

Example Artifact Narratives

Artifact 1 Instructional Design Plan

ETT 510 Instructional Design Plan

Name of Artifact: Artifact 1 Instructional Design Plan

Area of Mastery: Instructional Design

Course: ETT 510 Instructional Media & Technology

Description of Artifact

This assignment is the plan for a short unit on graph analysis for freshmen science students. Included in the plan is a needs analysis, a recommendation to solve the problem, an outline of the lesson tasks, a learner analysis, unit objectives and assessment, technology hardware and software for implementation, and accommodations for special needs. In the Needs Analysis, it was found that graph analysis is an essential topic for science students to master and is one that they are currently struggling with. More instruction and practice on the topic is needed to make students more comfortable and successful. The recommendation was to increase teacher instruction and modeling of graph analysis as well as student practice with graphs. The lesson tasks included a short lesson by the teacher on graph types, elements of graphs, and modeling of graph analysis; student practice with an interactive website and graphing stations; and then a comprehensive project on graph analysis completed by the students. Unit objectives included students successfully being able to analyze a graph with 75% accuracy and present their analysis using technology with 75% accuracy.

From this activity, it was found that students can be successful in analyzing graphs; they need more practice than originally was part of the unit on lab techniques in that particular science class. Because students had been allowed to practice graph analysis with the teacher during the lesson, with the interactive website, and with the graphing stations, they were familiar with the trends to look for in a graph as well as how to answer the questions given. That resulted in all students being able to successfully analyze the individual graphs they were given for the final project.

Rationale for Inclusion

This artifact fits the category of Instructional Design as it is the design of an instructional unit. The purpose of the unit is to teach students graph analysis, which is a skill necessary to possess in all science classes, on the Illinois Science Assessment, in other classes, and in life.

All Instructional Design criteria are met through the Instructional Design Plan. The plan demonstrates that I can apply a coherent design model; I began by conducting a Needs Analysis to determine the need for the unit and, from that, created an initial recommendation of tasks that included instruction/modeling, practice with feedback, and assessment/project. Next, I

performed the Task Analysis in which I outlined the details of the tasks for each day of the week-long unit. After the Task Analysis, I completed a Learner Analysis to ensure I understood the learners this unit was for and that the unit could effectively impact the learners. Next, I created the learning objectives of the unit and determined the technology necessary to complete the unit, and finally, I created accommodations for students with learning disabilities and higher-level learners. All of the steps followed are essential for the creation of a complete and effective unit. Because the objectives are related to the need for the unit, and the tasks will help students to reach the objectives as shown through the assessment project at the end, the need would be diminished; this shows that the design model is coherent.

Through the Needs Analysis, I analyzed the problem that students have a difficult time analyzing graphs when it involves more than one piece of information or a simple statistical calculation. I created a solution to solve the problem when I gave my initial recommendation and then elaborated on that with the Task Analysis and outline of activities for the unit. By participating in the unit and completing the final project, students would be able to become successful at analyzing graphs. That would solve the initial problem. The strategies I recommended for solving the problem include all of the tasks in the Task Analysis, the teacher instruction and modeling, the student practice with an interactive website and practice stations, and assessment through the final project.

Effects to my Learning

With this assignment, I did not necessarily learn anything new, but what I already know about instructional design was reinforced. Since I began writing lesson plans and units in my undergrad, I was taught to have unit or lesson objectives of the things I want my students to accomplish by the end. After objectives, I would need to come up with the activities and tasks that would help my students to be able to meet the objectives. Those activities and tasks make up the lesson or the lessons of the unit. Finally, assessment would need to be decided. The assessment should be the way the students can show that they have met the objectives.

Whenever I create lessons or units, that is the plan that I follow: objectives, activities, assessment. With this assignment, that is basically what we did but in much more detail. In Part 2, the Task Analysis, that is where the details of the lessons were laid out and described extensively. That is always part of lesson/unit planning. After many years of teaching, I no longer write down all those details, but they are in my mind when I do the planning. Going along with that, the first part of Part 4, Design and Development Plan, is where I selected the hardware and software needed for the lesson. That is considered whenever I plan the activities for the lesson. I know what hardware and software is available to me, so I take that into consideration when I figure out the activities without writing it down. The rest of Part 4 was where I connected the objectives, instructional strategies, and assessment of the objectives. This is always part of planning, but here it was neatly organized into a chart; I don't currently do that this way, but I see the importance of doing that to make sure the assessments are directly aligned to the objectives and that the activities help the students to meet the objectives. The last part was the accommodations for students with special needs and higher-level students. Making accommodations is something I just do with each activity and assessment in a lesson or unit. I don't have a formal plan like that in this assignment.

There were some aspects that were part of this assignment that I normally do not spend much time thinking about in a normal lesson. One of those is Part 1, the Needs Analysis section. When I decide on a topic for a lesson or unit, that topic is chosen because it is covered in a standard that needs to be addressed or is part of the pre-determined sequence for the course. A Needs Analysis does not need to be done because it has already been determined that the topic is a need. Another aspect that is not written but is addressed in my mind is Part 3, the Learner Analysis. In my small district, I have known the students I have in class since they were in 6th grade science. I know what kind of learners they are and the tasks or activities that suite them the best, so those are the strategies I use in the lessons/units. By completing this assignment, I know that what I normally do is the correct model to follow; I do realize that there are some things I don't do that I could or things that I could do differently, but for the most part, what I do is sufficient.

Effects to my Students' Learning

By completing this instructional design plan, I realize that my students' learning was affected positively. I used this short unit twice during the last school year, and it is drastically different from how graph analysis was approached previously. Because I always assumed that students could analyze graphs, as it was something that they had done in school for years in different subjects, I didn't give it much time or attention. I simply had the students practice without giving them any instruction. After approaching graph analysis in this manner, I realized that students did need more instruction on the topic even though they had been taught it in the past. With a focus on the overall big idea of a graph and what one can learn from a graph, the students became better analyzers than when I just focused on simple statistical analysis questions or data point questions. Students can now make predictions based on the trends in the data and give overall conclusions. Their learning has been strengthened by this instructional design plan, and they have been given valuable skills for all of life from this. I know this to be true because of the assessment in the unit, the individual graph analysis project. Each student was successful in analyzing the graph given and was able to explain the big idea.

Media / Technology Development

Artifact 1 Design Principles Development Activity

ETT 511 Design Principles Development Activity

Name of Artifact: Artifact 1 Design Principles Development Activity

Area of Mastery: Media/Technology Development

Course: ETT 511 Advanced Instructional Media Design

Description of Artifact

This assignment is a print medium created for use in a high school Biology classroom to review the Cell Cycle and introduce Meiosis. The document was created to show similarities and differences between the two processes. Students were shown the document on the SMART board and asked to use the knowledge they gained about the Cell Cycle and what they could see from the pictures to find five differences and two similarities. Studying this medium would give the students a start to their study of Meiosis.

The purpose of the assignment was to create a print medium that could be used in my current setting. Various design principles are incorporated into the design of the resource. Two different colors were used to represent the two processes to distinguish between them and make the information for each stand out. Large headings were used to focus a viewer's attention. The text that goes with each process's image is placed in close proximity to the image so that a viewer can see both the text and image at the same time. That way the viewer does not have to remember what he read and look elsewhere to see the image. The orientation of everything is arranged in a way that allows a viewer to see both processes at the same time so that they can be easily compared. If they were on separate pages, a viewer would have to flip back and forth multiple times; this would make the process more time consuming and difficult.

The major finding from this activity is that the application of design principles is important for better understanding. The purpose of incorporating them is to focus a learner's attention and direct it to certain aspects or to simplify learning for better understanding. In creating the print medium for this assignment, I kept modifying it to include as many design principles as possible because I wanted it to be an effective learning tool for my students. Without those design principles, it would have been harder to distinguish between the information for the two processes, and students may not have been able to accomplish the goal of the activity.

Rationale for Inclusion

The print medium that I created fits the area of Media/Technology Development. This is something that I created on my own to fulfill a certain need in my classroom; that need was a

resource to connect two processes that are similar but happen for different reasons in living organisms and introduce the second process, Meiosis.

This artifact meets all criteria for Media/Technology Development. The medium demonstrates my ability to select media appropriate for learning objectives. The resource was designed in a manner to make students successful in meeting the objectives of the activity which were to find similarities and differences between the processes. As I stated above, the design principles I used easily showed which information and images went with each process so that students could find the differences. Because everything fit on one page, students could look at all at the same time and identify the similarities. The artifact also demonstrates that the media I create can match the delivery environment, the SMART board in a classroom. Besides putting all of the information on one page to make it easy to see for comparing processes, another reason was because the medium was to be shown on the SMART board. In order for the information to be large enough to see anywhere in the classroom, the images and text needed to be quite large. If the two processes were on two different pages, to show both at the same time, I would have had to zoom out in Word to show two pages at once. That would have caused the text and images to be too small to see from far away. I also didn't want to have to scroll back and forth between two pages on the SMART board because not all students would be looking at the same information at the same time. It was designed in a way to make it work when shown on the SMART board. The document employs sound instructional strategies in the design principles it follows which were described above.

Effects to my Learning

What I learned from this assignment and others in which a resource had to be created using design principles or evaluated for its design principles is that I have already been using design principles without formally doing so on purpose. Whenever I have created artifacts (PowerPoint presentations, worksheets, labs, practice activities, or visual resources) or found resources (videos or interactives) for use in my classroom, I have always tried to follow a few requirements. I have wanted them to be readable depending on the way they are displayed, either on the SMART board, student laptop, or physically on paper. The orientation of objects and size of text may differ depending on the display needs. Artifacts are always organized to make them easy to understand; I use headings that are bolded or underlined to point out important parts and distinguish between sections, and I put information that goes together in the same place or section. I always put images next to or close to the text that they go with. All of those things that I always do are done that way just because I want my resources to look good. I want them to look interesting to catch my students' attention. Little did I know, those things I have been doing are some of the design principles I learned about in the course. Even though I have been incorporating design principles unintentionally in all my work, I now know the reasons for doing so. It is all to impact the viewers of the resources and allow them to get the best understanding out of the resources by focusing their attention and reducing the mental load on their minds. Going forward, I will be intentionally cognizant of design principles when creating resources to impact my students positively.

Effects to my Students' Learning

This assignment impacted my students in a positive manner. As this was something new I created for use in Biology, I feel as though it was a good addition to the unit. Prior to using this activity, I simply started the study of Meiosis by having the students dive right in to learning about the process and when I presented on the process, I told them that it was similar to the Cell Cycle that they had already learned. Rather than allowing my students to make the connections between the two, I was doing that for them. With this activity, I gave the task of finding the connections to my students, and I acted as the facilitator rather than the presenter. By putting that on my students, they were able to create a better and longer-lasting understanding. It allowed them to learn the steps of Meiosis more easily because they could see what parts were similar to the steps of the Cell Cycle that they already knew and had to learn less new information because of what they knew prior.

The fact that I included the visual design principles that I did in the creation of the resource also made for better learning of my students. The use of different colors and large headings for the two processes and similar pieces of information for both as well as the arrangement of the text and images on the document was all done as it was to make it an effective learning resource for the students by focusing their attention and reducing the mental load.