Instructional Design Models Comparison Paper

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Instructional design models provide for a systematic approach of implementing the instructional design process for a specific educational initiative (Morrison, Ross, & Kemp, 2004). Instructional Design is also “a technology for the development of learning experiences and environments which promote the acquisition of specific knowledge and skill by students” (Merrill, Drake, Lacy, Pratt & the ID Research Group, 1966, p. 6). These definitions of Instructional Design can be difficult to digest. Might I suggest that Instructional Design, simply put, is the process that is used to develop instruction or lessons in many different situations whether it be education or other. There are many different Instructional Design models that generally fall within three categories. Those categories are Cognitivism, Prescriptive, and Constructivist Models.

Cognitivism Models

Cognitivism Models are based on the thought that learning is an active process that happens within the learner and the learning can be influenced by the learner. Cognitivism Models follow three steps in the planning process. The goal of Cognitivism Instruction is for the teacher to assist the student in gathering and organizing data in such a way that the student the students mind will be able to remember it, learn it, and use it in the future (Dabbagh, 2006). There are three steps in this particular model. The first step is Sensory Register. This step is activating the learners mind and getting them ready to process information. A good way to achieve this step in instruction is to have an eye catching, hands on, or fun way to access prior knowledge with the learners and get them excited about what they are about to do. Next, is short term memory (STM); “sensory input that is important or interesting is transferred from the sensory register to the STM” (Mergel, 1998). Once the information is received in the short term memory it can then be forced into long term memory. This is the third and final step. Information
can be forced to long term memory through memorization or seeing the material numerous times and in different ways. With the Cognitivism model “The outcome of learning is not only dependent on what the teacher presents but also on what the learner does to process this information.” (Dabbagh, 2006). The best way to assess and evaluate this model is to observe what the learner does with the information that is given to them. Having students complete projects that cover many objectives will allow the instructor to see what information the student has committed to memory and what information was lost. The teacher then needs to evaluate the way they delivered the information and assess if there was a way to do it differently that would have increased what the student learned.

I can see this model being used a lot in middle and high schools. During the elementary ages the students are developing their prior knowledge. They are just experiencing things for the first time and building the schema. Once they enter middle and high school they should have a decent schema and be able to make connections in the world around them. One specific model from this category of Cognitivism Models is Advanced Organizers. Advanced Organizers are a tool that is used to help the student prepare for what they are about to learner. It is a quick view of what is to come in the lesson in an organized way that will make sense in their brain. These are used in higher grades quite often. A Cognitivism model that I use in my classroom is Concept Mapping. Concept Mapping has become a huge instructional push in Carroll County Schools this year. Concept Maps are graphic organizers used to help students organize their thoughts and ideas in a logical manner. The can be seen in many forms. Concept maps generally consist of boxes or circles that are connect with lines or arrows. This instructional design model allows students to visualize the concept they are trying to master. They can be used for brainstorming, linking new information with old information already learned, and to assess understanding (Lanzing, 1997).
Carroll County Schools implemented the use of Thinking Maps this school year in all elementary schools. Thinking Maps are a collection of Concept Maps that are designed for a specific purpose. For example, the Circle Map is used for describing using two circles. So you would put the object in the inner circle and only adjectives can be used to describe in the outer circle. There are eight total maps that can be used for different learning situations. Due to the nature of Thinking Maps and the fact that certain maps are used for certain concepts, it is easy for teachers to choose which map to incorporate into instruction. It is also easy for students to look at what is being asked of them and decide which map is best for them to choose.

Prescriptive Models

Prescriptive Models are goal oriented and are concerned with the outcome rather than the means to get there. There are four main steps in the planning process of this model. Those steps are activation, demonstration, application, and integration. During activation the instructor is gathering information on what the learner already knows and is drawing conclusions from that knowledge. After activation, demonstration occurs. Demonstration is where the instructor conceptualizes the content and shows the learner the information. Once the learner sees the information, they must then show that they can apply what they learned. This can be accomplished through practice, tests, projects, etc. The final stage is integration. This is where the learner uses what they learned to assist in other more complex applications (Merrill, Barclay & Schaak).

Assessment and evaluation during this model would occur during the application and integration stages. The instructor can easily assess what the learner knows while they are applying their knowledge. This would be completed using formative assessments; interviews, quizzes, etc. Evaluation would be more in the integration stage. This is when the instructor will
really see if the learner understands what was taught and can use it in other situations. This would be more of a summative assessment. This model would be best used when there is a specific goal that the instructor wants to see attained. Having a specific goal will steer the instruction and learning at the same time.

One specific model in this category is the ADDIE Model. ADDIE stands for Analysis, Design, Development, Implement, and Evaluate. In the analysis phase, the instructor looks for problems or questions and then constructs a plan to clarify those problems. During the design phase, planning is completed that needs to be systematic and specific. Once the design phase is complete, then the development phase occurs. The development phase is actually creating the plan. After creating, implementation of the plan happens. Finally, the instructor evaluates what happened during the process and then the process can cycle through again.

I personally like this model because it is specific and simple. The way my team plans for weekly lesson plans follows this model. I also like the fact the model works in a cycle. Once you evaluate at the end, you cycle back through and analyze what needs to be changed and continue on through again. This is great for lesson plans and changing curriculum from year to year. Often times when lesson planning, teachers skip the evaluation phase. I too am guilty of this. You are so busy trying to fit material in that you fail to assess what you just taught. My role in this model would be to evaluate more. I need to make notes in my lesson plans on what worked and what did not and make those adjustments the following year. I also need to make sure that what did not work the students still learned in some way.

Constructivist Models

The Constructivist Models “Simply stated, it is a learning process which allows a student to experience an environment first-hand, thereby, giving the student reliable, trust-worthy
knowledge. The student is required to act upon the environment to both acquire and test new knowledge.” (Constructivism, n.d.). There are five stages that instructors go through to be prepared for the Constructivism Model. Stage 1 is teacher’s knowledge of classroom practice. During this stage the teacher needs to become very aware of knowledge is transferred to students. It might be teacher centered or student centered. Either way the teacher needs to be aware so that he or she knows how to move through the rest of the stages. To truly be constructivism the learning is the child’s responsibility and the child is an active participant. The teacher is there more to guide than to teach. Stage 2 is the identification of students’ knowledge. This is the stage where teachers access students’ prior knowledge to see what they already know and what needs to be taught. Developing pedagogical concept knowledge is stage 3. During this stage teachers become more familiar with conceptual ideas rather than content knowledge. They must know how to get their students to the end means rather than just delivering the content. Stage 4 is broadening and refining pedagogical content knowledge. Once teachers have the concepts familiar, they then move toward knowledge of the content and how to finally achieve mastery of the content. The final stage is development of a constructivist teaching framework. In this stage the teacher completes a coherent teaching framework (Hand & Treagust, 1995, p.34-36).

I can see this self-discovery model of learning used in lower elementary school grades. This model is less structured in the delivery of information and the younger students can handle the lack of structure better than the older students. Many students that age are not ready for the structured learning that elementary schools tend to lean towards. On the other hand, I would have to see this model in action in the upper elementary school levels. My type A personality likes
things neat, orderly, and by the book. This model would be one that would take A LOT for me to get used to and use frequently.

A specific model in Constructivist is the Discovery Learning Model. The Discovery Learning Model is an active, hands-on learning experience for students. The teacher is there to serve as a facilitator and encourager. The teacher is not there to lecture or pass on information. There are three major attributes to this model: exploring and problem solving, student driven or student paced, and the integration of new knowledge into prior knowledge (Castranova, n.d.). Of all of the constructivist models, the Discovery Learning model is the one that I would most like to try in my classroom. I see this model used in our Pre-K classrooms. However, like I stated earlier, using this model would force me to completely rethink the way I teach. I am very much in control even when the learning is student centered. I would have a difficult time having the instruction student paced and inquiry. I would definitely have to work with other colleagues and get many suggestions on how to convert my current way of thinking into the constructivist views.

Conclusion

Instructional Design can happen in many ways. I have discussed three major Instructional Design models: Cognitivism, Prescriptive, and Constructivist. Of the three models, I personally would lean more towards the Prescriptive Model. I am very goal oriented and love seeing those goals met. In my personal classroom, my students are always setting goals, achieving goals, and setting new ones. These goals could range from Accelerated Reader points earned, sight words recognized, math facts completed, to staying in their seat for x amount of activities. The students are actively learning and enjoying being at school. Even though there are many models of Instructional Design out there, a teacher has to find what they are comfortable with and what works in their classroom. That may not fall under one model. It could be a mix of all of them.
References


