

The Role of Teacher-Learner Relation Strengthened Through Interactive Self- Learning Material in the 21st Century

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Abstract: *Interactive learning comprises an active learning which has evolved by the use of digital technology providing a virtual communication to the students. Therefore, digital media in education has led to an increase in the use of reliance on interactive learning, which in turn has led to a revolution in the fundamental process of education. In interactive learning environment students and teachers rely on each other to access sources of knowledge and share their information, expanding the general scope of the educational process leading to the expansion of knowledge. This paper discusses the importance of interactive learning material preparation which would eventually lead to self- motivation in a self learning environment.*

Keywords: *Interactive learning, active learning, self-motivation and knowledge.*

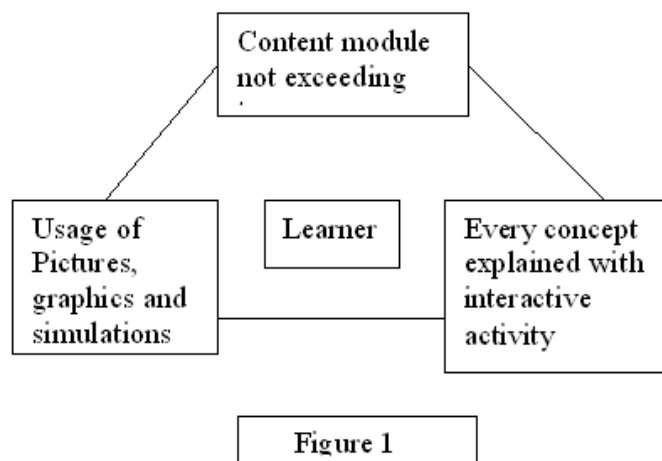
1. INTRODUCTION

Interactive learning describes a method of acquiring information through hands on, or interactive means and is a common method employed in schools today and often involves the use of computers and other tangible equipment. In general children acquire language perception through passive learning whereas their physical development is a result of interactive learning. There are three types of interactive learning namely **Learner-Content**, **Learner-Instructor**, **Learner-Learner**. In the **learner-content** type student interacts with the facts, understands, gains knowledge, applies the acquired knowledge in new situations , **In the Learner- Instructor** type the student primarily with the instructor clarifies doubts, regarding the content. Finally in the **Learner-Learner** type the student engages himself in collaborative learning exchanging knowledge with his fellow students to construct his /her knowledge. Michael Anderson (2010) suggested that interactive learning has high potential in promoting cognitive performance as there is growing evidence that in interactive learning the brain as well as physical body collaboratively interacts with the environment. Iverson and Goldin-Meadow(2001) proposed that there is strong connection between the mind and body hence, any thing goes inside the brain is reflected through the body and vice-versa . They found in their research the body gestures often determine improved cognitive performance for example students who were given a difficult spatial relations puzzle showed distinctive patterns of eye movement right before they arrived at the solution. In interactive learning students are focused on stimulus presented by the teacher on the interactive board and the student interacts either verbally or physically with the interactive board. In the Interactive Teaching, the content is presented to the students in such a manner that they could solve the puzzle by dragging the mouse to the correct option among the various options given in the work sheet so that the learning of abstract concept becomes easier, hence, this type of interaction with the content enables student-centered learning following the principles of constructivist learning.

a) Interactive E-Learning Material Focusing: Learner Content

Interactive learning material should be prepared in such a manner that it should keep the learner engaged with the content throughout. The following model explains the design of interactive learner centered model.

The figure 1 explains that the content should be given in concise form where each module should not exceed more than ten pages in which each concept is explained with interactive activity accompanied by pictures, graphics and animations.



b) Learner-Teacher

Learner- Teacher interaction in e- learning would be successful if an effective online teacher must be involved in creating a supportive environment for learners. An important aspect of the learning process is the interaction between learners and teachers and between learners and their peers. Thus added advantage of online communications is that they encourage the learner to engage in critical thinking, argument, the sharing of ideas, and collaboration. The learner and the teacher could communicate using Synchronous media involving telephone, chat, video conference, voice chats, virtual classrooms, Voice over Internet Protocol, Virtual Worlds as well as through Asynchronous media involving Discussion Forums, email, conference boards, SMS, Instant Messaging, Blogs, Wikis and Podcasts. Through the Synchronous as well as Asynchronous media establishes learner-teacher interaction, in order to make this interaction more effective the teacher should follow certain guidelines as mentioned below.

- Planning the types of communication events, which will occur during the course.
- Selecting any one or more appropriate technologies. These might involve discussion forums, emails, text chats, teleconferences, voice chats, video conferencing, SMS, Instant Messaging, VOIP
- Spending time on ensuring whether individuals could confidently install required software, establish an account, connect any necessary computer peripherals (for example a headset) and can independently use the technologies at their home or work location.
- Arranging introductory activities or icebreakers to ensure that learners develop a sense of working in a collaborative learning environment.
- Setting the tone of the online communication by modeling appropriate discourse, promoting mutual respect between participants, defusing personal antagonisms, supporting participants who may be offended and generally keeping the discussion 'in check'.
- Asking lots of questions in order to encourage interaction between learners by posing the question via an email or SMS and asking for responses on the discussion board or in a subsequent voice chat.
- Asking questions over the range of Blooms taxonomy of cognitive questions for example starting at the lower level (recall of knowledge) and gradually moving onto higher order (synthesis, analysis, problem solving etc).
- Using the communication technologies to draw together the issues being dealt with in the learning program.
- Summarizing or clarifying frequently what has been going on and helping learners to understand how the discussion relates to what has been done before.
- Giving regular and encouraging feedback to posted messages. Sending encouraging private messages to people complimenting them or at least commenting on their entries.

- Setting up sub-topics on discussion forums when needed.
- Providing conclusions to topics and direct learners to the next stage. Sensing and announcing when it is time to move on to a new topic.

c) Learner- Leaner

Interactive e- learning material promotes collaborative learning attitude among learners in various aspects as mentioned below:

- Active involvement and attractiveness towards his/her e-learning content.
- Flexibility and adaptability according to availability of time and location.
- Getting involved in training at their own pace as well as collaborating with their peers.
- Self-assessment during and at end of course

Interactive E-Learning and Motivation is a term that refers to a process that elicits, controls, and sustains certain behaviors and is the inner urge to attain certain goals. The interactive learning material kindles the intrinsic motivation creates a strong beliefs in their skills enabling them to achieve their desired goals. If the students are exposed to interactive e- learning material, half the battle of being motivated to learn would be achieved. Interactive learning material integrated with "fun" elements like video, audio, animation and the "gaming" scenario creates more interest and curiosity in learning leading to better retention and faster learning. Other motivating factors with e-learning are the conveniences that it offers, such as being able to go through the course any time and anywhere. It is a well known fact that interactive learning material could be made interesting by

- Using colors and specific color combinations combining images with words
- Combining sounds (or voice or music) with images
- Using multiple types of media
- Using layouts that flow with the natural movement of the eye

Bothun (1998) mentioned that the relationship between motivation and learning is well established in traditional educational research was found to be equally well established in distance learning environments also, but projected that in e-learning environment motivating the students poses a big challenge as there is no direct contact between the instructor and the student. Abrahamson (1998) suggested that in e- learning environment usage of technology provides the motivational tool For example more challenging the teaching- learning material, more is the effort invested by the students. Dede(1990) conducted a study to find the motivational level of students by implementing interactive study material using technology ,the findings revealed that the motivational level among the students was appreciable if the course content has interesting problems for which the solution to be analyzed. Schuck & Kearney, (2007) found interactive white boards used in e- learning programmes were found to be effective as there is paradigm shift from didactic approach to interactive facilitating student's motivation. Schroeder (2007) found that there is some positive effect on student motivation if interactive white board is used to deliver instructional material in e- learning. Interaction is a significant factor in sustaining student motivation and interest (Glover et al., 2007); Higgins et al., 2007; Smith et al.,(2005).

2. SELF LEARNING ENVIRONMENT

Teachers having expertise in the concerned subject are capable of creating a self learning environment to learners. According to Murphy David (2000) designing a suitable content is the art and science of crafting effective learning environments. Content should be considered first. A key challenge is ensuring that authors write in a way that is engaging and actively involves learners. Content developers should mainly focus on interaction and activities; assessment; learning materials; student requirements; learner support; development schedule; and evaluation. The following self learning model explains effectiveness with which the learners engage themselves in the process of learning.

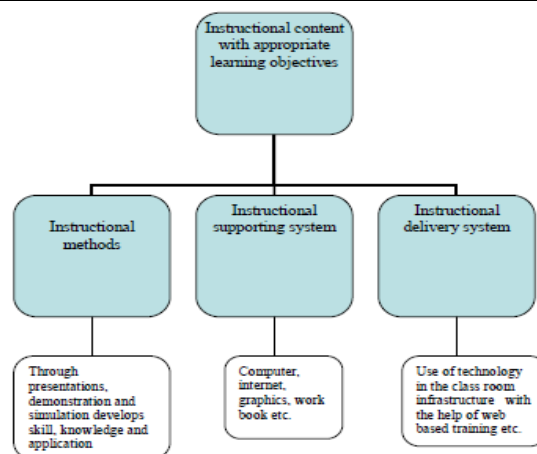


Fig2. Thus by providing self-learning environment it is possible to engage learners by providing them with challenging learning atmosphere.

3. CONCLUSION

Self-learning practice promotes natural learning occurs when we actively participate in the construction of our own ideas in relation to taught and learned material, usually by linking it in to our own lives and environments. Self-learning fosters Constructivist learning in which humans create long term retention of knowledge. It is personalized learning adapted to the individual. Constructivist learning methods the acquisition and application of knowledge is an acutely individual process mediated by social and cultural forces. Since learning processes and pathways will differ between individuals, the assessment of knowledge needs to be made with the same degree of flexibility. That is, the scope of assessment should be wide enough to allow the student to demonstrate in their own way what they have learned, while at the same time bringing to light any deficiencies. Self-learning environment associated with web technology enables to take control of their own learning leading to better retention and application of knowledge. It promotes self-expression and creativity so that students are more likely to engage in constructivist learning activities. Some of the benefits of self-learning practice fostered web technology enables the students learn to focus more on writing and editing blog posts, which in turn improves their writing skills. Another important advantage is that the students acquire research skills by ensuring their information is correct and supported from literature. By providing information through posts or comments, develops self-confidence as well as improves their critical thinking processes. Thus in 21st century in order to strengthen teacher-student relationship interactive learning material could be one of the effective teaching strategy in higher education.

REFERENCES

- [1] Abrahamson, C.E. 1998. Issues in Interactive Communication in Distance Education, *College Student Journal*, 32(1): pp33-43.
- [2] Dede, C. (1990). The evolution of distance learning: Technology-mediated interactive learning. *Journal of Research on Computing in Education*, 22(3), 247-264.
- [3] G.D.Bothun(1998),"Transforming the University to Serve the Digital Age," CAUSE/EFFECT,pp 21-32.
- [4] Glover, D., etal (2007). The evolution of an effective pedagogy for teachers using the interactive whiteboard and modern languages: An empirical analysis from the secondary sectors. *Learning, Media and Technology*, 32(1), 5-20.
- [5] Goldin-Meadow (2001), S. The resilience of gesture in talk: Gesture in blind speakers and listeners. *Developmental Science*, 4, 416-422.
- [6] Higgins, S. etal (2007). Reviewing the literature on interactive whiteboards. *Learning, Media, & Technology*, 32(3), 213-225.
- [7] Michael L. Anderson(2010), Embodied Cognition: A Field Guide. *Artificial Intelligence*, 149 91-130.
- [8] Schroeder, R. (2007). Active learning with interactive whiteboards: A literature review and a case study for college freshmen. *Communications in Information Literacy*, 1(2),64-73.

- [9] Schuck & Kearney M (2007) Exploring pedagogy with interactive white boards: a case study of six schools. [http://wwwv.ed-dev.uts.edu.au/teachers/research/iwb project/pdfs](http://wwwv.ed-dev.uts.edu.au/teachers/research/iwb_project/pdfs).
- [10] Smith, et al (2005). The impact of interactive whiteboards on teacher–pupil interaction in the National Literacy and Numeracy Strategies. *British Educational Research Journal*, 32(3), 443-457.