A Comprehensive Review of Various Teaching Methods: A Guide for Young Teachers

Aruna Chanu Oinam
Manipur University

Introduction

Teaching and learning always go together, once a learning student will become teacher and the cycle rotates. The teacher effectiveness in sharing the knowledge to students depends on how well he/she organizes their teaching. The students in a class room are not the same in absorbing knowledge; each one has the different styles of learning process, which makes the teachers work more difficult. So one type of teaching will not serve the purpose in the class room and they have to choose various other methods to make students attentive in the class. The traditional method of teaching by lecturers has many disadvantages than advantages in learning process. But they are still effective in certain curricular contents.

The teacher must help the students to learn, to inculcate problem solving skills, understand the effectiveness of hard work and dedication, motivation to learn and meet their expectations, helping their friends to build team spirit and learn how to take decisions in real life problems.

The studies have shown that traditional method of teaching will not be able to bring out the expected qualities in students and learning must be situated in the context of meaningful activity for knowledge to be used in similar situations later in their life (Driscoll, 1994; Bandura, 1997; Marzano, 2007). It should be noted that learners must be actively engaged in the processing of information and that the teaching and learning process involves an interaction among the teacher, the students, and the content (Marzano, 2007).

The teacher must put effort to bring out content based curriculum which maximizes the learning process rather than pouring all contents on them. The relevant learning objective should be selected for assessment which is essential for their future life.

Apart from this more important is delivery of content to students which they should grasp and apply as they learn. So teachers have to ponder the new ways of teaching which makes students to be more attentive and proper learning process takes place during the class.

Today's generation is more inclined towards technology and it becomes imperative for faculty to adopt new methods of teaching involving technology. In addition to understanding student's requirement, teachers have to figure out what learning is. To

know this, they need to comprehend a learning theory.

A learning theory comprises a set of constructs linking observed changes in performance with what is thought to bring about those changes. According to Driscoll (1994), learning theory has three basic elements: 1) Inputs (Motivation and efficacy) 2) Means (Teaching methods, Facilitation, supporting) 3) Outcome (Learning and skills developed).

So one of major component in learning theory is, teaching method which brings fundamental changes in learner and facilitates the process of knowledge transmission.

The teaching process has mainly THREE types:

1. Teacher centered methods: Under this method, students simply obtain information from the teacher without building their engagement level with the subject being taught (Boud & Feletti 1999).

2. Student centered methods; Most teachers today apply the student-centered approach to promote interest, analytical research, critical thinking and enjoyment among students (Hesson & Shad 2007).

3. Teacher and student interactive methods: The method encourages the students to search for relevant knowledge rather than the lecturer monopolizing the transmission of information to the learners. As such, research evidence on teaching approaches maintains that this teaching method is effective in improving students' academic performance (Damodharan & Rengarajan ,1999)

So in this review we are analyzing various teaching methods which can be implemented during teaching process and teachers should apply appropriate teaching methods that best suit their students.

Brief Overview about Learning Styles

The term, 'learning style' describes an individual's preferred method of gathering, processing, interpreting, organizing and analyzing the information. Different people use various learning styles in order to acquire knowledge, skills and attitudes. Learning style is one of the way in which students begin to focus on the topic, understand and apply new information in real life situations irrespective of their fields.

Each person has a particular set of learning abilities. Educational research shows that "one size does not fit all" (Reigeluth , 1996). In this context, it is of utmost importance that the teachers understand the learning styles of their students and implement proper teaching techniques to have gainful knowledge sharing process with students.

The various studies also concluded that learning styles vary from each student and has

direct impact on outcome.

- A study has shown that learning styles are regarded as one of the crucial factors to be taken into account when designing instruction and learning environments (Felder & Brent, 2005).

- The study done by Felder & Henriques, showed that some students prefer to learn by themselves in their own time, in familiar surroundings rather than in groups. Students tend to perceive information differently, such as by viewing and listening, reflective and acting, to reasoning logically and intuitively and also scrutinizing and visualizing" (Felder & Henriques, 1995).

- Another study showed that the learning styles of the students influence their ability to acquire information and respond to the learning environment (Azlinda, 2006) and in addition, students study differently; "what works well for one student may not be beneficial or favourable to another" (Man & Tomoko, 2010).

- The studies also showed that when teaching methods and students learning styles are mismatched lead various adverse effects in learning process which include, less attention in the classroom, students performance got affected, they get disheartened about the course, the curriculum and ultimately leading to drop out from school" (Felder & Spurlin, 2005).

Therefore, teachers should not disregard the importance of choosing the appropriate teaching method to suit students' learning styles, as both teaching and learning styles play a crucial role in learning process and achievement.

Traditional teaching method

Lecturers:

Lectures are conducted by teachers and involve mostly one way teaching. Here teacher acts as resource person and students will receive the information. The teacher uses various delivery mediums such as black board and chalk, white board and marker, Overhead projectors (OHP) and power point presentations. In this method the studies have shown that learning mode tends to be passive and the learners play little part in their learning process (Orlich, D. C., Harder, R. J., Callahan, R.C., and Gibson, H.W., 1998). It has been found that the conventional lecture approach in classroom is of limited effectiveness in both teaching and learning process.
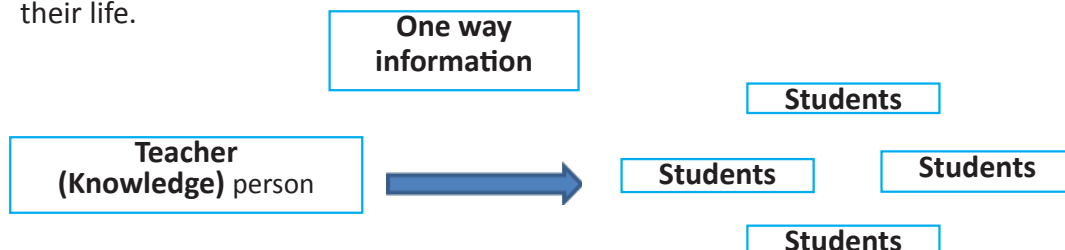
Some of advantages are:

- It is needed for larger class strength.

- Teacher will act as experienced resource person and students can have certain amount of interaction.

- Teacher will explain all points so that students can understand all components of subjects.

- Teacher finishes the topic in stipulated time.

- Teacher can ask questions to students.

- Teacher will be role model to students.

- Teacher keeps the classroom in order

- Teacher makes sure that all students complete the given activity in the session.

All these points are possible only when students involve themselves in understanding the subject.

The major disadvantages are as follows:

- Teaching mostly one way as all the information from teacher move towards students.

- Teaching will be monotonous without knowing students response and feedback.

- The material presented is only based on lecturer notes and textbooks.

- Teaching will not have real case interactions.

- The legitimacy of teachers writing on board will have direct impact on their learning outcome.

- Interaction among students will be NIL

- Self-learning to become life-long learners will be absent.

- Students read only for examinations rather than obtaining knowledge to apply in their life.

Teaching using recent techniques:

Even the traditional teaching lecture methods can be made as interactive sessions using various multimedia resources. The main aim is to keep student alert in the class so that learning can take place. The use of multimedia may in the form of text, videos, audios, images, clip art, flow charts, real case scenarios, problem solving techniques etc. This will have impact on student's creativity, interaction among groups, developing problem solving, communication and analytical skills.

| Text |
Videos	Teacher	
Audios	(Knowledge) person	Problem solving	→ ←	**Students**
Images	
Real cases	Assignment

Active learning:

Is a process where student actively involved in learning process in short, active learning requires students to do meaningful learning activities and think about what they are doing (Bonwell & Eison, 1991).

Bonwell and Eison recognized a range of activities that will fall within it. They suggest a spectrum of activities to promote active learning, ranging from very simple (e.g., pausing lecture to allow students to clarify and organize their ideas by discussing with classmates) to more complex (e.g., using case studies as a focal point for decision-making).

Collaborative learning (CL) According to Online Collaborative Learning in Higher Education it is defined as any instructional method in which students work together in small groups toward a common goal. As such, collaborative learning can be viewed as encompassing all group-based instructional methods, including cooperative learning (Millis, 1998 ; Smith, 1992 ; Cusea,1992 ; Bean ,1996 ; Felder, 2002).

In this educational approach of teaching and learning involves groups of learners working together to solve a problem, complete a task, or bring a consensus outcome. In the CL environment, the learners are challenged both socially and emotionally as they listen to different perspectives, and are required to articulate and defend their ideas. In so doing,

the learners begin to create their own unique conceptual frameworks and not rely solely on an expert's or a text's framework. In a CL setting, learners have the opportunity to converse with peers, present and defend ideas, exchange diverse beliefs, question other conceptual frameworks, and are actively engaged (Srinivas , 2001).

Advantages:

1. Along with teaching session allows students group discussion.

2. Allows students to do active work on the content by discussing among themselves.

3. Students tend to help each other in completing the task may be in the form of case/ short assignment, multiple choice questions, short answers etc.

4. Small group discussions help them to retain the information (Johnson, & Johnson, 1986).

5. Provides platform for discussions with peers and teacher.

6. Promotes critical thinking among students (Gokhale, 1995).

Cooperative learning can be defined as a structured form of group work where students pursue common goals while being assessed individually. (Millis, 1998 ; Bruffee, 1995) The most common model of cooperative learning found in the engineering literature is that of Johnson, Johnson and Smith (Panitz ,2003) This model incorporates five specific principles, which are individual accountability, mutual interdependence, faceto- face promotive interaction, appropriate practice of interpersonal skills, and regular self-assessment of team functioning. While different cooperative learning models exist (Feden ,2003 ; Johnson ,1998) the core element held in common is a focus on cooperative incentives rather than competition to promote learning.

The students work in group to complete the task given by the faculty in a particular session. But mere formation of group does not makes students to learn, the teacher has to make students together by giving an opportunity in the task which promotes mutual cooperation. For the same reason teacher has to find a task which benefits them rather than giving an work for completion.

Johnson and Johnson (2009) proposed 5 key points for successful Cooperative learning, they are

1. Structuring positive interdependence.

2. Promote interaction or the willingness of group members to encourage and facilitate each other's efforts.

3. Individual accountability or one's responsibility in their work.

4. Developing interpersonal skills.

5. Group processing: Involves students reflecting on their progress and their working relationships.

Problem-based learning (PBL) is an instructional method where relevant problems are introduced at the beginning of the instruction cycle and used to provide the context and motivation for the learning that follows. The student will go through the objectives and search for answers in various books. PBL typically involves significant amounts of self-directed learning on the part of the students (Michael , 2004). The student shares the knowledge gained with their group and thereby achieving their learning outcomes in meaningful way.

Thumb rule for successful PBL are:

- Identify the proper problem that encourages students to have interaction.

- Faculty should be facilitator and allow students to have discussion

- Allow the students to come up with their objectives.

- Every student should know the relevance of objectives.

- All the students should read the resources for presentations.

- Teacher should be impartial during presentation sessions.

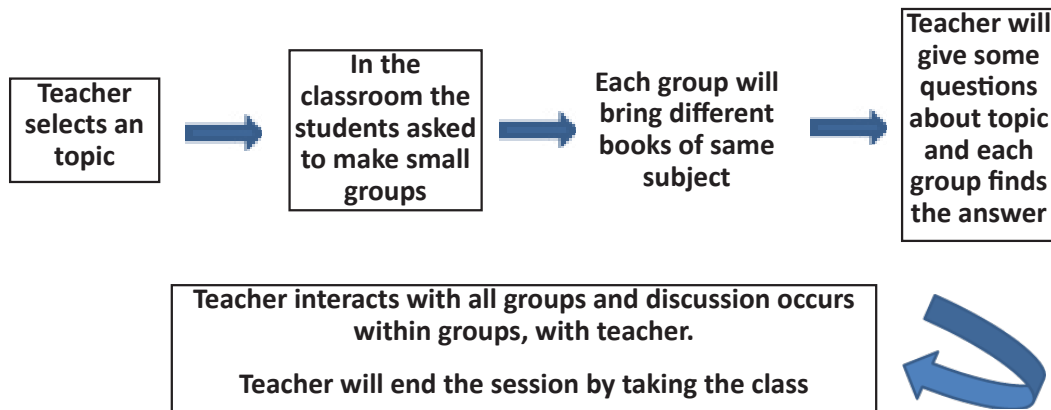- Give constructive teacher and peer feedback.

Team Based Learning (TBL): Parmelee and colleagues defined team-based learning (TBL) as "an active learning and small group instructional strategy that provides students with opportunities to apply conceptual knowledge through a sequence of activities that includes individual work, team work, and immediate feedback." (Parmelee & Michaelsen,2012)

Team-based learning (TBL) possibly relies on small group interaction more heavily than any other commonly used instructional strategy in postsecondary education. Team Based Learning is a structured form of small-group learning that emphasizes student preparation out of classroom and application of knowledge in the classroom. Students are organized strategically into diverse teams of 5-7 students that work together throughout the class and can be used for large class strength also (Brame ,2016).

Team-based learning is a form of cooperative learning that creates an environment that allows learners to develop higher levels of learning (ie, application, analysis, evaluation, creativity).

Book talk: In this the students are given common task on particular topics having small groups. But each group will use different books of same topic to find the answers. Later they will have discussion among them about the questions posed by the faculty.

The advantage of this is students will have information of different books in common session.

```
┌─────────────┐      ┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│  Teacher    │      │   In the     │      │ Each group   │      │ Teacher will │
│  selects an │  →   │ classroom the│  →   │ will bring   │  →   │ give some    │
│  topic      │      │ students asked│     │ different    │      │ questions    │
│             │      │ to make small│      │ books of same│      │ about topic  │
│             │      │ groups       │      │ subject      │      │ and each     │
│             │      │              │      │              │      │ group finds  │
│             │      │              │      │              │      │ the answer   │
└─────────────┘      └──────────────┘      └──────────────┘      └──────────────┘
```

Teacher interacts with all groups and discussion occurs within groups, with teacher.

Teacher will end the session by taking the class

Advantages:

➢ Students will learn all content information in different books in one session.

➢ Students will interact with each other groups.

➢ Teacher will solve any contradictory statements regarding the questions posed to them.

➢ Students will learn how to find the resource from library.

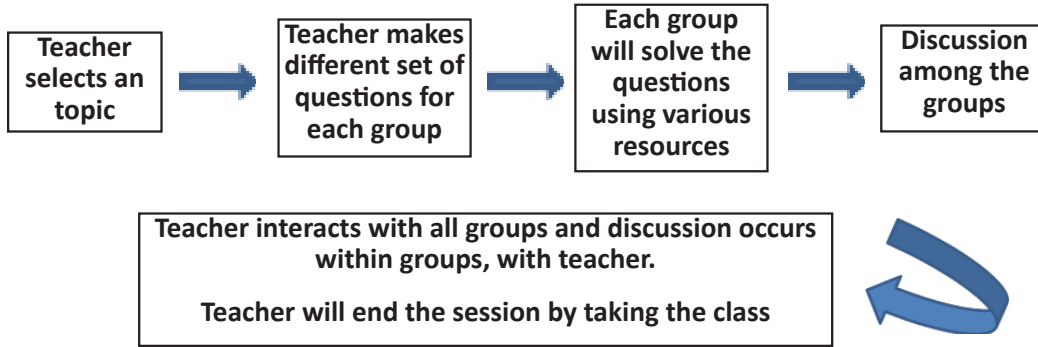➢ Teach will have brief session at the end.

Group discussion:

One of the ways to make all students attentive in the class is to have group discussion. The students are divided into groups of 7-8 and asked to have discussion among the topic. The teachers will facilitate the discussion among students by giving those questions pertaining to the topic. Each group can receive different set of questions and will get the answers using the various resources. After the certain time period all the groups will have discussion among other groups.

The main advantages of this method are that:

• Students will work together and discuss among them self's.

• Attendance will be increased as learning taking place and student feel that they are gaining the knowledge.

• They can have discussion among themselves, across the groups and with teacher to clarify any points.

- Self-learning promoted

- Students learn to respect other point of views.

- Students can also make small presentation and present in front of all students so that learning process will be effective.
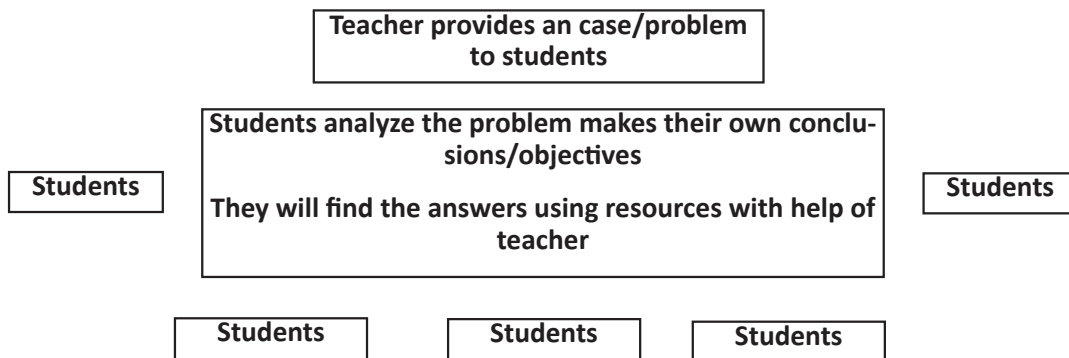
```
┌──────────┐     ┌──────────────┐     ┌──────────────┐     ┌──────────────┐
│ Teacher  │     │Teacher makes │     │  Each group  │     │  Discussion  │
│selects an│ ──▶ │different set │ ──▶ │will solve the│ ──▶ │  among the   │
│  topic   │     │questions for │     │  questions   │     │    groups    │
│          │     │  each group  │     │ using various│     │              │
│          │     │              │     │  resources   │     │              │
└──────────┘     └──────────────┘     └──────────────┘     └──────────────┘

      ┌────────────────────────────────────────────────────┐
      │Teacher interacts with all groups and discussion     │
      │        occurs within groups, with teacher.          │
      │Teacher will end the session by taking the class     │
      └────────────────────────────────────────────────────┘
```

Seminar presentation:

A small topic is selected by the faculty and each student will have small topics to present as seminar. The student will take help of faculty to prepare the notes/presentations. The student can add their creative ideas in presentation to make the topic to be understood by other students. This method has advantage that students will go through the topic and makes an effort to understand the topics. Self-learning will be boosted and increases the self confidence in children's. Most importantly the student will use the library for resource finding.

Brain storming sessions:

This method the faculty will put forward a case/problem/real case scenario to students. The students are allowed to brain storm among themselves to have proper objectives for learning process. The students will interact with each other in responding to the problem and they will find the answers. In this process the students will participate effectively and learning takes place to gain knowledge.

```
                    ┌──────────────────────────────┐
                    │Teacher provides an case/problem│
                    │        to students           │
                    └──────────────────────────────┘

              ┌──────────────────────────────────────────┐
              │Students analyze the problem makes their   │
              │       own conclusions/objectives          │
┌──────────┐  │                                           │  ┌──────────┐
│ Students │  │They will find the answers using resources │  │ Students │
└──────────┘  │       with help of teacher                │  └──────────┘
              └──────────────────────────────────────────┘

    ┌──────────┐        ┌──────────┐        ┌──────────┐
    │ Students │        │ Students │        │ Students │
    └──────────┘        └──────────┘        └──────────┘
```

Textbook assignments:

The faculty will assign a topic with certain objectives to all students in the class. The students will be encouraged to read different books and involve their creatively in writing the assignment work with clear understanding of topic. Sometimes teacher can assess their learning process by having viva with indiviusal students. If the topic requires a session the teacher can have interactive class with students as all students were sensitized with the topic.

Flipped room method:

Flipped classroom is an active, student-centered approach that was formed to increase the quality of learning process within class. Flipped classroom approach active learning session (Tucker, 2012), is a special type of blended learning (Strayer, 2012). It mainly provides preparation time for students about the topic before the course or (Bristol, 2014) and during course applying activities that increase the quality of face to face education (Formica, 2010).

Many researchers have defined flipped classroom in various ways, according to Bishop and Verleger (2013) flipped classroom is a student-centered learning method consisting of two parts with interactive learning activities during lesson and individual teaching bases directly on computer out of lesson.

Mull (2012) defined it as a model that provides students prepare themselves for the lesson by watching videos, listening podcasts and reading articles.

In this approach before the course the students watch theoretical part of lesson via multiple equipment's such as online videos, presentations, learning management systems and take notes, prepare questions about the parts that they do not understand (Kim, 2014). During course they achieve supporting activities such as finding answers together to the questions they prepared before lesson, group working, problem solving, discussion and making an inference (35). Flipped classroom is an approach makes students and teacher responsible for learning process.

<div align="center">**Conclusion**</div>

The learning styles of students vary from each other and the teacher has to use various teaching methods for proper transfer of knowledge to students. The main goal of teaching methods is to make student attentive, able to show interest in the topic, grasp the knowledge in the classroom, make them self-leaners with little assistance and thereby make them lifelong learners.

References

Azlinda A. A. (2006). Learning style adopted by students in learning English as a second language. Unpublished master thesis, Universiti Teknologi Mara, Kuala Lumpur.

Bandura, A. (1997). *Self-efficacy. The exercise of control*. W.H. Freeman and Com-pany. New York.

Boud, D. & Feletti, G. (1999), *"The challenge of problem-based learning,"* (2nd Ed.), London, Kogan Page.

Bonwell, C.C., Eison, J.A. (1991). "Active Learning: Creating Excitement in the Classroom," *ASHEERIC Higher Education Report No. 1*, George Washington University, Washington, DC

Bean, J. (1996). *"Engaging Ideas: The Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom,"* Josey- Bass Publishers: San Francisco

Brame, J.C. (2016). Team-based learning, Center for Teaching. The Vanderbilt University. Available at: https://cft.vanderbilt.edu/guides-sub-pages/teambasedlearning/ [Available at: 20-August-2016]

Bruffee, K. (1995). "Sharing Our Toys: Cooperative Learning Versus Collaborative Learning," *Change*, January/February, 1995, p. 12.

Bristol, T. J. (2014). Educate, excite, engage. *Teaching and Learning in Nursing, 9*, 43-46.

Bishop, J. L., & Verleger, M. A. (2013). *The Flipped Classroom: A Survey of the Research*. 120th ASEE Annual Conference & Exposition. Atlanta: GA.

Cusea, J. (1992). "Collaborative & Cooperative Learning in Higher Education: A Proposed Taxonomy," Cooperative Learning and College Teaching. Vol. 2, No. 2: 2–4.

Driscoll, M.P. (1994). *Psychology of learning and instruction*. Allyn and Bacon.

Damodharan V. S. &Rengarajan .V (1999), "Innovative Methods of Teaching," NationalResearchCouncil, Educational Journal Publication.

Felder, R.M. & Brent, R. (2005). Understanding Student Differences. *Journal of Engineering Education, 94* (1), 57-72.

Felder, R.M. & Henriques, E.R. (1995) Learning and teaching styles in foreign and second language education. Foreign Language Annals. In Azlinda Abdul Aziz. (Ed). *Learning style adopted by students in learning English as a second language*. (pp.

1-91). Unpublished master thesis, Universiti Teknologi Mara, Kuala Lumpur.

Felder, R.M. & Spurlin, J. (2005). Applications, reliability and validity of the index of learning styles. *International Journal of Engineering Education, 21*(1),103-112.

Felder, R., Brent, R., and Stice, J. (2002). *"National Effective Teaching Institute: Workshop Materials,"* 2002 American Society for Engineering Education Annual Conference, Montreal, Quebec, Canada

Formica, S.P., Easley, J.L. & Spraker, M.C., (2010). Transforming common-sense beliefs into Newtonian thinking through just-in- time teaching. *Phys. Educ. Res. 6*, 1–7.

Feden, P., and R. Vogel (2003). *Methods of Teaching: Applying Cognitive Science to Promote Student Learning*, McGraw Hill Higher Education

Gokhale, A.A. (1995). Collaborative learning enhances critical thinking. J*ournal of Technology education. 7*(1), Retrieved 5 Nov. 2011, from: http://scholar.lib.vt.edu/ ejournals/JTE/v7n1/gokhale.jte-v7n1.html.

Hesson, M. & Shad, K.F. (2007), "A student-centered learning model," *American Journal of Applied Sciences*, 628-636.

Johnson, D., & Johnson, F. (2009). *Joining together: Group theory and group skills* (10th ed.). Upper Saddle River, N.J: Pearson Education.

Johnson, R.T. & Johnson, D.W. (1986). Action Research: Cooperative Learning in the Science Classroom. *Journal of Science and Children, 24*(2), pp. 31–32.

Johnson, D.W., Johnson, R.T. & Smith, K.A. (1998). *Active Learning: Cooperation in the College Classroom*, 2nd ed., Interaction Book Co., Edina, MN

Kim, M. K., Kim, S. M., Khera, O., & Getman, J. (2014). The experience of three flipped classrooms in an urban university: An exploration of design principles. *Internet and Higher Education, 22*, 37–50.

Marzano, R.J. (2007). *The Art and Science of Teaching. A Comprehensive Frame-work for Effective Instruction*. ASCD. United. States.

Man, P.C. & Tomoko, N. (2010). A study of Chinese and Japanese college students L2 learning styles. *Asian Culture and History*. 2 (2), 30- 35. [Electronic version]. Retrieved December 2011, from www.ccsenet.org/journal/index.php/ach/ article/download/.../5171.

Millis, B., and P. Cottell, Jr. (1998). *"Cooperative Learning for Higher Education Faculty,"* American Council on Education, ORYX Press.

Michael, P. (2004). Does Active Learning Work? A Review of the Research. J*ournal of Engineering Education*. 93(3);223-231.

Mull B. (2012). Flipped learning: A response to five common criticisms. Retrieved from November Learning, 21 April, 2015, http://novemberlearning.com/resources/ articles/flippedlearning-a-response-to-five-commoncriticisms.

Orlich, D. C., Harder, R. J., Callahan, R.C., and Gibson, H.W., (1998). *Teaching Strategies: A Guide To Better Instruction*. New York :Houghton Mifflin Co.

Online Collaborative Learning in Higher Education, _http://clp. cqu.edu.au/glossary. htm_, accessed 12/3/2003.

Panitz, T. (1999). "Collaborative Versus Cooperative Learning-A Comparison of the Two Concepts Which Will Help Us Understand the Underlying Nature of Interactive Learning," _http://capecod.net/~tpanitz/tedsarticles/coopdefinition.htm_, accessed 12/2/2003.

Parmelee, D., Michaelsen, L.K., Cook, S., Hudes, P.D. (2012). Team-based learning: A practical guide: AMEE guide no. 65. *Med Teach. 2012;34*:e275–e287.

Reigeluth, C. (1996). A new paradigm of ISD? *Educational Technology & Society, Vol. 36*, No. 3, pp. 13-20.

Strayer, J. F. (2012). How learning in an inverted classroom influences cooperation, innovation and task orientation. *Learning Environments Research, 15*(2), 171–193.

Smith, B. & MacGregor, J. (1992). "What is Collaborative Learning?," in Goodsell, A., M. Mahler, V. Tinto, B.L.Smith, and J. MacGreger, (Eds), *Collaborative Learning: A Sourcebook for Higher Education* (pp. 9–22). University Park, PA: National Center on Postsecondary Teaching, Learning and Assessment

Srinivas, H. (2011 Oct. 21, last updated).What is Collaborative Learning? The Global Development Research Center, Kobe; Japan . Retrieved 5 Nov 2011, from: http:// www.gdrc.org/kmgmt/c-learn/index.html.

Tucker, B. (2012). The flipped classroom. *Education Next, 12*(1), 82-83.