Effective Teaching and Effective Learning: Instructional Design Perspective

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Abstract
This appraisal argues that the effectiveness of learning and teaching depends on many factors such as the environment, instruction, classroom conditions and most importantly, styles of learning and as well as style of teaching. This evaluation examines teaching and learning from the lenses of mind blowing scholars such as David Kolb, (1984), Honey, (1982), Dick and Carey model (1990), Anthony, Sudbury Model, VAK Model and Madeline. This critical review further investigates techniques of effective learning and effective teaching in order to help instructors as well as learners to strive for the best outcome.
Index Terms: Learning, teaching, methodology, learning styles, instruction

INTRODUCTION

The aim of this review is to update teachers and students with the latest techniques of effective teaching and effective learning. This appraisal argues that the effectiveness of learning and teaching depends on many factors such as the environment, classroom conditions and most importantly, styles of learning and as well as teaching Loeb, (2011). Trainers who consider these factors seriously will achieve their goals and objectives of teaching and learning in the classroom. The concept of one *size fits*, so prevalent in the traditional classroom, is no longer relevant (Qais, 2009). As such, teachers, in designing their course work, must recognize differences in the learning styles of their students in order to achieve a purposeful and positive learning environment Hsieh, (2011).

Learning is defined as a process that brings behavioral changes to a person. It is a skill that must be acquired by individuals in their studies and later, in their careers. People learn differently based on their individual unique styles of learning Qais, (2011). Learning is also defined as a *change* in human behavior as a result of an experience or information input. It can be considered as an outcome. It is also viewed as a visible process. The most crucial aspect of learning is change. Learning is also achieved through individual experimentations whereby past knowledge is integrated with present knowledge to create new knowledge. According to Dannis, (2008), learning is further examined as follows: Learning as a quantitative increase in knowledge. Learning is acquiring information or 'knowing. Learning is storing

information that can be reproduced. Learning is acquiring facts, skills, and methods that can be retained and used when necessary. Learning involves relating parts of the subject matter to each other and to the real world. Hence it can be seen that learning is an external as well as internal force to the learner. Learning also may happen automatically or after our instructors have taught us. So every day we acquire new knowledge and it becomes our possession.

WHAT IS LEARNING STYLE?

Learning style is defined as an individualistic pattern of learning which helps the learner learn better. The learner's approach to learning, problem-solving and information-processing differs from one individual to another. Learners are created differently, and so they learn differently from one another Hoffler, et al. (2011). The major challenges of educators are to identify and examine each individual in the classroom, and provide him with appropriate teaching interventions. Such interventions pave the way for catering to the needs of learners in a professional and practical way. Therefore, there is a need to recognize different learning styles even before starting to teach in the classroom Sadler, et al. (2011). Research (Carole, 2010) has shown that educators who use relevant learning and teaching styles are more likely to succeed in providing better learning conditions in the class. There is a close relationship between learning styles and teaching styles. For better learning outcomes, the teaching styles of the educator must match the learning styles of her students. Once both styles are matched, a meaningful learning environment is created

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Awofala et al. (2011). As such, teachers have to adjust their teaching preferences with those of the learners' in order to achieve the desired outcome. This mapping of the learning and teaching styles creates a more effective learning environment and also enhances the problem-solving capability of learners Narli, et al. (2011).

When preparing her lessons, an effective teacher should:
1. Be aware that she is catering to a varied audience.
2. Use learning styles and pedagogy to make learning effective.
3. Create confidence to boost capability.
4. Develop a curriculum to suit different learning styles.
5. Use audio-visual tools and instructional aids to make learning fun.
6. Explain difficult concepts ahead of the lesson.
7. Pose questions to stimulate critical thinking and problem- solving skills.
8. Provide opportunities for feedback on the effectiveness of the lesson.
9. Foster a motivating classroom atmosphere.
10. Encourage mutual respect among learners.

As evident in the above discussion, effective teaching and successful learning require careful planning and well-planned strategies. Sound education strategies will create hope, hone skills, impart knowledge and develop positive attitudes in learners, the leaders of tomorrow. It is crucial, therefore, that teachers plan carefully for a conducive learning environment. Gurpinar, et al. (2011)

TECHNIQUES OF EFFECTIVE LEARNING

Learning is defined as a process that brings behavioral changes to a person. It is a skill that must be acquired by individuals in their studies and later, in their careers. Landry, et al. (2011). People learn differently based on their individual unique styles of learning.

The following are some techniques of learning effectively:
1. Tell yourself that you are learning with a purpose. You have a goal to accomplish.
2. Mind-map the information for easy understanding and remembering.
3. Determine your own time and place of learning as long as it does not clash with your bedtime hours.
4. Give priority to urgent tasks that require immediate attention.
5. Make a resolution to really want to study.

6. Have a positive attitude and participate in class activities.
7. Read effectively and pay special attention to the summary of the chapter.
8. Study in a group where members have similar learning styles.
9. If you do not understand any part of the lesson, ask the instructor for help.
10. Do not allow the learning process to stress you out. You are a student and your job is to learn.
11. Learn step by step and do not overload your memory.
12. Make sure that you are in the right state of mind and ready to study. Do not force yourself to study.
13. Have a reason or goal for wanting to do well in your studies. For instance, if you aim to be a successful doctor, your ambition will spur you on to achieve your educational goals.
14. Make the learning relevant to situations in real life; believe that you can solve problems if you are a knowledgeable person.
15. Learn the way you are comfortable with. You may be a visual, auditory or kinesthetic learner i.e. you may learn better by reading, listening or doing / being hands on.
16. Go through the material carefully, taking great care to remember all the headlines, graphs and pictures.
17. Highlight new information and emphasize the important points.

As thus, instructors are advised to use their artistic imagination to produce skillful learners. Teaching as an art requires crafting, imagination and creativity. Designing a physical teaching environment is a piece of art that requires needs creativity and engagement. Designing a classroom environment that takes care of students who are emotionally and psychologically unstable requires artistic imagination.

That is why teaching is often considered an art; especially if it involves designing artistic and dynamic activities in the classroom to motivate the young, to spur them on to acquire the knowledge or skills required. Teaching requires decision- making as well as skills to implement multi-tasks in the classroom. Therefore, the effective methodology which teachers utilize to educate different types of learners is a piece of art in itself.

TECHNIQUES OF GOOD TEACHING
Positive relationship: Maintaining a positive relationship among students, teachers and the administrators creates a harmonious leaning

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environment. When students are nurtured in such surroundings, they are likely to increase their intellectual accomplishments and learn more effectively.

Cooperative engagement: Encourage cooperation and mutual support by getting learners to study collaboratively. When learners study in a group, they share their ideas and knowledge to complete an assignment. Support from the peer group also helps to boost learners' confidence. Unlike learning in isolation where discouragement or a sense of hopelessness may set in, learning becomes more enjoyable when friends are able to help or motivate one another.

Learning actively: Students learn when they are actively engaged in their class activities. A good teacher does not impose her ideas or opinions on the class but allows students to participate actively in a student-centric environment. To encourage the meaningful application of knowledge, the teacher should encourage students to link what they have learned with events/happenings in their everyday lives.

Constructive feedback: The instructor should allocate time to evaluate her students' understanding of her instruction. From the feedback, she can assist learners with constructive advice to help them progress. It is the responsibility of the teacher to provide help in the form of feedback and suggestions in order to improve learning.

Communicate the outcome: The teacher should inform her students about what she expects them to achieve at the end of the lesson. If she tells her students that she has high (but realistic, of course) expectations of them, then they will try to live up to her expectations. Chances are that they will succeed, even the weaker ones. On the other hand, if the teacher does not expect much from her students, they are not likely to do very well, including the bright students.

Mutual respect: Just as students respect their teachers, the latter should also respect their students from diverse backgrounds, and take into consideration their different styles of learning. School administrators, the school-board and policy-makers share the teachers' responsibility of creating a learning environment which takes into account mutual respect for those involved in the learning process.

Teacher as a responsible educator. The teacher must be passionate about her profession. She must carry out her responsibilities as an educator in the true sense of the word, going beyond merely imparting knowledge in the classroom.

Creating a knowledge consumption environment: The teacher must create a stimulating environment to make her students thirst for knowledge. She should the guide them seek knowledge independently. She should also bridge any gap in her students' knowledge so that what learners have learnt in the classroom can be applied to their real life situations. This will surely motivate students to pursue knowledge further on their own.

Be a good listener in the classroom: If the teacher wants to be a successful educator, she must be a good listener. When she listens to her students, she can empathize with them and understand them better. Hence having good listening skills is a prerequisite for effective teaching.

Make your teaching flexible: When students are pushed to the limit, they do not learn anything useful. Instead they may learn to hate whatever is being taught. There must be time for learning by listening and learning by being hands on. The teacher should ensure that there is a good balance between study and play in order to achieve a better learning environment. Ideally, classroom learning should be an enjoyable experience, not fearful or stressful. So be sensitive to your students' frame of mind and adapt your teaching style accordingly.

Use technology to make the class interesting: Using multimedia in the classroom makes the lesson more interesting and thus motivates students to be more attentive. Use a simple projector to present your instruction in the classroom. Sounds, pictures and graphics help learners to conceptualize the essential points. Thus students learn faster and also more effectively. Use the Internet to post assignments online for easy access by students.

LEARNING STYLES

David Kolb: Experiential Learning

According to David Kolb (1984) there are four stages that a learner must complete to learn effectively.

Concrete Experience: In this stage, the learner has an active role in learning by actively participating in the learning process. So the learner has to work hands on and be actively engaged.

Reflective observation: In this second stage, the learner observes the learning process and then notes his personal experience, thus creating new knowledge.

Abstract conceptualization: In this stage, the learner applies the gained experience from known theories and concepts, modifies it and then applies it to future activities and experimentations.

Testing the new concept: Finally, in this stage the learner applies what he has experienced or learnt to a real life situation.

Honey and Mumford Learning Styles

According to this model (Honey, 1982) the following four learning styles are very important to understanding the types of learners:

Activist: It is a style of learning whereby the learner is eager to try out new ideas. This style is a very effective way of learning as the learner tackles the problem hands on and then applies the results to the task at hand. The learner always experiments with new opportunities and problems in order to learn effectively. Such learners tend to work in a group and try to role-play to accomplish a task. They cannot learn effectively by merely listening to lectures or detailed explanations. Activists have difficulty in following lengthy oral instructions.

Reflectors: Reflectors view learning differently. They research and collect data first. Then they examine the gathered data and think carefully before drawing any conclusion. Reflectors are usually interested in observation and listening to other learners before coming up with a new idea. In order to come to a conclusion, they first observe groups or individuals and reflect on what they have actually learned from the observations. Such learners do not care too much about tight deadlines. They examine situations first before producing any viable or workable results. One of the disadvantages of this style of learning is that such learners cannot assume a leadership role. If they are pushed to the limit, learning will not occur.

Theorists: Theorists learn by assimilating their own observation into sound and logically acceptable theories. They learn and solve a given problem through logical reasoning. Theorists learn step by step. This category of learners work their way into a logical and rational time-frame. They learn best in situations in which they are challenged to think critically and use problem-solving techniques. Theorists love to investigate and come to a solution at their own pace through unstructured activities. Feelings and emotions have no place in the learning style of theorists. They cannot learn with other students who have different learning styles.

Pragmatists: Pragmatists learn through exploration and experimentation. They apply what have learnt to their daily activities. They will not learn if the situation and condition of learning require lengthy instructions. Pragmatists are interested in learning if it is relevant to their interests or needs. They learn best by experimentation and hands-on activities. They use the techniques acquired to do the job at hand. Pragmatists are time- savers and investigate concepts that can be prototyped. Pragmatists are unable to learn in a situation that does not assist them. They cannot learn if there is no clear guidance to help them with the task at hand. (Charles worth, 2008).

Dick and Carey Model of Learning

Walter Dick and Lou Carey (Dick, 1990) investigated the learning process and prototyped the learning process implemented by behaviorists and constructivists ideology. This style of learning is greatly influenced by Robert Gagne's conditions of learning. This model suggests the following steps of learning:

Step 1: **Identify your Goals**. What do you want to achieve? What do you want your learners to achieve? Make a complete needs analysis as well as requirements.

Step 2: **Make an analysis of your instruction.** Define your steps in the instruction to help your learners gain the desired knowledge.

Step 3: **Find out about characteristics and behaviors of your learners**. Their prior knowledge, skills and preferences must be identified.

Step 4: **Identify your objectives.** Learners will acquire critical thinking and problem-solving skills at the end of the course.

Step 5: **Measure learners' progress** and performance according to the learning objectives.

Step 6: **Identify your strategies.** Assign your activities, present information in a meaningful manner, ask the learners for feedback and re-test them.

Step 7: **Identify and prepare relevant learning materials** such as student's manual, tests, instructor's guide, learning guides and computer-based multimedia learning aids.

Step 8: **Conduct Formative Evaluation of your instruction.** In order to improve the instruction, the educator must evaluate every step of the instruction herself as well as get several students give her feedback regarding her performance as an instructor.

Step 9: **Conduct Summative Evaluation of your instruction**. This stage is very crucial as it shows the absolute worth or otherwise of the instruction.

According to this model, learning is a set of correlated frameworks which have to be

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followed in order to achieve effective results. As such, in order to teach and learn creatively and efficiently, all the steps of the above learning model must be followed. This model of learning emphasizes that there are certain requirements that the learner has to fulfill in order to learn effectively. As such, the learners are expected to achieve the targeted goals and objectives at the end of the course. This model views learning as an experimental and replicable process.

Anthony Gregorc Model of Learning

This model is based on the belief that students learn best when they use their minds effectively. This learning style is based on human perceptions and evaluations of the world through a meaningful approach. According to this theory (Anthony, 1984), our perception is the most powerful learning tool. This learning style emphasizes two perceptual criteria:
1. **Concrete Perception:** Concrete perception refers to the registration of information through our senses.
2. **Abstract Perception:** Abstract perception deals with things that we cannot see such as concepts, qualities and ideas. It refers to a meaningful understanding of things around us.
 This learning style also emphasizes the following:
1. **Random Learning:** It deals with organization of information without sequential order.
2. **Sequential Learning:** This deals with the logical and chronological order of information.
According to this theory, the ability to learn randomly or sequentially is innate in some individuals while others may have to struggle to acquire these abilities. Each individual shows different strengths in learning. While some individuals may have a tough time understanding and solving certain problems, others have no difficulty at all. So, to a large extent, the success of learning is dependent on the learners themselves (Anthony, 1984).

Sudbury Model of Learning

This model of learning postulates that learners learn in many different ways. Learning, according to this model, is a process of accomplishment by an individual. It is not something that is given. According to this theory, there are many ways to be educated without adult intervention. Some students learn by themselves while others are taught how to learn.

Some children, for example, teach themselves and learn from their experience without the teacher's intervention. The Sudbury model of learning asserts that learners should be encouraged to learn by themselves, choosing what they like and according to their own pace. When learners enjoy the learning process, they learn better (Bruce, 2009).

Fleming's Vak Model of Learning

Fleming's learning style is one of the most effective and commonly used learning models. This learning model is very effective in preparing a classroom with different educational and learning styles. Fleming's model is based upon the following principles:

1. **Visual learners:** Visual learners learn better in a situation where visual aids, diagrams, handouts, videos and pictures are provided.

2. **Auditory learners:** These learners learn best through listening to discussions, lectures and tape recordings.

3. **Kinesthetic learners or tactile learners:** These learners are interested in hands-on experiences and problem-solving activities such as touching, performing activities, scientific projects and experimentations (James, 2010).

Madeline Hunter Model of Learning

Dr. Madeline Hunter recommends that educators follow a certain methodology of teaching when designing classroom instruction (Steward, 2010). She believes that even though the teacher may know all about her students' backgrounds, the following eight steps of learning must be considered when making a lesson plan:

1.   Anticipatory Set: When designing classroom instruction, the teacher must know what the students ought to have learnt at the end of her class. It is important to have a clear idea of what to anticipate or expect in order to teach effectively. In addition, the educator must relate the previous lesson with the present to make the learners ready to learn. Hunter insists that the teacher, before starting the class, must motivate her learners by providing short activities to capture the learners' attention. Anticipatory set can be just giving learners a handout before the lesson begins or posing a problem that will challenge them to think.
2.   Objectives and goals: According to this learning model, students understand the lesson and learn better if they know what they going to learn. Educators must communicate

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with the learners about the what, how and why of learning in the classroom. The teacher should discuss with the learners why it is very important to learn a certain topic. She should also discuss the outcome of the lesson, that is, what they will master or achieve at the end of the lesson. As such, the teacher helps her learners focus on the task at hand.

They are more likely want to learn and to continue learning when the goal is clearly defined.

3.   Input: If you want your learners to learn effectively, the lessons must be presented creatively. The presentation of the lessons can be through discussions, discovery, tasks that require critical thinking, problem-solving or brain storming. Besides these, the teacher can also incorporate vocabulary, skill-oriented exercises, listening, observation and concept identification.   The input or delivery of information must be interesting and appealing.

4.   **Modeling:**   For students to learn successfully, the teacher must present the information in a way that the learners can visualize it. They must be told what they are about to learn. They learn better when the teacher personally demonstrates the skills they are to acquire.

5.   **Checking for Understanding:**   One way to monitor the students' progress is to check whether they have learnt what they are supposed to have learnt at the end of the lesson. It is crucial for the teacher to make sure that students have understood their lesson before moving on to the next. The teacher can assess the students through different ways such as having a short question-and-answer session. Alternatively, the teacher can ask the students: Is it ok to go to the next topic or do you wants me to clarify any part of the lesson?

6.   **Guided Practice:** The teacher must assist the students and supervise their progress. If the students need help, then the teacher has to guide them step by step, using a variety of teaching aids, until they can do the activities by themselves.

7.   **Independent Practice:**   Once the teacher is confident that her students have understood the lesson and can do the activities by themselves, new activities may be introduced. This time, the students should be able to perform the new assignment independently.

8.   Closure**:** At the end of the lesson, the teacher will remind the students what they have learned so far. The teacher summarizes the lesson and poses questions to the class to evaluate to what extent her students have achieved the goals.

CONCLUSION
Teachers must motivate the unmotivated learners. Traditionally-taught students usually have low esteem about themselves. In the traditional classroom, students are generally not given much encouragement and the opportunity to think critically. Instead they suffer from memory overload as they are expected to merely memorize information most of the time.   In addition, teachers have to accept the diversity of their class population. There should not be discrimination of any kind. Ideally, there should be a harmonious classroom environment where students feel self-worth, and believe that they are accepted and appreciated by their teachers and peers, regardless of their backgrounds. This positive classroom environment will create a change of attitude and behavior in students, making them more motivated to learn.

Teachers play an exceptionally demanding role in our community. They have to perform a multitude of tasks not only in schools but also in our society at large. Instructors are empirical scholars, classroom reformers, learners' advocates, disciplinarians and character builders. A competent teacher is able to establish a good relationship with students and their parents, as well as with school administrators. A dedicated and effective teacher devotes her energy to inspiring her students so that they can achieve success.

She takes into account her students' diverse backgrounds and unique learning styles when she plans her lessons. As such the effective teacher is one who communicates with her students before planning and conducting her lessons so that she is aware of their needs and interests. The traditional style of teaching in the class is not only no longer relevant but also ineffective. Present day learners are not patient to sit through lengthy lectures and standard pre-planned lectures of *one size fits all*.

Instructors must keep their lessons precise and concise, allowing students to concentrate on the vital concepts rather than memorizing a long list of facts and figures or large sections of a text. Teachers should plan their activities and instructions creatively to eliminate boredom in the classroom. Besides facilitating the teaching-learning process, well-planned lessons improve communication of ideas between teachers and students as well as among students themselves.

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