

CHAPTER-II: REVIEW OF RELATED LITERATURE

2.1.0 Introduction Review of related literature is an overview of the previously published works on a specific topic. The term can refer to a full scholarly paper or a section of a scholarly work such as a book, or an article. It is a comprehensive summary of previous research on a topic. It helps to determine the nature of research and provides theoretical base for the same.

2.2.0 The Impact of Interest on Academic Achievement: Charry, Myrna B. suggested there is ample theoretical and experimental evidence showing the positive impact of interest on academic achievement to suggest that college administrators might be well advised to include "expressed interest" in test batteries designed to facilitate the accurate placement of students in particular courses and curricula. J. Dewey was the first to attempt to define interest, asserting that it came from within a person, resulting from the connection of the self to an object. E. Thorndike, agreeing with Dewey that interest was a self-expressed activity, proposed that using the learner's interest was the key to learning. Followers of Thorndike surveyed students' interest in particular subjects, correlating results with academic achievement to find a strong correlation between the two.

2.3.0 Effectiveness of ICT integration in Teaching-Learning Simin Ghavifekr*, Wan Athirah Wan Rosdy found that ICT integration has a great effectiveness for both teachers and the students. Findings indicate that teachers' well-equipped preparation with ICT tools and facilities is one the main factors in success of technology-based teaching and learning. . It was also found that professional development training programs for teachers also played a key role in enhancing students' quality learning. For the future studies, there is a need for consideration

of other aspects of ICT integration especially from management point of view in regard to strategic planning and policy making in Malaysian context.

2.4.0 Application of ICT in teaching biology in higher classes Senthilkumar R, Sivapragasam C and SenthamaraiKannan B conclude science education plays a vital role, in higher education sector. ICT is the best way to convey the information to the students in biology, because of the easy understanding and attractive experience to the students. ICT can change traditional classroom into smart classroom. So, ICT integrated instruction is the best way to improve the quality learning in higher education. Learning of biology can be made easier and more comfortable by integrating ICT tools in instructional strategies for teaching biology. The students of biology can make use of ICT for easy understanding. ICT can change traditional classroom into smart classroom and improve teaching-learning process in biology.

2.5.0 Use of ICT and its effect on Academic Achievement Huppert et al. (1998) conducted an experimental study of the effect of using computer simulations on students' ability to apply their knowledge of the growth curve of microorganisms. The use of computer simulations was integrated as short episodes in the existing biology curriculum. The post-test results on academic achievement indicated that students in the experimental group achieved significantly higher mean scores than the control group. A significant use of ICT in science education is the incorporation of specific simulations into the existing curriculum.

2.6.0 Computer Assisted Teaching leads to high score in achievement test Barnea and Dori (1999) conducted an experimental study with three 10th-grade classes who used a discovery approach based on computerised molecular modelling, which enabled animation of three-dimensional representations of

molecules of any size and colour in a number of presentation styles. Students in the experimental group performed better than control group students on their spatial ability, understanding of new concepts related to geometric and symbolic representations, and perception of the model concept. Students in the experimental group scored higher than students in the control group in the achievement test on structure and bonding.

2.7.0 Use of ICT tools for improved teaching-learning process in science classrooms Michelle M. Mukherjee (2013) described technological tools for science classrooms: choosing and using for productive and sustainable teaching and learning experiences.

2.8.0 Correlation between student's interest and achievement Yuliana Yuliana, Firdaus Sale, La Ode Nggawu found out the correlation between student's learning interest and their english schievement at SMAN 10 Kendari. The purpose of the research is to find out a significant correlation between students' learning interest and their English achievement in SMAN 10 Kendari. The method used in conducting this research is correlation study. The results of the research show that there is significant correlation between students' learning interest and their English achievement. It can be seen by the results of analysis using *Correlation Product Moment* with help program SPSS Version. It was concluded that there was significant correlation between students' learning interest and their English achievement at SMAN 10 Kendari in academic year 2016/2017.

2.9.0 Sum-Up

Technology-based teaching and learning is more effective in compare to traditional classroom. This is because, using ICT tools and equipment will prepare an active learning environment that is more interesting and effective for both teachers and students. The results are in line with a research findings by Macho (2005) that proved using ICT in education would enhance students' learning. Interest in learning, could most probably be a very powerful affective psychological trait and a very strong knowledge emotion as well as an overwhelming magnetic positive feeling, a sense of being captivated, enthralled, invigorated and energized to cognitively process information much faster and more accurately in addition to most effective application of psychomotor traits like self-regulatory skills, self-discipline, working harder and smarter with optimum persistence" (Kpolovie, 2010). He recommended the need of conducting more researches for ascertaining the actual role that interest in learning plays in students' academic attainment at all levels of the educational system.

Currently, ICT plays an important role in promoting new instructional methods for teaching and learning, such as: self-paced learning (Roberts, 2003), network learning (González, 2009) and online discussion (González, 2010). Moreover, effective use of ICT can facilitate student- centered active learning (Ellis et al., 2008), engage students in collaborative learning as well as enhance their social interaction (Dodge et al., 2003). Previous practice in using computers and positive attitudes towards technology are variables that favour success in teachers' integration of ICT (Drent and Meelissen 2008; Mueller et al. 2008). In addition, research shows that ICT is no generating the expected significant changes (Cuban 2001; Cuban, Kirkpatrick, and Peck 2001; Robertson 2003). On the other

hand, it is clear that educational changes addressed through ICT may result in effective changes in student learning (Wong and Li 2008).