value, training materials along with budget and facilitators needed. While developing the proposal, I learned how to approach developing a proposal in which to create a method of evaluation, analyzing data and creating a feasible budget and timeline. This assignment made me realize what it took to handle such a large scale project. In the future, I will be applying the skills learned from this standard to future projects such as technology use plan for my organization.

## *4.2 Resource Management*

Resource management involves planning, monitoring, and controlling resource support systems and services.

### 501- School Evaluation

The school evaluation was selected for this standard. An evaluation was based on administration, curricular, support, connectivity and innovation of my local school district. In conclusion, the school recognizes the constant changes of technology and always willing to adapt to change. The school will hold workshops over the summer to improve the quality of teaching through the use of technology. This assignment provided me insight on how to analyze a current status of a school by using various measuring means. The monitoring of resources is an important step towards developing and using technology effectively.

### 541 Relative Advantage Chart

The Relative Advantage Chart artifact chosen demonstrates my ability to manage resources. This assignment provides a multitude of ways for a student to identify instructional situation that might occur. The chart also provides a collection of resources to solve the situations. Each resource provides a relative advantage and expected outcomes of using the resource. By using this artifact, I was able to identify the issues, planned strategies to solve and the relevant advantage of using the tools to solve any issues that might arise.

## 4.3 Delivery System Management

Delivery system management involves planning, monitoring and controlling 'the method by which distribution of instructional materials is organized' . . . [It is] a combination of medium and method of usage that is employed to present instructional information to a learner.

### 502- Jigsaw Activity

A jigsaw activity was designed as a cooperative learning activity on how to set-up three types of networks. The lesson is divided into three expert groups based on network topology. Each group teaches how to set-up their type of network. This artifact is distributing instructional materials organized by expert groups. The process of learning is outlined and the resources are made available to the learner.

## 4.4 Information Management

Information management involves planning, monitoring, and controlling the storage, transfer, or processing of information in order to provide resources for learning.

### 552- Pinging/Tracer Route

Information management is "key" in any organization or school district. Content is stored online and could be easily accessible to anyone if the system is not secured. While I have great interest in technology, networks were foreign to me. I know they exist in order to process information electronically but did not understand how a network works.  In this artifact, a server was set up and the screenshots shows how machines could be pinged to see what machines are on the network. The TracerRoute application can then be used to trace the ping through the network to ensure there are no leaks or loopholes. This assignment provided insight on how information is handled within a network. It also provided basic knowledge of how to trace issues within a network.

# STANDARD 5 EVALUATION

Candidates demonstrate knowledge, skills, and dispositions to evaluate the adequacy of instruction and learning by applying principles of problem analysis, criterion-referenced measurement, formative and summative evaluation, and long-range planning.

## *5.1 Problem Analysis*

Problem analysis involves determining the nature and parameters of the problem by using information-gathering and decision-making strategies.

### 505-Evaluation of iPads

Understanding the problem and gathering information is the basis of problem analysis. Boulmetis and Dutwin (2011) explain that evaluation is a systematic process of collecting and analyzing data. The artifact chosen for this standard is an evaluation to include iPads in the classroom. The goal of this research is to provide data on whether the use iPads enhances the student learning or not. The study was based a classroom of 18 with diversity. There were two evaluations, observance of the class without the use of iPads and one observing the class with the use of iPads. In conclusion, the evaluations indicated that iPads does improve student learning environments and offer more participation. While I have made several observations before but never put much though into what type of evaluations that were given. I now know that there what is involved in evaluating a new trend to see if it is feasible for a learning environment based on information-gathering and decision-making strategies.

## 5.2 Criterion-Referenced Measurement

Criterion-referenced measurement involves techniques for determining learner mastery of pre-specified content.

### 501- Self Evaluation

This artifact is a rubric that was used as one of the first assignments in the first course (EdTech 501) of the program. This helped me assess my project in the course. This rubric provided specific criteria that were established to determine if the project was on the right track. Rubrics are created to evaluate the work of learner. The rubrics align with objectives stated in the project. I personally love rubrics. It helps the learner to establish a clear idea of what should be included in an assignment. I have started using more rubrics in my courses so that the students know what is expected. By providing a rubric, it gives the students a chance to excel in the course.

### 554- Software Rubric

This artifact was a collaborative effort in which a software evaluation tool was created to evaluate software. The rubric was designed to evaluate any type of software. The rubric evaluated the software on adaptability, ease of use, engagement, alignment to standards, and cost of maintenance.  While completing this assignment, I realize this is the actual way that I evaluate software today. I didn't have a rubric for it but now I'm using this rubric of a basis to move forward or reject software.

## 5.3 Formative and Summative Evaluation

Formative evaluation involves gathering information on adequacy and using this information as a basis for further development. Summative evaluation involves gathering information on adequacy and using this information to make decisions about utilization.

## 505- Evaluation Checklist

This artifact was used to demonstrate the formative and summative evaluation process. Boulmetis and Dutwin (2011) explained there are two types of evaluation formative and summative. The checklist provided an evaluation of Idaho Training Clearinghouse training efforts. Upon using the checklist a summative evaluation was provided. I learned that an evaluation report must be very thorough and to clear any confusion, the stakeholders, audience and overview of the program should be stated first. This will cut down on someone having to read the entire report to find out the pertinent information. I would much rather rate a report than have to actually evaluate a program and create the report.

## 542- Begin with the End in Mind

This artifact provides emphasis on providing grading rubric to evaluate the assignment. This assignment was created using Project Based Learning. The group creates a corporate website using the guidelines provided. Upon completion of the project, the group evaluates each other as well as themselves based on the grading rubrics and a formative evaluation. I have actually used this type of evaluation in my design course before. I now see the benefit of having a "new pair of eyes" to evaluate a program and the difficulties when evaluations are not as detailed.

### 5.4 Long-Range Planning

Long-range planning that focuses on the organization as a whole is strategic planning. Long-range is usually defined as a future period of about three to five years or longer. During strategic

planning, managers are trying to decide in the present what must be done to ensure organizational success in the future.

501- Technology Plan

The Technology Use Plan provided demonstrates an example of long-range planning. Technology Use Plans are required by school districts to be able to access what their needs are presently and what the needs will be in the future. Using my local school district, I developed a technology integration plan. The following areas were addressed in the plan: 1) Defining what a plan is and why it's needed? 2) Collaborators defined 3) Developing the Plan (Vision Statement, Mission Statement, Evaluate infrastructure, develop budget, develop timeline, implementation).  This was a great thought process to envision what measures need to be taken to implement the plan. While completing this assignment, I realized that strategic planning is needed to make implementations that will be completed over a few years.

# Conclusion

Entering into the Master of Education Technology program at Boise State, I was unsure of my expectation. I have always been intrigued about technology. My overall goal was to progress toward an extensive knowledge of educational techniques and technology and acquiring an understanding to become a leader in an educational environment. This program has definitely opened my eyes to different learning techniques some of which I have been implementing in the courses that I teach. The portfolio developed is a great way to compile the lessons learned over the course of this program. The artifacts will have a lasting impact in my career choices in the

future. I am always reminded of a saying that I ran across while researching, "Teaching in the Internet age means we must teach tomorrow's skills today" (Flemming, 2009).

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