ADDIE Model

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Before starting to evaluate the educational design we want to know what Instructional Design means. Instructional design is known as instructional technology. It means a systematic process that helps in creating and developing effective, appealing, and efficient instructional materials within a supportive environment using art, science, learning, and instructional theory. The components of the instructional design include analysis of learners' problems and needs, designing of instructional design include activities and materials. Development of objective goals is also done in order to meet the learners' need, implementation includes training, and finally it includes evaluating the instruction and the learners' outcomes. Additionally, there are instructional design models that are used by the instructional designer and the developers of training. I am going to choose the model that is called the ADDIE model in order to evaluate all of the components of the design.

ADDIE Model

ADDIE model is one of the most common models used in the instructional design field a guide to producing an effective design. This model is an approach that helps instructional designers, any content's developer, or even teachers to create an efficient, effective teaching design by applying the processes of the ADDIE model on any instructional product. In fact, the elements made by following the ADDIE model can be used in any environment as online or face-to-face. In addition, this systematic process is represented in the acronym ADDIE, which stands for the important components in the process of creating the instructional design, which are Analysis, Design, Development, Implementation, and Evaluation. Each phase in ADDIE model is related to and interacts with each other.

Analysis phase

Analysis stage is the most important phase in this process. When instructional designers do the analysis phase before creating the plan, developing, or even implementing, they really save huge amount of courses, effort, and time. In order to carry out the analysis phase we have to analyze four things, like we have to analyze the learners (where they are at, their skills and needs, etc.), develop an instructional analysis (to provide the necessary steps and present opportunities to learn and use new information in an instruction), create instructional goals (aimed at specifying the end desired result), and analysis's learning objectives (how to measure the attainment of goals). That means you have to be clear about your goals and where you want your learners to be.

• **In analysis of the learner.** We need to know what do the leaner's know already about the topic, so we can build our plan on what they learned and know what information the audience needs and how much. We need to know the needs and problems of the learners. In order to identify that, we can do surveys, interviews, pretests, or pre-assessments of the audiences to collect data about them. For instance, if we choose to teach history class and our topic is Ancient Civilizations, an effective way to start is to bring a big world map and ask the learners to identify and point out any ancient civilizations on the map.

• **In analysis of instructional goals**. We have to identify obvious goals for the specific instruction. What do you want the learners learn? When you clearly identify your specific goals, you will save much in time and sources. In fact, you will create a very effective instruction design. An example on our topic is that we want our learners to identify Ancient Egypt on the map, provide examples of contributions of their civilization, and describe three enduring artifacts constructed by Ancient Egypt.

• **Developing instructional analysis.** Is very hard and complicated. When we identify specific goals we will start to write all the important steps and all the details that we need to achieve the goals. In fact, this phase is more visible from the instructional designer because we need to edit back and forth.

• For example, what do we want our learners to learn about Ancient Egyptian civilization? Where it was located? When did Ancient Egyptian civilization start and when it ended? What were the major dynasties of Pharaohs? And what did they do? What were contributions of ancient Egyptians to the world?

• **In developing learning objectives.** We have to be more specific. In this phase, we define what our learners should be able to do when the instruction is finished. Additionally, the formalized aspects are skills, behavior and knowledge. Objectives need to specify an observable measureable behavior that indicates attainment of the goal, that specify the level of accuracy that needs to be attained, and that describes the conditions under which the assessment is given (i.e., the materials or context). For example, we can write our learning objectives in this way: by the end of this instruction the audiences/learners (she or he) should be able to mark correct answers at an 80% accuracy level on a multiple choice test. In order to fill this blank you have to be very specific when you choose your verbs such as, explain, describe, demonstrate, etc. For example, by the end of this instruction the audiences/learners (she or he) should be able to identify where the Ancient Egyptian civilization is located with 100% accuracy level when given a world map.

Design phase

Design phase is the next step in ADDIE model. This phase is really about applying the instruction. In fact, the instructional designer in this step thinks about how design instruction can really be effective in ways that facilitate people's learning and interaction with the materials you create and provide. Furthermore, in design phase the instructional designer evolves and focuses on designing assessment for (his/her) topic, select a form of the course, and creating their own instructional strategy.

• **An assessment's design.** Assessing your learner's outcomes on your subject is very necessary but before, that it is important to know how you will assess these outcomes when you are working on your instructional design. To do the assessment effectively, you must use the data that you already collected from the former stage, which is Analysis phase. Along with that, make sure that your assessment is strongly related to the content and context. Also, when you write your assessments make sure your tasks or questions are written well, so there is no mistake or misunderstanding that might lead to confusion by the learners. For instance, if your topic is about Ancient Egyptian civilization, do not talk about modern civilizations or ancient civilizations that have nothing to do with Ancient Egypt.

• **Select a form of the course.** The second part of the form of your course is to choose a delivery system. Form's course means how you are going to represent your materials about the topic. In fact, there are many formats you can use in order to deliver the content; for instance, lecture in the classroom, online over the Internet, self-based workbook, etc. or in course that integrates many methods. That means you have to select the form of the course that match your design assessment. For example, if the learners are going to take tests by using their own laptop, the effective way then is to select the form of the course that allows the learners to use their own laptop. For example, give the learners a chance to research about the pyramids using their own laptop.

• **Creating instructional strategy.** After you have finished the assessment's design and created the form for the class, we will start creating the strategies for the instructional design. Truly, the course strategy is a combination of many methods to help the learners understand the topic (for instance, lectures, discussions, reading, and activities, etc.). An example might be a website that has links to guest speakers or experts (such as Zawi Hawass, the foremost Egyptologist currently in Egypt), to other websites or to activities that the learner can engage in to practice the ideas and skills being presented, such as a matching of terms to their definitions.

In addition, when we work on creating the strategies we have to consider motivating our learners, so they can recognize the importance of our topic.

For example, if I want teach the students about using the Photoshop program, a good way to motivate them is to explain that they can use this program to make their own photo in a professional work. We must not forget to clarify the objectives of our course so the learners can see the elements of our strategies. This means we have to use words that describe observable and measurable behaviors and outcomes. Also, you have to make sure that you do not include unnecessary information in your topic to avoid making your learners confused or lost and we must include examples to clarify the information. For instance, I provide an example about each phase and step that I talked about in order to provide additional clarification.

Another important point as well, to give the students chances in your instructional strategies to participate in and consider activities, but those things need to be accompanied with feedback. For example, we have an application on the iPad for preschool level that asks them to match the animals' pictures to each other. The feedback in this case will be a sound of clapping if they found the correct image or if it not they will hear a sound like oh. Each instance of the same animal picture has the same animal sound. From this feedback, the learners can recognize both the sound and the picture of the animals and additionally they will know if they did it right or wrong.

Development phase

This phase depends on the first two phases, which are the analysis and the design phase. That mean, if we did these phases correctly the development will be easier. In this third phase, the instructional designers integrate the technology with the educational setting and process. Also, keep in mind the backup plan in case that the technology that we choose does not work. For example, if we consider Google research to find some information about what the word Ancient civilization means and the Internet does not work, we have a backup, which is PowerPoint presentation. Moreover, the instructional designer starts to develop and create a good quality factual sample for the instruction design, the materials of the course, and run through of the conduction of the course.

- **Create factual sample for the instruction design.** In this step we are going to create samples of our materials in order to show your work to your director and make sure that you are in the right track. For example, if we were writing a blueprint about the Ancient Egyptian civilization it is very helpful to show our learner the blueprint with our instruction strategy that we created in the previous phase (the design phase). This way, we can get (his/her) feedback about our progress and working to improve our sample. This step is important because when you get feedback from a sample of the population that the instructional design is created for, you can work smoothly and identify the weaknesses that we have without having to redo all the materials since there are some things good and other things not good that happened in them. This step helps us identify these good things and ones that need to be revised.

- **Develop the materials of the course.** After we are done from our sample and are satisfied with its design, it is time to start developing our course materials. From the activity we decide to include our instructional strategy along with our sample that we made before. Furthermore, we must pay attention to the advice and suggestions from our boss or supervisor in order to improve our materials. Moreover, we can give our review section of the course materials to a client or friend and see if there is any weakness or any comments, criticisms, and suggestions.

- **Run through the conduction of the design.** After we are done from developing course materials we are ready to start this step, which is a run through of the design, like a practice run or a pilot test. This step is the actual time to do rehearsal for our course using all materials we had created. We have to involve our friend in this step so we can treat our friend as a real learner and use the exact same conditions of the real-time as if we have to teach the learner. In this situation, it will be great if we prepare an assessment for feedback in order to help us find out weaknesses and work hard to improve it.

Implementation phase

This phase is about transforming our plan into action. In order to go through this phase, we have to consider three major steps, which are training the instructors, preparing the learners, and organizing the learning environment. With these three steps we can display our course in very active and authentic ways to achieve the implementation phase.

- **Training the instructors.** Working to train the instructors is a very important process in the implementation phase because sometime the person who is training is not the one who creates the instructional materials. For example, if I get a job that allows me to create materials for a history class, I need to finish developing all the previous phases, which were analysis, design, and development phases. It is time to train the teachers on materials, course objectives, multi-media, assessment, and activities I decided to include. When we train the faculty before the actual course starting, they will become aware and understand all of the materials. Even more, they are going to be more comfortable using it.

- **Prepare the learners.** Since we did training for our faculty or the instructors, we need to move on to the next process of the implementation phase, which is preparing our learners for the instruction that we developed. Along with preparing the learners, we want to be sure that these learners have all materials, tools, and knowledge to contribute to the course or the class. For instance, for a course in education technology will start we want to make sure that the learners are familiar with the information about this course such as when and where the course will be, how many credits this class accounts for, what software is necessary, etc. ☐

- **Organizing the learning environment.** The last process in the implementation phase is coordinating the learner's space. In fact, this is not just to be sure that there are classes available to teach this class or be able to provide chairs, tables and white board. For example, if I am the instructor and my course is going to be about Using Photoshop as a Professional, I need to make sure that the class I choose has a lab and all computers will include Photoshop program, along with making sure that this program is working. We provide this step because it will help achieve the delivery of the course without any issues. Also, the instructors should prepare all handouts and the extra materials they might use during the class time. Furthermore, the instructors need to prepare all materials (he/she) needs in order to deliver the content like markers or checks. If the instructors are prepared with all these details they are going to focus only in delivering the content and experience.

Evaluation Phase

The final process in ADDIE model is Evaluation phase. It is very important to evaluate each step in order to make sure that we achieve our goals using the instructional design and materials to meet the learner needs. Additionally, when we talk about evaluation, we talk about two types of evaluation, which are formative evaluation and summative evaluation. First, formative evaluation is a continuing process that we do as we are working on our instructional materials in each phase on ADDIE model. There are three basic processes of formative evaluation, which are one to one, small evaluation group, and trial in the field. When we evaluate, we want to choose learners that have similar features to our real learners and evaluate the materials based on that.

- **One to one formative evaluation.** This process of evaluation is based on evaluating each material we used in order to see if this material was effective and identifying the strength and the weaknesses of our materials and working to improve it. For example, if I want to teach the learners basic information about how to create slides show on PowerPoint program, I may use a short presentation about this topic. After finishing showing the leaner's this presentation, I will ask them some important questions to make sure if this presentation was effective, like is this presentation was clear? What you understand from it? Finally, I will let them start creating their own slide using PowerPoint. Now, if I would like to write an assessment it must be clear.

- **Small evaluation group.** When we are done from making changes based on what we discovered during one to one stage of evaluation, the next stage will be making a small group evaluation. This stage is evaluating the effectiveness and achievement of the changes that we made in the previous one to one stage. Another point as well, is the importance of observing if the activities work well for the group situation. Also, we are looking for the assessment of these activities to be lucid, effective, and practicable. Even more, to make this stage of evaluation more effective, we need to carefully choose different subpopulations that entirely represent our groups of learners in the course. For instance, choose a group of students that know how to use basic information about Photoshop program and another group of students that do not know that much about it.

- **Formative evaluation on trial in field.** When we finished those two evaluation strategies, now we are ready for real-time rehearsal for all activities that we included in our instructional design. In this case, we need to prepare environments similar to the real environment of our course, as well as one to one and small evaluation of groups. This stage needs to be clear, effective, and practicable in order to finish this evaluation and the content and our instruction design be ready to deliver.

- **The second type of evaluation is summative evaluation.** It is very important to use summative because this type of evaluation helps us to see the real value for our instructional design when the whole instruction for the course is finished. With the summative evaluation we can evaluate the learners' outcomes as well as the effectiveness of all of the components of the design after the students complete the course or design. In fact, we can create specific assessment questions that make the students display how they classify the instruction from strongly disagree, disagree, natural, agree, to strongly agree. For example, how do you feel about the textbook that we used in this course. So the answer will be limited to these choices strongly disagree, natural, agree, strongly agree.

Even more, we can ask them open-end questions to help us see where the weaknesses and work hard to improve it.

• There is a important point we have to be sure we include it when we write the assessment, which is making the evaluation anonymous from the learners so they can give us a honest evaluation without being afraid from us and we can get real benefits in order to improve our instructional design and reach the instructional goals.

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