Educational Philosophy

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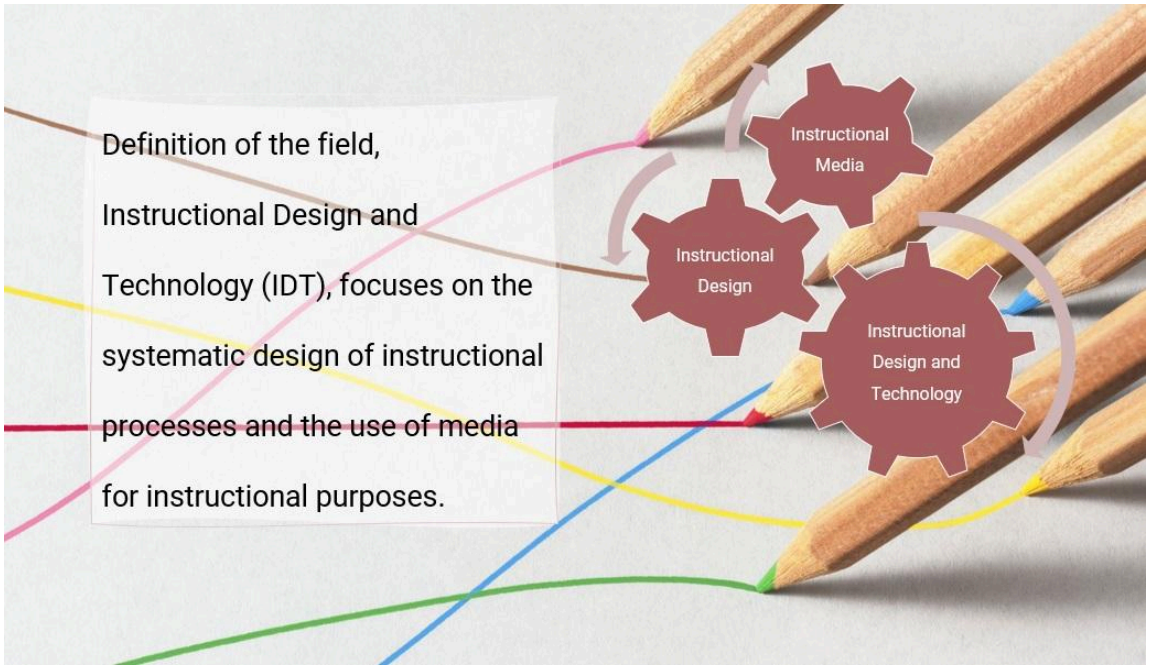
California State University, San Bernardino

ETEC 5000: The Foundation of IDT

Dr. Baek

Educational Philosophy & The Role of Technology

History of education goes back a long way. The interaction between instruction and technology started with the Media. Visual Instruction or Instructional Media field presented the instruction process by using the media. For example, the learning process was delivered by using educational media like films, pictures, posters, etc. in a teaching-learning environment (Reiser et al., 2018). Media is more than just an interesting and entertaining tool. It is about growth and development for human beings. Development with moral performance will bring good results.



(Figure1: IDT Definition designed by Behnaz with PowerPoint)

Robert Gagne (1965) ideas, about the teaching process is very convenient to follow:

- Gain attention of the students: Motivate students with activities

- Inform students of the objectives: Provide objectives before delivering instructions
- Stimulate recall of prior learning: Making connections to previous lessons to help students make sense of new information
- Present the content: Present the content by using good strategies like bullet points
- Provide learning guidance: Help students learn how to learn
- Elicit performance (practice): Ask students to apply the content to understand better
- Provide feedback: Help students to keep them on the right track
- Assess performance: Testing the students
- Enhance retention and transfer: Help students deliver their knowledge to the real-world

(Northern Illinois University Center for Innovative Teaching and Learning, 2020). Combining some of these processes with technology have changed educational fields and created lots of new ideas.

The Association of Educational Communications and Technology (AECT) focuses on the word ethical, the notion, and to improve performance by creating, using, and managing appropriate technological processes and resources for teaching and learning. The AAECT Code of Ethics covers commitment to the individual, society, and the profession (Reiser et al., 2018). These are some important factors of the Instructional Technology (IT) field. IT presents a systematic and effective Learning process by the latest training technologies in both business and educational organizations. It defines five terms of design, development, utilization, management, and evaluation.

In this field various theories have been identified that the three theories of Behaviorism, Cognitivism and Constructivism are more prominent:

- Behaviorism was developed by B.F. Skinner. It focuses on “stimulus-response” learning, where a stimulus is offered in return for the desired behavior. It was used in military training. Reward and Punishment are a big part of the learning process, and Feedback is a big part of Behaviorism also (Bates, 2015). In an earlier stage of IDT development, Burrhus Frederic Skinner, a psychologist, created some boxes to automatically reward behavior, such as depressing a lever or pushing a button, which became famous as the Skinner Box (Public Broadcasting Service, 2021).

- Cognitivism is based on the relationship between what the learner already knows and what they are learning. There is a hierarchy of learning in which each step must be achieved before moving to the next step of learning. Learners must process and make sense of what they are learning (Bates, 2015).

- Constructivist learning theory focuses more on inquiry and allowing the learner to research and learn on their own. It also focuses on knowledge gained through social interaction. In other words, the learner constructs his/her own knowledge (Bates, 2015). Higher-learning thinking is a structural characteristic of Constructivism since the focus is mainly on problem-solving. In IDT, higher-order learning outcomes are learning objectives that are meant to challenge the learner. They are based on real world applications (Reiser et al., 2018). The learning method innovated by Howard

Barrows to train medical school students and faculty. This method is based on the Constructivist theory of learning, and focuses on the following structures:

1. Student-centered learning
2. Learning in small groups
3. Teachers are facilitators
4. Learning happens with a problem
5. Students in charge of own learning

(Barrows, 1996).

Science and art are acquired through an educational process. This process must be properly designed to achieve a good result. Education can take place in schools or through various occupations. Training can be done face to face or online. In any case, it is important for the learner to get the most out of learning in the easiest way possible.

The situation and circumstances of the learner should be considered, and technology should be used for better and easier teaching. The existence of effective technologies in learning can provide better education. The role of the teacher in creating the student's interest should not be forgotten at the same time. The beneficial relationship between teacher and student causes great progress and growth in the learner. The student will seek to learn more when he becomes interested in science and art.

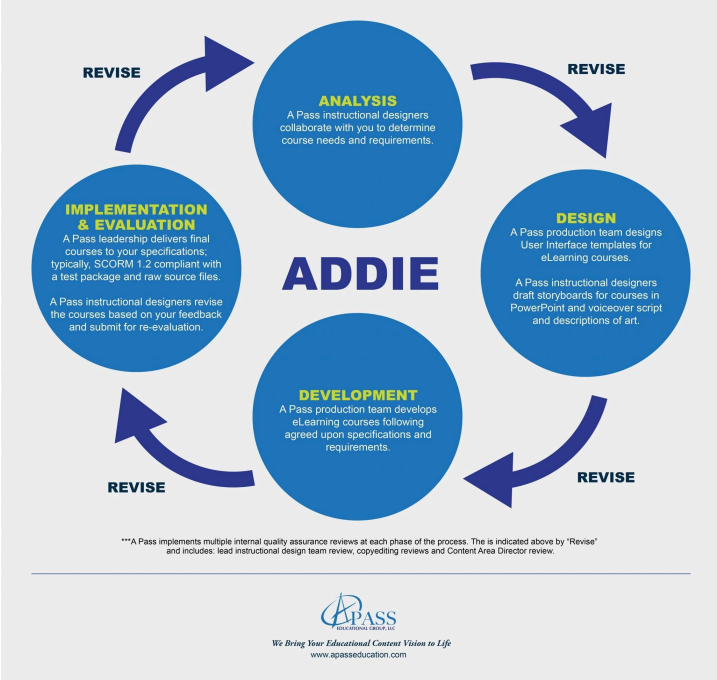
A great philosophy would be a combination of all three theories, Behaviorism, Cognitivism, and Constructivism. For example:

- When the teacher encourages students to watch a video, ask them questions, and give them feedback. (Behaviorism)

- When the teacher asks the students to sit in a circle and talk about the video, or ask them to create a board with some pictures related to the video. (Cognitivism)
- A field trip to a place like the content of the video or ask them to collaborate in an online game related to the content. (Constructivism)

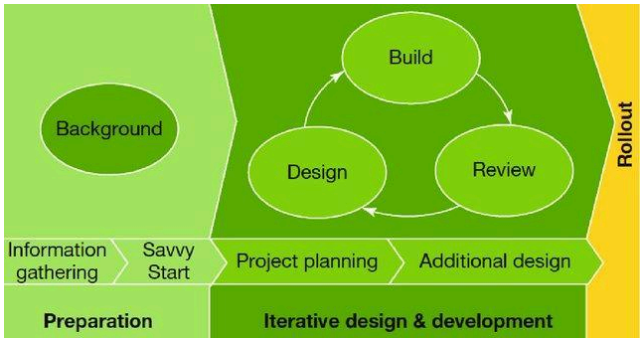
Great studies are done about these theories and technology. The technology is affected by these developments. Mobile is a device that almost everybody is using in our decade, and it could be a good learning tool. In an article, 7 different categories (7-T) of learning were shown based on student-centered methods. These seven qualitatively and hierarchically different categories (7-T) of mobile learning are named: Tool, Travel, Timeliness/Tutor, Toy, Tracking, Teamwork, and Tutee. Among the 7 categories, 4 of them are considered student-centered. Mobile technology offers opportunities to facilitate student learning (Chen, 2021). Technology would be more beneficial to education when combined with the designed learning process.

Instructional design and technology focus on Analysis, Design, Development, Implementation, and Evaluation as a process to create instructional activities with technology. Almost all instructional design and technology lessons and training are developed using ADDIE models (Reiser et al., 2018). This can be considered as a design structure. The instructions are designed using technologies and developed in the process.

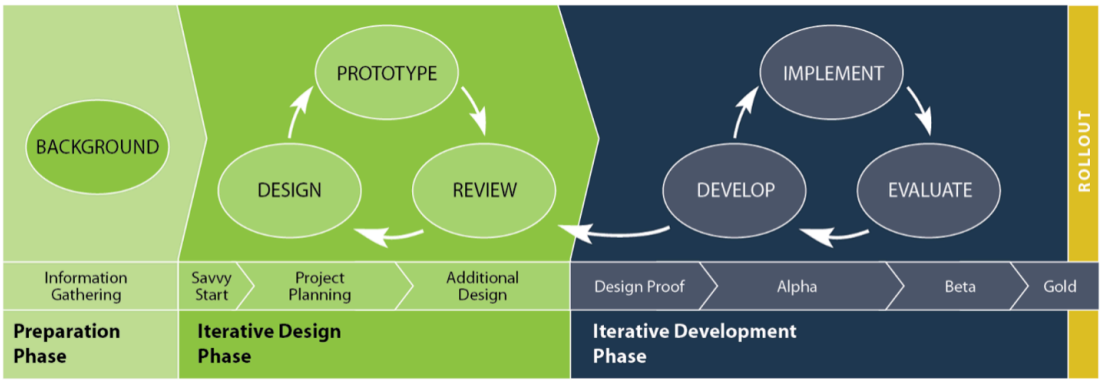


(Figure2: ADDIE from www.apasseducation.com)

Instructional Design field is a systematic procedure in education and training programs to develop and improve the learning process. IDT on the design side used to work with ADDIE models that have changed over time. Successive Approximation Model is a model that processes the design and makes some development, optimizing time and budget, sketching, and devising. SAM has two versions, two-phase and three-phase that could be applied depending on the project (Reiser et al., 2018).



(Figure3: SAM three-phase for instructional design and development)



(Figure4: SAM three-phase for instructional design and development)

In a shorter time or in foundation stage, two-phase instruction could be enough, but with further development three-phase design would improve the result. This theory is more recent than the ADDIE models. Newer models and theories are studied and implemented.

Cultural differences in this digital age environment created a newer view through these theories that need further study and research. Some families choose a daycare center or a school with a different native language for their infant to learn another language. They wanted a nurse who speaks Spanish or Chinese. It was not the same in different cultures at a distant time. Many learning courses are designed in different ways such as face to face and online learning or hybrid, E-learning, CD self-learning, etc. (Behaviorism, Cognitivism, Constructivism) to develop education all over the world, Gamification has changed people's point of view also. Technology changed by education and education changed by technology.

Many great universities, colleges, schools, instructional institutes, and individuals all around the world collaborate on educational theories and create new instructional technologies. Emerging technologies and teaching have a significant impact on the future of post-secondary teaching and learning. Some of the most highlighted contents are gathered in the 2020 Educause Horizon report that could be appear as new developments:

- Adaptive Learning Technologies
- AI/Machine Learning Education Applications
- Analytics for Student Success
- Elevation of Instructional Design, Learning Engineering, and UX Design in Pedagogy

Open Educational Resources

- XR (AR/VR/MR/Haptic) Technologies

(2020 Educause Horizon report, 2021).

Conclusion

With an overview of the Instructional Design and Technology structure and the study of various theories, the first steps in this field can be taken. The foundation of IDT started a long time ago and it is growing. With the addition of new inventions to the educational structure, the performance of teachers has also changed over time.

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Reflection

Foundation of IDT would be the starting point to gather information, think about them, and write an overview to start another path of development. Educational Philosophy is going to direct an instructional design process using technology to improve educational demand. Teaching and learning are both interacting with technology through facing a new world. The learning is easier with technology, it is easy to access online classes, libraries, learning apps, etc. these days. Teachers can access new teaching and learning methods. Their new ideas are easily spread around the world, and they can collaborate on their studies.

Thank you.