International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 06, 2020
ISSN: 1475-7192

Effective Teaching Methods in Modern Times

(Role of high/low technology and teacher/student centeredness)

[1]Omer Niazullah

***ABSTRACT**--Effective teaching methods have been the corner stone for the education system. In this research we tried to identify which method is more effective and desirable from the point of view of teachers, students and parents. It aims to enhance teachers' and students' ability to know how the educational process could continue effectively. Apart from other researches which focus on only teacher-centered approach or student-centered approach of learning. This research aims to encompass four major teaching approaches, which are high or low technology system in classroom environment on one hand, and student or teacher oriented approach in classroom on the other hand, to determine the most effective teaching method in current times. The research was conducted through a questionnaire to collect data that shows preferences of teachers, students and parents. The research concluded that the most recommended method is the low-tech student centered approach.*

***Keywords**--(Student-centered; Teacher-centered; Learning method)*

I. INTRODUCTION

Effective teaching methods and sustainable approach to learning is a necessity to sustain and maintain the quality of education and maximize potential of students and educators. Researches done until recently have focused solely on either the teacher-centered approach or student-centered approach. To determine the effectiveness of teaching in classrooms, technological use and its impact must be considered as well. Current times call for the need to outline to what extent technology should be used in classrooms to obtain the desired benefits. Furthermore, as student-centered learning has become the trend in recent times, to evaluate both the student and teacher- centered learning in light of the use of technology during learning process is necessary. In the light of teacher/student centeredness on one hand and high/low technology methods on the other hand, this paper identified eight different methods of teaching and discussed which is more preferred.

1.1 Statement of the Problem

This paper aims to determine the best approach to learning and teaching in classrooms. Student-centered or teacher-centered approach to learning with consideration to the use of technology in classroom.

1.2 Objective of the Study

The objectives of the study are as following:

a. To identify and discuss teaching methods based on their approach and use of technology

b. To investigate preferences of learning method based on a questionnaire survey

c. To determine the most effective teaching method in current times.

[1] *omerniaz2011@gmail.comDoha, Qatar,* **PO Box***: 201870,Currently doing Phd of UTHM, Malaysia..*

Received: 22 Sep 2019 | Revised: 13 Oct 2019 | Accepted: 15 Jan 2020

II. LITERATURE REVIEW

The Teaching method in classroom refers to how instructions are given and how that knowledge is obtained in a classroom. It begins w with general principles and objectives of the educator and ultimately depends upon the management strategies of the educator or the system. Applying a certain teaching method is dependent on the teacher, but it encompasses the educational philosophy, classroom demographic, subject area(s) and school mission statement. Teaching methods can be broadly categorized into four divisions based only on two main criterions; a teacher-centered approach versus a student-centered approach, and the use of high-tech materials versus the use of low-tech materials (Burden, et al., 1994)

Firstly, a teacher-centered approach or a student-centered approach can be applied in a classroom. The former approach maintains the teacher as the commanding authority and gives full responsibility to the teacher to be the source of information. Students who receive knowledge from their teachers through lectures and direct instruction are viewed as "empty vessels", all for an ending goal which is getting positive results from testing and assessment. In this way of teaching, teaching and assessment are looked at as two separate entities; how much the student is learning is measured through objectively scored tests and assessments. (Burden, et al., 1994). The latter approach determines that the learning process roles are distributed equally between teachers and students. In this, teachers aim to coach and help the student to learn and to reach the full understanding of materials, and to evaluate students' performance of learning through assessments both formal and informal ones, such as; students portfolios, and class participation. As opposed to teacher-centered classroom interaction, the student-centered approach, learning is continuously evaluated. (Burden, et al., 1994)

Secondly, as technology improved it affected the education department in the last few decades. High-technology is being applied in classrooms and various educational softwares are being used to aid students in learning. Many teachers and researchers use the internet and computers to assign homework. Moreover, the internet facilitates the classroom setting as it provides unlimited resources. (McCarthy, et al.,2000). In contrast to this, traditional techniques or low-tech approach is still widely used. This type of approach requires the physical presence of the student in the classroom, which thereby reflects the interaction between the educator and the student. Some researches has shown that low-tech classrooms may boost learning. For example, students who take handwritten notes recall better than students who take typed notes. Besides technology in classrooms may weaken the spelling and writing skills for the students as they get exposed to spell check at an earlier age. (McCarthy, et al.,2000).

Therefore, categorizing the learning experience to various types of learners is essential to discover the most effective and beneficial approach. Following are the eight methods which will be elaborated in the paper.

<u>Teacher Centered:</u>

1. Direct Instruction (Low Tech)
2. Flipped Classrooms (High Tech)
3. Kinesthetic Learning (Low Tech)

<u>Student Centered:</u>

4. Differentiated Instruction (Low Tech)
5. Inquiry-based Learning (High Tech)
6. Expeditionary Learning (Low Tech)

7. Game-based Learning (High Tech)
8. Personalized Learning (High Tech)

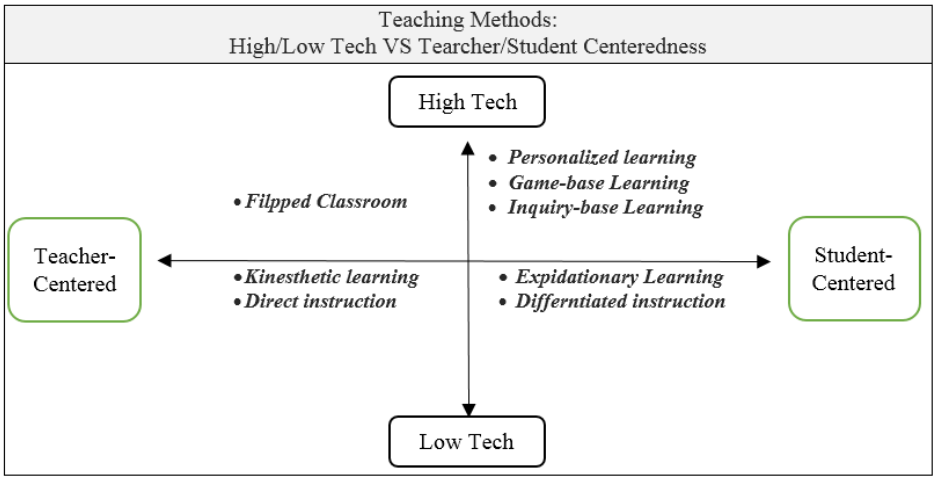

Figure 1: Teaching Methods

2.1 Direct Instruction

Direct instructions refer to the traditional way of learning, through lectures and assessments. This teaching strategy is considered as the primary strategy under the teacher-centered approach. It applies that direct instruction utilizes passive learning where students learn through listening precise instructions given by the educator. Teachers and professors act as the only supplier of knowledge, and in this case of direct instruction model, teachers utilize systematic scripted lesson plans. Direct instruction programs may include exactly what the teacher should say and activities that students should complete for every minute of the lesson. (Kennedy, R., 2007). As it does not include student preferences or give any of them the opportunity of hands-on or alternative types of learning, direct instruction is considered extremely teacher centered. It's also low-tech, as it relies on the use of textbooks and workbooks instead of computers and 1:1 devices. (EDUCAUSE Learning initiative, 2012).

2.2 Flipped Classrooms

In 2007, the idea of flipping classroom began as two teachers began the use of software which would give them the chance to record live lectures. By one school year later this idea become known as the flipped classroom as pre-recorded lectures were implemented. Flipped classroom describes coherent teaching structure in which students watch pre-recorded lessons out of the class and then continue in-class lectures and assignments. Teachers implementing this flipped classroom model film their own instructional videos and also use pre-made videos from online sources (Steven, 2012). The flipped classroom model has a key benefit as it allows students to work at their own pace. On the other side, teachers appropriate videos to all students, allowing them to gain knowledge and further understanding. (Bishop, J. L.et al., 2013). Despite this potential for more student-centeredness, still the flipped classroom models are mostly based on one man's idea, a teacher's idea of how learning should happen and what type of information students should need, making it chiefly teacher-centered. The use of online activities and

pre-recorded lessons requires that both teachers and students have good devices and can access fast internet connection. (Bishop, J. L.et al., 2013)

2.3 Kinesthetic Learning

It is also known as "hands-on learning", requiring students to do and make and create. In a kinesthetic learning environment, students perform physical activities which allow them to learn properly rather than listen to lectures. Hands-on experiences, role-play, building, and the use of drama and sports are all examples of kinesthetic classroom activities. (Roehl, A., 2013). Though it is a great way to keep students engaged, attention-ed, and simply awake, very few classrooms employ kinesthetic learning activities exclusively. One of the reasons is that despite the popularity of this learning style, the lack of researched-based evidence that shows that teaching with this learning styles produces better academic results prevents the implementation of this method (Steven, 2012). One upside is that kinesthetic learning is rarely based on technology, as the method appreciates movement and creativity over technological skills. That means it's a cheap way and fairly low barrier to adopt, as well as more than a welcome break from students' existing screen time. Kinesthetic learning can be more student-centered than teacher-centered when students are given the choice of how to use movement to learn new information or new skills. (Roehl, A., 2013)

2.4 Differentiated Instruction

Differentiated instruction is the teaching practice of categorizing instruction to meet the specific needs of individual students. As a beginning, it grew popular with the 1975 Individuals with Disabilities Education Act (IDEA), which made sure that all children had the rights of access to public education. The Individualized Education Programs (IEPs) which started under IDEA helped classroom teachers differentiate for the needy students with special needs. Today differentiated instruction is organized to meet the needs of all types of students. (Coombe, C. 2018). Teachers can differentiate in various ways: how students have access to content, the types of activities the students should do to master a concept, what the end product of a process of learning should look like, and how the classroom is set up. Differentiation such as: for students, having choice to read books through reading levels, adding and offering vocabulary and spelling lists, or study groups. Though differentiation is focused on individual student needs, it is also planned and implemented by the teacher. And technology, though a potential aid, is not a hallmark of the differentiated teaching style, making it for now a fairly traditional, low-barrier method to adopt. (Coombe, C. 2018).

2.5 Inquiry-based Learning

Based on an investigation made on students and hands-on projects, inquiry-based learning is a teaching method that casts a teacher as a supportive figure, as a person who provides guidance and support to students throughout their learning process, rather than being only authority figure. (Garrett, 1996). In this method of instruction, the teacher might play one or all of the following roles: Teachers believe that students should be encouraged to ask questions and consider what they want to know about the world around them. Students then have to research their questions, find information and sources that explain key concepts and solve problems they may encounter along the way. Findings might be presented or considered from the teacher as videos with a self-made technique,

websites, or formal presentations of research results. (Garrett, 1996). Inquiry-based learning is a student-centered approach, in this students are play an active and participatory role in their own learning. But what teachers do to facilitate is also extremely key to this process. Typically, during the cycle of inquiry, every student is working on a different question or topic. In this environment, teachers ask questions with a high-level and make research suggestions about the process rather than the content. At the end of the inquiry cycle, students reflect on the experience and what they have learned (Jhangiani, R. S.2016). Inquiry-based learning should provide a great use of technology through online research sites, social media, and the possibility for global connections with people outside of the community. (Garrett, 1996).

2.6 Expeditionary Learning

Expeditionary learning is about students' ideas which executes in a form of project-based learning, discovering around and engage the in-depth study of topics that impact their schools and communities. The learning in this model include multiple content areas so that students can see how problem-solving can happen in the real world. As an example, a student in a big city, might study statistics about pollution, read information about its effects, and travel to sites in their city that have been impacted by the problem. A good **2.7** Game-based Learning (High Tech) understanding of the circumstances from the students and teachers allows them to work to find a solution they can actively implement. (Jhangiani, R. S.2016).

2.7 Game-based Learning

Game-based learning comes from the desire to engage students in more active learning in the classroom. Because they require students to be problem solvers and use soft skills that they will need as adults, games are a great way to encourage a "mastery" mindset, rather than a focus on grades. In a game-based learning environment, students work on quests to accomplish a specific goal (learning objective) by choosing actions and experimenting along the way. As students make certain progress or achievements, they can earn badges and experience points, just like they would in their favorite video games. Game-based learning requires a lot of time and planning on the teachers' part. Because teachers play a big role in planning and creating content under this model, game-based learning isn't completely student-centered. But it is still very much focused on the student, who works at their own pace and makes independent choices in a gamified environment.

2.8 Personalized Learning

Personalized Learning is such a new educational model that its definition is still evolving. At the heart of the model, teachers have students follow personalized learning plans that are specific to their interests and skills. Student self-direction and choice in the curriculum are hallmarks of personalized learning. Assessment is also tailored to the individual: schools and classrooms that implement personalized learning use competency-based progression, so that students can move onto the next standards or topics when they've mastered what they're currently working on. That way, students in personalized learning classrooms can progress to work beyond their grade level as they master topics, while students who need additional help have that time built into their daily schedules as well.

There's also room for an emphasis on college and career readiness in personalized learning environments. Students who don't require remediation or extension work can instead work with teachers to nurture social skills and other or 21st-century skills lessons and receive mentoring. Personalized learning is extremely student centered, but teachers are required to teach lessons, look at frequent assessment data, and meet with students to make any necessary changes to their learning plans. They'll also need to have a certain comfort level with technology: the differentiated and personalized instruction that students receive often come in the form of online lessons and programs, so teachers must be able to navigate virtual platforms with ease.

III. METHODOLOGY/MATERIALS

The population of the study included the teachers, parents and the students. A random sample of 153 participants took part for the purpose of research. In order to collect the data, a questionnaire was developed, which was designed to identify different preference of people in relation to teaching methods. The questionnaire was distributed electronically. The responses were analyzed and interpreted on percentage basis.

IV. DATA ANALYSIS, FINDINGS AND DISCUSSION

The survey was divided into 6 sections and consisted of the following factors: student, teacher, technology, non-technology, external and educational element. Following parts and questions demonstrate the findings.

Part 1: Does high-technology based teaching method enhance learning?

For this section there were 9 questions. The responses indicated that 18% of the survey population totally agreed with the application of technology in teaching , 27% agreed to its application and this had the highest percentage of the recorded data , 24% of people had the same view and considered it 50-50, 21% disagreed and 10% totally disagreed to applying high technology in teaching.

Table 1: Does high technology based teaching method enhance learning

Part 1: Does high technology based teaching method enhance learning?				
Totally agree	Agree	Same	disagree	Totally disagree
18%	27%	24%	21%	10%

Part 2: Does 'low-technology based teaching method enhance learning?

For non-tech "low-tech" section, there were 4 questions. The responses indicated that 14% of the survey population totally agreed for the application of non-tech material, 33% agreed to it and this was the highest percentage, 23% of people consider non-tech and tech teaching material to have the same effectiveness, 22% disagree and 8% totally disagree that non-tech teaching should be applied in classrooms.

Table 2: Does 'low-technology based teaching method enhance learning

Part 2: Does Low technology based teaching method enhance learning?				
Totally agree	Agree	Same	disagree	Totally disagree
14%	33%	23%	22%	8%

Part 3: Does Student-centered teaching methods enhance learning?

For this section there were 6 questions, 14% of the survey population totally agreed with the application of the student-centered approach, 34% agreed to it and this had the highest percentage of agreement, 27% consider student-centered teaching and teacher-centered teaching to have the same effectiveness, 18% disagree and 7% totally disagree that student-centered teaching should be applied.

Table 3: Does Student-centered teaching methods enhance learning

Part 3: Does Student-centered teaching methods enhance learning?				
Totally agree	Agree	Same	disagree	Totally disagree
14%	34%	27%	18%	7%

Part 4: Does Teacher-centered teaching methods enhance learning?

For this, there were 6 questions, 10% of people totally agree with the application of the teacher-centered approach, 29% agree to it, 29% have the same view that either way has the effectiveness, 23% disagree and 9% totally disagree to applying teacher-centered approach in classroom.

Table 4: Does Teacher-centered teaching methods enhance learning

Part 4: Does Teacher-centered teaching methods enhance learning?				
Totally agree	Agree	Same	disagree	Totally disagree
10%	29%	29%	25%	9%

Part 5: Is there gender opinion difference towards using high/low technology methods and student/teacher-centered method?

Difference between male and female responses is extremely evident. 63% of males prefer the low technology approach whereas 37% of females were in agreement of having low-tech classroom teaching environment.

Table 5: Is there gender opinion difference towards using high/low technology methods and student/teacher-centered method

Part 5a: Is there gender opinion difference towards using low technology methods?	
Male	Female
63%	37%

Table 6: Is there gender opinion difference towards using high technology methods

Part 5c: Is there gender opinion difference towards using teacher-centered method?	
Male	Female
73%	27%

The above results (of 5a) were compliant with the following survey responses, where 29% males and 71% females were in favor of using high-technology techniques in classroom. These results indicate that mostly females preferred using a high-tech classroom environment rather than males.

Table 7: Is there gender opinion difference towards using teacher-centered method

Part 5b: Is there gender opinion difference towards using high technology methods?	
Male	Female
29%	71%

Furthermore, 73% of males preferred teacher-centered approach to teaching whereas 27% of females had that preference.

Part 6: Is there an opinion difference towards using high/low technology methods and student/teacher-centered method between teachers, students and parents?

40% of students and 35% for parents from the survey population were in support of having high-tech classrooms systems, whereas teachers were least enthusiastic about it, only 25% of teachers wanted it. Moreover, most teachers (about 55%) preferred to teach in teacher-centered approach, whereas most students (60%) preferred student-centered teaching approach. In both approaches to teaching, parents equally preferred (30%) both the teacher-centered and student-centered approach to teaching.

Table 8: Is there opinion difference towards using high/low technology methods and student/teacher-centered method between teachers, students and parents

Part 6: Is there opinion difference towards using high/low technology methods and student/teacher-centered method between teachers, students and parents?								
Technology based methods			Student Centered Methods			Teacher Centered Methods		
Teacher	Student	Parents	Teacher	Student	Parents	Teacher	Student	Parent
25%	40%	35%	10%	60%	30%	55%	15%	30%

Table 9: Comparison of data acquired from survey that determines the percentages of agree, disagree and neutral of the given variables.

Variables	**Agree**	**Same**	**Disagree**
High-technology classroom	45%	24%	31%
Low-technology classroom	47%	23%	30%

Student-centered approach	48%	27%	25%
Teacher-centered approach	39%	29%	34%

All of these results were obtained by taking averages of each individual question response and average of each category. Between high-technology and low-technology classroom system, there was more agreement to have low-tech classroom environment. Moreover, student-centered approach was more preferred (48%) as compared to (39%) that preferred teacher-centered approach in teaching. Although the values are close to another, but it is clearly discernible that using low-technology in classrooms along with a student-centered approach to teaching is the most preferable combination. This data establishes that mostly male teachers favor a teacher centered low technology classroom environment, whereas female teachers prefer a high-tech classroom. Also, it is notable that students prefer high-tech student-centered approach.

V. CONCLUSION

Although all methods have their advantages and disadvantages. A classroom environments reflect the ideologies of school, community demographics, student population, status and requirements of community, vision of education, and many more factor. Those factors determine which teaching method is more suited for a particular situation. The data finding in this research showed in general that the most recommended technique according to the survey is low-tech student-centered approach with more “Differentiated instruction”. Moreover, the data showed the impact of teacher’s gender in using technology inside the class room. And the impact of teacher’s gender over teacher/student-centeredness. Further research can be done to identify the grey line between low/high tech methods in the classroom. And justify why people prefer low tech instead of high technology.

REFERENCES

1. Bishop, J. L., & Verleger, M. A. (2013). The flipped classroom: A survey of the research. In ASEE national conference proceedings, Atlanta, GA (Vol. 30, No. 9, pp. 1-18).
2. Burden, P. R., & Byrd, D. M. (1994). Methods for effective teaching (Vol. 160). Needham Heights, MA: Allyn and Bacon.
3. Coombe, C. (2018). Debates and Discussions. The TESOL Encyclopedia of English Language Teaching, 1-8.
4. EDUCAUSE Learning initiative (2012). 7 Things you should know About Flipped Classrooms.
5. Enfield, J. (2013). Looking at the impact of the flipped classroom model of instruction on undergraduate multimedia students at CSUN. TechTrends, 57(6), 14-27.
6. García, D. A. L., Sanguino, T. D. J. M., Ancos, E. C., & de Viana Gonzalez, I. F. (2016, July). A Debate and Decision-Making Tool for Enhanced Learning. In TLT (Vol. 9, No. 3, pp. 205-216).
7. Garrett, M., Schoener, L., & Hood, L. (1996). Debate: A teaching strategy to improve verbal communication and critical-thinking skills. Nurse educator, 21(4), 37-40.

8. Jhangiani, R. S. (2016). The impact of participating in a peer assessment activity on subsequent academic performance. Teaching of Psychology, 43(3), 180-186.
9. Kennedy, R. (2007). In-class debates: Fertile ground for active learning and the cultivation of critical thinking and oral communication skills. International Journal of Teaching & Learning in Higher Education, 19(2).
10. McCarthy, J. P., & Anderson, L. (2000). Active learning techniques versus traditional teaching styles: Two experiments from history and political science. Innovative higher education, 24(4), 279-294.
11. Roehl, A., Reddy, S. L., & Shannon, G. J. (2013). The flipped classroom: An opportunity to engage millennial students through active learning strategies. Journal of Family & Consumer Sciences, 105(2), 44-49.
12. Steven P., Vargo (2012). Teaching by debate. For the Master Teacher Program, a 2-year faculty professional development program conducted by The Center for Faculty Excellence, United States Military Academy, West Point, NY, pp. 1-9.