

**CHAPTER-II**  
**REVIEW OF RELATED**  
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### **REVIEW OF RELATED LITERATURE**

#### **2.0.0 INTRODUCTION**

Review of related literature is an important part of any research work. It helps the investigator to gain better perspective of the problem. All available literature concerning the problem at hand were surveyed and examined by the investigator. This investigation will help the investigator for further exploration of knowledge related to the problem.

The previous chapter delivered on the introduction of the present research providing an insight into the effectiveness of e-content in achievement of students and other relevant details, the current chapter presents review of related literature pertaining to the study. The review of related literature presents current trends, advancements and findings in the area of e-content learning and academic achievement in chemistry and other related variables of the study. The key broad area covered in the reviews is e-content learning. It deduces a conclusion of the literature review and relevance of the review with the present study.

#### **2.1.0 REVIEWS ON E-CONTENT AND ACADEMIC ACHIEVEMENT**

According to **Best (1977)**, practically all human knowledge can be found in books and libraries. According to **Good (1981)**, the key to the vast store house of published literature may open doors to sources of significant problems and explanatory hypotheses and provide helpful orientation for definition of the problem, background for selection of procedure and comparative data for interpretation of results. In order to be truly creative and original, one must read extensively and critically as a stimulus to thinking. In research where a new attempt is made, it is important to consult the earlier attempts made in the field. In the present attempt the investigator could collect studies which could be as follows:

### 2.1.1 INDIAN STUDIES RELATED TO E-CONTENT

**Jayakumar (2007)** attempted on the Development and Validation of e-content on transport for the higher secondary commerce students. The major findings of the study reveal that e-content was effective in teaching at higher secondary level.

**Karthick, M. (2007)** investigated on Development and Validation of e-content on Pearl Harbour Incident for the Graduate level History students. The major findings of the study reveal that e-content was effective in teaching history at tertiary level. The e-content which in turn in the form of SLO (Short Learning Object) increases the performance of the students.

**Karthikeyan (2007)** investigated on Development and Validation of e-content in Tamil at secondary level. The major findings of the study reveal that there was a significant mean difference between the achievements of pre-test and post-test, there was no significant mean difference between the achievement of rural and urban students.

**Nimi Ann Jacob (2007)** investigated on Development and Validation of e-content in Capillarity in Physics at secondary level. The major findings of the study reveal that e-content makes the teaching learning process more effective, the e-content enhances mastery level over the subject.

**Benedict Flavian, D. (2008)** carried out a study on Development and Validation of e-content on learning History at secondary level. The major findings of this study are: There was no significant mean difference between the achievement of control group and experimental group in the pre-test. There was a significant mean difference between the achievement of control group and experimental group in the post-test.

**Jebraj, Gershom & Mohanasundaram (2008)** studied the Effectiveness of e-content in Teaching of Physics at Tertiary Level.

The major findings of this study are:

The experimental group and control group trainees differ in their achievement. The male trainees in the experimental group and control group differ in their achievements. The female trainees in the experimental group and control group

differ in their achievements. The experimental and control group trainees belong to the science faculty differ in their achievements. The experimental and control group trainees belonging to the humanities faculty differs in their achievement.

**Nivetha, V. (2008)** carried out a study on Development and Validation of e-content on the Universe in Physics at higher secondary level. The major findings of this study are: e-content was very useful for greater achievement in physics at higher secondary level. When compared with control group the experimental group achieved higher and hence the e-content was more useful than conventional methods with regard to achievement in Physics.

### **2.1.2 FOREIGN STUDIES RELATED TO E-LEARNING**

**Andrew, R., Brown & Bradley, D. Voltz (2005)** attempted a study on the elements of effective e-learning Design. Preparing and developing e-learning materials is a costly and time-consuming enterprise. This paper highlights the elements of effective design that we consider assist in the development of high-quality materials in a cost-efficient way. We introduce six elements of design and discuss each in some detail. These elements focus on paying attention to the provision of a rich learning activity, situating this activity within an interesting story line, providing meaningful opportunities for student reflection and third-party criticism, considering appropriate technologies for delivery, ensuring that the design is suitable for the context in which it will be used, and bearing in mind the personal, social, and environmental impact of the designed activities. Along the way, we describe how these design elements can be effectively utilized by contextualizing them with examples from an e-learning initiative.

**Long and Jennings (2005)** discussed his study on the topic "Does it work?" The impact of technology and professional development on student achievement. The major findings of the study reveal that Regression analysis indicated an effect size of +0.55 favouring the online conditions. This study also looked into the maturation effects of teachers using the online materials for the second time. As hypothesized, the results showed that the online materials were used more effectively in the second semester.

**Manochehr (2006)** has made a study where he compared the effects on e-learning versus those on traditional instructor-based learning, on student

learning, based in students learning styles. The result was that the learning style in traditional learning was irrelevant but in e-learning it was very important. The study showed that learners with an assimilating or converging learning style achieved better learning results in e-learning.

**Fox, Christine (2006)** said that the online learning is meeting needs that traditional class rooms cannot fulfil. Online courses can get to people and places beyond the reach of the traditional school setting, serving the needs of students and teachers nation-wide. This article describes the advantages of virtual schools in Florida, Louisiana, Alaska, West Virginia, and Arizona. Virtual education can mean a variety of things to educators and students, depending on their personal circumstances. For example, online courses allowed this author to maintain her teaching certificate. For others, e-learning will fulfil different educational needs. As states and districts maintain and broaden e-learning options via virtual schools, expanded portals, and enhanced video conferencing, teacher and 55 student learning opportunities will continue to grow without end.

**Naser-Nick (2007)** conducted a study on *The Influence of Learning Styles on Learners in e-learning Environments: An Empirical Study*. It has been found that for the instruction-based learning, the learning style was irrelevant, but for the web-based learning class, learning style was significantly important. The results showed that students with learning styles assimilator and converger did better with the e-learning method. This mean that those learners that like to learn through thinking and watching and thinking and doing would learn better with e-learning. In addition, students with learning styles assimilator and converger received better results with traditional instructor-based learning.

**Barbara Rivera and Gordan Rowland (2008)** conducted a study on *Powerful e-learning: A Preliminary Study of Learner Experiences with focus on e-learning contexts*. It was conducted using structured phone interviews with adult learners pursuing undergraduate degrees through e-learning coursework. Among other things, data suggest that meaningful social interaction and emotions may be important components in powerful learning experiences. In addition, the data suggest that powerful learning can indeed occur in e-learning environments. Results of this study combine with those from three previous studies to point

towards practice of instructional designers and educators that may contribute to powerful learning in e-learning environments. Further examination of powerful learning in such environment holds promise.

### **2.2.0 SUMMARY**

The investigator has reviewed different studies related to this topic. Out of that some were Indian studies and others were foreign studies. In which studies related to e-content, e-learning and Multimedia. From the review of above studies, the following findings have been noted. E-content was effective in teaching at higher secondary level (**Jayakumar, 2007**), e-content makes the teaching learning process more effective (**Nimi Ann Jacob, 2007**), e-content was very useful for greater achievement in physics at higher secondary level (**Nivetha, V. 2008**), e-content can be used successfully for teaching of Chemistry at Secondary level (**Ponnalagu, K. 2011**), learning through e-content and learning through traditional lecture method was not similar and they differ significantly (**Rajalakshmi, R. 2013**), teaching through e-content created more impact upon B.Ed., Teacher Trainees (**Karthikeyan, 2014**).

Thus, the review has helped the researcher to gain insight into the nature of the research problem and it has become clear that so far, no study has been undertaken to develop and validate an e-content on teaching of Chemistry for IX Standard Students. Hence the investigator found it to be relevant to develop e-content on Chemistry subject.