Active and Passive Learning: A Comparison

Shreyasi Shubhendu Paul
Assistant Professor
Department of Information Technology
SavitribaiPhule Pune University, PES's Modern College of Engineering, Pune, Maharastra, India

Abstract

The purpose of the paper is to identify learning points and inspirations from two different approaches by survey and a comparison. Learners learning completed by selecting (Active Learning) and receiving (Passive Learning) information. But which Learning style or process is meet learners expectation? The main purpose of this paper is to study, analyze, and explore for the right decision while choosing learning style to meet the requirements of Learners. I done a comparison of Active and Passive Learning to help to adapt learning style with respect to different conditions. Comparison done with both teacher and student point of view.

Keywords- Active Learning, Passive Learning, Learning styles, Learning ways, Learning Processes

I. INTRODUCTION

Education is the combination of Teaching and Learning. Indian education history is very rich and interesting. In pre-literate societies, education was achieved orally and through observation and imitation. The young learned informally from their parents, extended family and grandparents.

After that students are sending to Institutes (named as GRUKUL) for education.

From 18th century Modern Education started. This education is class room teaching.

All these education system based on classroom based.

From 20th century active learning introduced. It is introduced by the English scholar

R W Revans (1907–2003) [15]. Bonwell (1991) "states that in active learning, students participate in the process and students participate when they are doing something besides passively listening."[15].

Active learning is a process where students learn through reading, writing, talking, listening, and reflecting [7] [12].

Examples of Active Learning is: online discussions/debates, group projects, concept mapping, role playing, content related games, problem solving, visual listing, and worksheets inspiring the presentation of new knowledge (equations, formulas, etc.)[16].

Now let's think back to a time when we learnt something. When we sat in a lecture and passively listened to an expert talk on a subject. That is Passive Learning [9]. There we aren't doing anything but listening; we aren't involved in the learning process.

Passive Learning is a process where students receive information from the learning environment and internalize it, and "where the learner receives no feedback from the instructor". In this learning process students practiced passive leaning which give them freedom to think clear.

Passive learners absorb information and knowledge without classically learning experience. They may not interact with others, share, or contribute to a dialogue. It is the good way of self-study. An estimated 60 percent of people are passive learners. [14]

Examples of Passive Learning is: reading, listing to a lecture, watching a video, and looking at pictures or powerpoints. Students learn at the level by taking in the information presented [16].

Other different types of learning are: Collaborative Learning, Co-operative Learning, Problem-Based Learning etc.

So learning is the process of a mix information that we select (active learning) and information that we receive (passive learning). But what type of learning is best for different kinds of learning problems? This paper try to explore this question by comparing different features and characteristics of active/passive learning [1].

II. COMPARISON BETWEEN ACTIVE AND PASSIVE LEARNING

	Active Learning	*Passive Learning*
Definition	- *Active learning is an instructional process which engages students to learn through reading, writing, talking, listening, and reflecting.*	- *Passive Learning is a process where students receive information from the learning environment and internalize it, and "where the learner receives no feedback from the instructor".*
Characteristic(For Student)	- *Students doing some activities during class time.*	- *Instructor reads definitions to the class and Students are expected to "record and absorb knowledge".*

	- *Students are monitored before and after class.*	- *No feedback process or monitoring from the instructor.*
	- *Students develop and improve skill and knowledge with guidance of instructors.*	- *Learners filled with knowledge like empty vessel, process it by own and regurgitate at exam.*
	- *Students are expected to "retain and understand best by doing something active with what they learn", collaborate with other students to discus and construct a framework of knowledge.*	- *In this learning process students practiced passive leaning which give them freedom to think clear and work alone.*
	- *May enjoyable.*	- *May become tedious and boring.*
Characteristic(For Teacher)	- *Instructors deliver lecture with examples and diagrams, audio visual, presentation to explain the concept. And students practice applying these skills.*	- *Like "traditional class": where instructor given notes for verbalizing information to passive note-taking students.* - *Mostly verbal lectures.* - *Instructor reads definitions to the class.*
	- *May difficult for teacher to give active learning experience.*	- *Mostly verbal lectures, so easy for instructors.*
Textbook assignments	- *Read; think; ask questions; try to connect ideas; try to discover the purpose behind the assignment; consider how the assignment fits the goals of the course.*	- *Read*
Writing in class	- *Increase critical thinking skills in students so they decide what is important to write down and try to accurately write down information in their own words.*	- *Write down what the professor says.* - *The instructor will fill the minds of the students with knowledge in order to obtain better examination results.*
Time	- *Requires more time and energy*	- *Can present a great deal of information in a short period of time.*
	- *Materials can prepare in advance but presentation delivers on real time.*	- *Lecture notes, handouts, and audio-visual media can be selected and prepared in advance.*
Cost	- *Costly*	- *Cost effective.*
Learning Process	- *Students cantered learning process*	- *Teacher cantered learning process.*
Feedback	- *Better meets the needs of students with varying learning styles.*	- *Little opportunity to assess how well students are learning the content.* *Little time for questions, clarification, or discussion.*

III. RESEARCH DESIGN

A research done with the second-year students (majored in English.) at BVU. In this research Questionnaire were adapted from Felder and Solomon's (2004) learning style questionnaire known as Index of Learning Styles to clarify students' learning styles [5]. The research conclude Active Learning styles may have a greater positive impact on students' over Passive Learning styles on learning English[5].

In this paper survey done with 20 final-year engineering students. Questionnaire are self-generated.
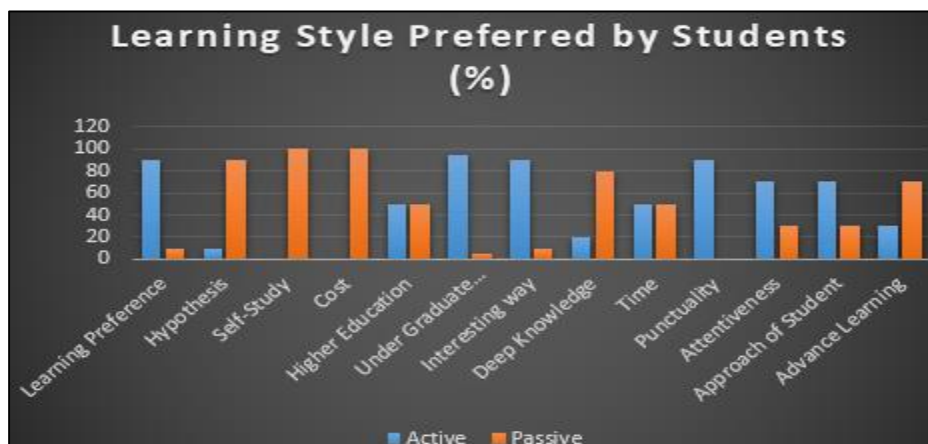
IV. RESULT

Fig. 1: The chart percentage of learning style preferred by students with respect to their needs

A look at the Fig.1 provides a comparison between Active and Passive Learning style preferred by learners for different conditions and circumstances. It shows that the learners select different learning style for different conditions and significant number of learners have leaning to receive information actively by watching something in the external world (Active Learning), process it, think about it and further work on it alone (Passive Learning). Regular study they preferred active learning, but furtherer processing or sometime advance study, they preferred passive learning.

V. Conclusion

As per the comparative study and survey we see that both Active and Passive Learning has benefits and limitation. Currently, most of the Learning Management Systems are built upon active or passive learning approaches. In active learning approach, the learning model is updated based upon the detected shift in the data stream using a change or shift detection test. In passive learning approach, the learning system is updated continuously, assuming that the environment is constantly shifting. It does not requires any shift detection test. So it can be concluded that adaptation of active and passive learning depends on Learners needs and practice. The adaptation of learning style can be extended in future by an experimental research because active and passive learning exercises are not always exactly clear.

References

Basic

[1] Kyle MacDonald, Michael C. Frank,"When does passive learning improve the effectiveness of active learning?"CogSci 2016 papers.
[2] Dr.Oluwatomi M. Alade1 and Mrs Angela C. Ogbo2,"A Comparative Study of Chemistry Students' Learning Styles Preferences in Selected Public and Private Schools in Lagos Metropolis",IOSR Journal of Research & Method in Education (IOSR-JRME) e-ISSN: 2320–7388,p-ISSN: 2320–737X Volume 4, Issue 1 Ver. I (Jan. 2014), PP 45-53.
[3] Shaoming Lu, Hui-shu Zhang,"A comparative study of education for sustainable development in one British university and one Chinese university",IJSHE15,1.
[4] Michael Prince, "Does Active Learning Work? A Reviewof the Research",J Engr. Education, 93(3), 223-231 (2004).
[5] Ho Van Han, M. A.,"A SURVEY OF ENGLISH MAJOR JUNIORS' ACTIVE VERSUS PASSIVE LEARNING STYLES AT BVU",International Journal of Information Research and Review Vol. 2, Issue, 03, pp. 553-555 March, 2015.
[6] Paras Minhas, Arundhati Ghosh (2012)." The effects of passive and active learning on student preference and performance in an undergraduate basic...". Article in Anatomical Sciences Education • July 2012.

Website References

[7] https://cei.umn.edu/support-services/tutorials/what-active-learning/elements-active-learning
[8] https://en.wikipedia.org/wiki/Active_learning
[9] https://www.openlearning.com/blog/HowPeopleLearnActiveVsPassiveLearning
[10] https://onlinelearninginsights.wordpress.com/tag/passive-vs-active-learning/
[11] http://www4.ncsu.edu/unity/lockers/users/f/felder/public/Papers/Prince_AL.pdf
[12] http://www.crlt.umich.edu/tstrategies/tsal
[13] http://digital.nsta.org/publication/?i=221015&article_id=1783528&view=articleBrowser&ver=html5#{"issue_id": 221015,"view":"articleBrowser","article_id":"1783528"}
[14] https://en.wikipedia.org/wiki/Passive_learning
[15] https://en.wikipedia.org/wiki/Active_learning
[16] http://citt.ufl.edu/online-teaching-resources/activelearning/active-vs-passive-learning-in-online-courses/
[17] http://www.csun.edu/science/ref/pedagogy/active-passive/active-passive-learning.html