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## Teaching that takes account of different learning styles: A literature reviews

### Introduction

In the education circle means the teacher and the learner should be together, to build the quality in education one most important thing is the focusing of the individual learning style, needs and preference are not enough. Yet, it should be together with focusing on the way of teaching of the teacher in terms of his or her teaching styles, the use of the method, technique, and strategy dealing with the learner. It can be called the chain-reaction which is one effect another, if the learner's learning style is not matched with teacher teaching style as well as the teaching method which teacher provide in teaching-learning activities, the consequence of getting at the end may show in the disappointing way (Chen, 2009).

The individual students have their different styles, aptitude, and preference. At the same time, one likes more in concreting information as well as dealing with the fact in true the experimental or by the real experience, and another one may prefer working on abstract as such enjoy searching for theories, models, and concepts. In the other hand, the way of teaching from a teacher also depends upon their preference and styles, if there is the mismatching between teaching and learning style have found in teaching-learning process, what is going to happen with the effect of the education at the end, as Felder & Spurlin (2005) illustrated "When the learning styles of most students in a class and teaching style of the professor are seriously mismatched, the students are likely to become uncomfortable, bored and inattentive in class, do poorly on tests, get discouraged about the courses, the curriculum and themselves, and in some cases change to other curricula or drop out of school"(Felder & Spurlin, 2005, p. 103). Those issues will cause the effectiveness of the teaching-learning system negatively, and more than that, its effects on the education system to be of low quality.

There are many educators from the decades who developed the variety of learning style models, such as David Kolb, Carl Jung, Neil D. Fleming, Dunn & Dunn, Felder & Silverman, Grasha & Reichmann, Honey & Mumford and many other more. In this article, work will be adopted in many models from the previous work of many scholars, which it is working on teaching and learning styles that is to find out the issues and effectiveness between both include how educator's teaching style effects for students' learning styles and vice versa. When understanding the students learning styles can help teachers in the adaptation of their learning styles, and teachers confidently use the proper teaching styles in each differential of their students (Sripongplerd, 2017). Because of developing teaching-learning activity is an effective and comfortable way.

### Methods

In this work, an author has conducted on the literature review of finding the work of other authors in terms of the teacher teaches in different styles, the various strategies and methods to use in response to different students' learning styles. There are about ten articles have been selected to this work which it was specifically focusing on the work of teaching styles, learning styles, the matching of teaching and learning styles toward students' academic performance and what is the problems in teaching and learning styles regarding of the previous work in various countries and institution which the authors conducted on their article research. All the articles were mostly from the current few years ago until back to 5-10 years. The author selected these articles by the connecting of keywords and their specific work, which it's useful for review from the techniques and their finding result.

### Teaching style

The focussing on an individual difference apart from a student's learning style, teaching style can affect on changing behavior toward teaching (Pimwapee & Sudrung, 2019). This study has found the changing behavior in science teachers regarding clinical supervision, self-directed development, and administrative monitoring.

The teacher's teaching styles are also important, which are many teachers can be able to adjust their teaching style in terms of the needs of students. (Gill, 2018; Pachina, 2019) have introduced about five strategies that teachers mostly use in the classroom with each strategy. Has pros and cons depending upon the use of teacher's teaching style toward the different learning styles of students.

- Authority (Lecturer) style: It is teacher-centered in which the teacher takes big among of time to speak during the class, students just listen to absorb the knowledge and take notes what the teacher has explained. This style ordinally appropriate in higher education where there is a large number of the students in a big hall or big classroom, and it's suitable for some course which relates that to memorize the critical fact like location, date, or historical events.
- Demonstrator (Coaching) style: the teacher as a demonstrator is likely to a lecturer, but he/she has more teaching aids to support like multimedia toward the presentation and various activities during class; this style is appropriate for students in a small group.
- Facilitator (Activity) style: The teacher-facilitator is to advocate students together with stimulating in the process of learning. This style is very good at promoting self-learning. It can develop students' critical thinking skills's which can lead to being self-actualization that students can realize on their potentiality and talent.
- Delegator (Group) style: This style can help students in collaborative skills by group work and group activities, teacher as the observer, and provide advice to any question from students. It can be suitable for the laboratory, the group debate activity, or the team project. This style promotes students' freedom of choosing and thinking.
- Hybrid (Blended) style: the teacher as a conductor. This is the line on an integrated approach which it blends the type of teacher's personality into students' needs and interests by linking with the curriculum approach method. This can help a teacher can adopt to the students learning styles and with proper course matter.

All the strategies above have the advantage and disadvantages in vice versa, that depends on the educational level, the number of people in the classroom, the curriculum approach, and the subject matter. Additionally, teachers know their style and what kind of strategy do suits them, including an understanding of individual students' needs. Teachers will be able to know their strengths and weakness that can raise them to develop their teaching performance.

### Learning styles

Learning style is the process of learning in each people toward learning, the individual behavior that influence in reaction and response to the environment (Sripongplerd, 2017). According to Kolb, in 1985 has developed four learning styles:

- Divergent learning style is the way of user experience, the feeling, and understanding of those experience individuals have got. In here, the learners can be able to understand and create their imaginations and can see the overall of the frame through that imaginations. They can learn well in a situation that has various thinking, and they are interested in people and cultures.

- Assimilation learning style is an emphasis on contemplation that is trying to understand the experiences; they are good at critical thinking, and using the reason, these learners prefer to summarize the principles and study on theories. Interested in abstract principle more than action practicing, and they are not too much interested in bringing the theories into practice.
- Convergent learning style focuses on the reason, thinking, and experiment. The learners who can apply abstract thinking to be in practice, they can conclude and find a better strategy or technique to solve the problems. They preferer to work with objects than people; they tend to the interest of any specific thing.
- Accommodation learning style can be able to use their thinking to be in the experiment. Learners like to search for new experiences; they love to experiment and practice. The learners learn well with the adjustment situation, can solve what they are thinking, and wish to learn from their mistakes, prefer to work with people.

According to Grasha and Riechman have grouped the students depend upon their characteristics into six learning styles (Rollins, 2015):

- Avoidant: These group of students can't stand on some of the course that teacher always uses same strategy and method, together with the enthusiastic teachers who are very active in their teaching, they are in another side of collaborative learners, lack of engaging in study or sometimes conversely, they show over interesting in the class. These learners don't like to do any kind of activities and assignment, not prefer teacher-learner reactive, and prefer the teacher to give a good mark without any testing.
- Collaborative: They learn well by group work, group activities, and discussion, prefer to share the ideas and collaborate with the teacher and peer in every activity, the classroom for them is reactive of social and learning. They like the lecture that includes activities like debate and small group discussion, from them the classroom should be the students determine the content and teachers provide the knowledge what students want to know
- Competitive: These students like to learn the content by their expectation of getting a higher score in the classroom than their peers, prefer competitive to get a reward, and always feel excited about the competitive activities in the classroom situation with the expectation of winning. These students likely to be the leader during the group discussion, always keep asking the questions in the classroom, and they appreciated the complementation. They like the teacher-centered approach classroom.
- Dependent: They seem to be a passive learner who lacks in enthusiastic and prefers to learn only what their teacher provided in the classroom, always look at teacher and peers as the knowledge source and provide assistant without self-help, so they always seek for someone good at the class to offer them explanation and guidance. They appreciate when teacher notes the points on the board together with explaining, always ask for the deadline determination from the teacher for any task teachers gave and prefer teacher-centered classroom.
- Independent: learn well by their thinking and study alone, they have their clear aims to learn only what they like to learn which they think that is the important one, high of self-reliance in their ability to learn. Prefer self-study and the content which provides for the learner using their idea, like the project that designs by learner and student-centered.
- Participate: These learners are very enthusiastic to learn and collect new knowledge from their teacher, they have a high responsibility in both classroom and outside tasks to get their work quality, excellent collaboration with peers when getting any assign for doing group tasks. Prefer

discussion lecturers and students like to get the assignment from teachers to work at home and prefer teachers who are good at analyze and synthesis.

### **The matching of the teacher's teaching style and learners' learning styles and academic performance**

Many of research works have given the reason for matching teaching style with learning style related to the effect of academic achievement (Felder R., 2002; Khalid, Akhter, & Hash, 2017; Chetty, et al., 2019). In these studies, some of them indicated in the student's preference for their learning styles enhances effective in their academic performance. Some studies point out the individual attitude In the work of Chetty, and her colleagues (2019) has shown about there is a significant impact from teaching style toward students' learning styles and their academic achievement (Chetty, et al., 2019). According to the work of Ruslin Amira and Zalizan Mohd Jelasa (2010), by using Grasha-Riechman (1994) Teaching and Learning Style Inventories among 120 lecturers and 545 students at Universiti Kebangsaan Malaysia (UKM) to find out whether teaching and learning styles are matched in the higher education institution or not. And regarding the result has shown that the lecturers are outstanding among teacher teaching style together with the collaborative and competitive are notable toward students' learning styles and this work can find out the outcome for the institution and raising the teaching-learning process among both students and teachers (Amira & Jelasa, 2010). As showing in the result, which is some positive parts are not outstanding, independent, and participant that can be shown about an inactive in the classroom. That cannot reach the effective in the strategies of learning among students. From Grasha Riechman by observing during teaching-learning interactive between students to teachers and students to students which both articles mentioned above are using this model.

The work of Ruslin Amira and Zalizan Mohd Jelasa (2010), the authors have recommended of providing assessment toward individual and increasing the task to work with the group, that can enhance the participant and encourage the independent among students (Amira & Jelasa, 2010). While the work of Chetty and her colleagues (2019) recommended for the lecturers before taking the class should prepare more activities and teaching aids for the same title what he or she will teach in the classroom, that is for impact to the variety of individual learning styles which can help the lecturer deliver the activities and knowledge to everyone in classroom thoroughly (Chetty, et al., 2019). If the institutions aware on the diversity of learning styles in students and organize an appropriate of the variety of classroom method, techniques, and curriculum, and assessment on teacher teaching styles together, the individual students will comfortable follow their learning styles and develop their knowledge accordingly which it's the impact of the students' academic performance in the good result.

### **Toxic in teaching and learning styles**

This study had been conducted in China among some Chinese teachers and students toward the English language class. The author emphasized on few toxic factors which they are harmful to the relationships, enthusiasm, and adjustment during the day today education time (Jian-xiang, 2007), there are authoritarian styles by following the classic concept from the Confucian teaching model, it can say that the teacher-centered approach which means everything in classroom controlled by the teacher. The rigid style, even the world, is changing day after day, but the way of teaching method is out-of-date and still traditions. Additionally, the careless of individual needs and interest had rejected according to the author, which it mentioned that all of the students have been put in the same place, contents, homework and follow the same syllabus without focusing on their intelligence and backgrounds. And the last is Chinese-based style by most of the teacher believes that to translate from another language into their language is the heart of their work. Apart from the weakness points above the author has pointed out, the strengths have mentioned as the healthy style of teaching and learning as such cooperative style between teacher and learner can increase efficiency in teaching and learning

activity; the flexible modern style improves the adjustment; an English thinking style which focuses on what have learned should enter to the heart of the course concerned; and the last should focus on individual styles (Jian-xiang, 2007). According to this article, the author has learned about understanding and aiming into teaching, and learning styles are the key to success in teaching-learning activity.

### Discussion

There is several research in teaching and learning styles; regularly, the researchers use Grasha and Riechman to investigate teaching and learning styles (Felder R., 2002; Chetty, et al., 2019; Khalid, Akhter, & Hash, 2017; Amira & Jelasa, 2010). From their research works have found that the teacher's teaching styles have a significant impact on students' learning styles and their academic performance. There are the dominant gaps have been pointed out from research works; one significant point is the students were not practicing learning style for being independent and not the active learner. They are only being observers and passive learning, which it necessary for teachers and educators should look back about issues by using suitable strategies, methods, and teaching styles that recognize the diversity of student learning styles. Through the teaching styles, even though the authority style can be used with higher education. However, the educators and teachers need to consider controlling of the classroom as teacher-centered can bring the students facing difficulties and can't develop their collaborative and communication skills; the students who are not the visual and audio learning styles will get bored and unimprovement. In the author's view, if the teachers know the individual differences and can adopt their style of teaching, strategy and method for all differences can bring the students interests and improve their knowledge skills, their understanding. They can absorb knowledge and get more experience.

### Conclusion

Based on the results of many articles show that teaching styles have a huge influencing impact on learning styles and the result of academic performance. The important factors in supporting this teaching-learning process are understanding the nature of individual difference and use the right strategies and method together with adopting teaching style of teachers, that is to get the smooth interaction in the classroom. It's good for both teachers and learners in the teaching-learning process; it helps learners to develop their critical thinking, problem-solving and applying for their real life.

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