1. INTRODUCTION

1.1. BACKGROUND OF THE STUDY

Among the four macro skills of English language, writing skill occupies a predominant position in the curriculum in universities across India. It is also the only skill in which the students are assessed and declared to have passed or failed in their examinations. According to Graham “Most of the adolescents do not develop the writing skills they require to be successful in school, the workplace, or their personal lives” (445). As claimed by Graham writing is the primary means of measuring their learning process. However, most of the students have not acquired the expected level of competence in writing. Foster asserts that the ability of the students’ success depends on how they have developed their writing at University (10).

An analysis of the reasons for the poor written performance of the students shows that classroom practices of writing instruction are traditional and product-oriented. Lipstein and Renninger state that “students’ interest in writing is often influenced by their teachers and classroom practice” (79). According to Kroll, academic writing is challenging for both native and non-native speakers of English. She voices her concern about the nature of writing pedagogy in classrooms. She affirms that many approaches to teaching writing have been tried. However, these approaches have proved to be ineffective (140). Hedge advocates Process approach at tertiary level for better writing outcomes. She suggests that “Process approach helps students gain greater control of cognitive strategies involved in writing” (12).

Previous research on L2 writing in India has focussed on the reasons for poor writing skill among students at all levels. Ismail et al. suggests that “unappealing materials and dull classroom activities are reasons why students are struck during writing” (61). On similar lines, Jeyaraj claims that improper approaches to teaching writing have led to poor writing skill among
students (92). In order to address these issues related to teaching writing a new approach which is a blend of technology and pedagogy is required.

Policy makers in India have shown a keen interest in Technology Integrated Language Teaching (TILT). One of the objectives of National Curriculum Framework of Teacher Education is to help teachers to use technology for effective teaching learning process. The annual report of the Ministry of Human Resource and Development (MHRD, 2014-15) states that the higher education in India is administering the National Mission on Education through Information and Communication Technology (NMEICT). The objective of this scheme is to leverage ICT in the teaching-learning process. Despite these initiatives, the application of Computer Assisted Language Learning (CALL) is still at a nascent stage in India. Recent meta-analysis and review studies have reported on the development of multimedia technologies in second language acquisition (SLA). Some of the recent meta-analyses that have reported on the use of computer-assisted multimedia technologies for second language acquisition are (Chun, 98-115) (Blake 129-142) and (Reinders and White 143-154). None of these studies has reported on any CALL research in India.

The researcher observed from the analysis of the questionnaire administered during the survey that most of the engineering institutions in the selected region followed traditional practices for teaching writing. He also found that teachers did not use multimedia technologies for teaching writing despite the availability of language labs. Hence he wanted to propose a new approach named Multimedia Supported Process Approach (MSPA) for teaching L2 writing.

1.2. STATEMENT OF THE PROBLEM

Based on the analysis of research in L2 writing the researcher has identified the following potential problems. i) The approaches used for teaching writing at tertiary level are product-oriented. ii) The tools used for
teaching writing are traditional. Inappropriate approaches and uninspiring teaching environment are the fundamental problems in teaching writing.

1.3. OBJECTIVES OF THE STUDY

The study aims to fulfil the following objectives:
- To examine the different approaches adopted in teaching writing at engineering institutions.
- To identify the lacunae in writing pedagogy
- To develop a suitable approach to teach writing at tertiary level
- To foster better writing skills at four levels such as i) Content level ii) Lexical level iii) Coherence level and iv) Grammatical level using the new approach.
- To test the effectiveness of the proposed approach using an experimental study.

1.4. SIGNIFICANCE OF THE STUDY

Harris, Karen and Graham reported on the challenges in writing instruction. Some of the solutions they offered for improving writing skills are i) developing practical approaches to teaching writing, and ii) designing good instructional models (84). Graham et al. claim that “effective design of tasks and successful pedagogic practices can immensely enhance the quality of L2 writing instruction” (879). In this context, multimedia materials can be productively used for the design of writing tasks. Chapelle points out, “As we enter the 21st-century everyday language is so tied to technology that learning a language through technology has become a facet of life with significant implications for all applied linguists, particularly for those concerned with second language acquisition (1).

The Multimedia Supported Process Approach (MSPA) proposed in the study is expected to provide a suitable framework for teachers involved in writing instruction. At the theoretical level, this study is supposed to add more evidence to the effectiveness of Cognitive Theory of Multimedia Learning (CTML). At the pedagogical level, this study would focus on
improving the writing skills at four levels, namely content level, vocabulary level, coherence level and grammatical level.

1.5. BASIC ASSUMPTIONS

This study is based on the following assumptions.
- The principles of Richard Mayer’s Cognitive Theory of Multimedia Learning (CTML) provide a discrete framework for the design of multimedia tasks for teaching writing.
- Multimedia Supported Process Approach (MSPA) is expected to be an effective pedagogy for fostering the writing skills of the undergraduate engineering students.
- Integrating multimedia materials during the pre-writing and while writing stages will provide a stimulating environment to the target learners and enable them to demonstrate better writing skills.

1.6. RESEARCH QUESTIONS

The primary research question that guided the study was “Will Multimedia Supported Process Approach (MSPA) enable the target learners to produce better pieces of writing”?

This primary research question is narrowed down into four sub-questions such as

1. What is the extent of improvement in content after multimedia intervention?
2. What is the extent of improvement in cohesion and coherence after multimedia intervention?
3. What is the extent of improvement in vocabulary after multimedia intervention?
4. What is the extent of improvement in grammar after multimedia intervention?
1.7. HYPOTHESIS

In alignment, with the research questions, the following hypothesis was formulated.

- The experimental group which is exposed to the Multimedia Supported Process Approach (MSPA) will demonstrate better writing skills than the control group which is exposed to the traditional method. Incorporating multimedia tools using the Process approach to writing will lead to significant improvement in writing skills at all four levels, namely content level, cohesion level, lexical level and grammatical level.

1.8. SALIENT FEATURES OF THE PRESENT STUDY

- A new approach named Multimedia Supported Process Approach (MSPA) was proposed in this study to enhance the writing skills.
- Cognitive Theory of Multimedia Learning (CTML) was employed in the present study.
- Writing tasks that corroborate to the principles of CTML were designed to conduct the experimental study.
- The writing tasks in the modules were designed for all the three stages of writing, namely pre-writing, while writing and post-writing stage.
- The tasks focused on improving writing skills at four levels such as i) content level ii) vocabulary level iii) cohesion level and iv) grammatical level.
- The efficacy of the new approach was tested using a pilot study.
- After the pilot study, an experimental study was carried out at three engineering institutions.

1.9. THEORETICAL BACKGROUND

The principles of Mayers’ Cognitive Theory of Multimedia Learning (CTML) were employed in the present study. According to this theory, active learning takes place if the multimodal input (a combination of text, visuals and videos) are used for instruction. According to Sorden the theoretical
foundation for multimedia learning is based on several cognitive theories. The principles of CTML provide a promising framework for the design of multimedia tasks in the context of teaching writing.

1.10. CONTRIBUTION TO THE FIELD

This study is expected to make a significant contribution at three levels. i) Theoretical level: It has applied (CTML) Cognitive Theory of Multimedia Learning. This theory has not been tested before in the context of second language acquisition (SLA). ii) Pedagogical level: The new approach named Multimedia Supported Process Writing Approach (MSPA) developed by the researcher applies a rubric driven pedagogy that enables the target learners to develop his writing skills at all four levels namely content, coherence and cohesion, vocabulary and grammatical resource. iii) Design level: The study provides a framework for the design of multimedia tasks. The framework is in alignment with the principles of the Cognitive Theory of Multimedia Learning.

1.11. A BRIEF PREVIEW OF THE CHAPTERS

A brief preview of the chapters are presented below:

Chapter One

The introductory chapter provides details about the research study undertaken. The background of the study, objectives, significance, assumptions and scope are presented in this chapter. The nature of the problem, research questions, hypothesis and the theoretical basis of the study are explained.

Chapter Two

A comprehensive review of the evolution of CALL and multimedia instruction is presented in the initial part of this chapter. The literature related
to the theoretical background of the study is reviewed. Recent studies on multimedia instruction and writing pedagogy are critically examined. There is empirical evidence to suggest that multimedia integration will significantly enhance the learning outcomes. The specific findings of the review are summarized, and the research gap is identified. Finally, the process approach is examined with particular emphasis on multimedia integration.

**Chapter Three**

The third chapter deals with a survey of multimedia facilities and the methods employed by practitioners for teaching writing. The objective of this chapter is to identify the existing practices in L2 writing classrooms in the engineering institutions at the selected region. It was found that teachers resorted to conventional practices of teaching writing. After identifying the lacunae, a new approach named Multimedia Supported Process Approach was proposed.

**Chapter Four**

The design of the Multimedia Supported Process Approach (MSPA) and the description of materials are exemplified in this section. A step by step description of the stages in the experimental study is presented.

**Chapter Five**

This fifth chapter deals with the pilot study that was conducted at B.S.Abdur Rahman University. The rationale and design of the pilot study are elucidated in detail. A comparative analysis of the traditional and the Multimedia Supported Process Approach, evaluation methods and credit structure are explained. The final part of this chapter deals with the analysis of the pilot study.
Chapter Six

This chapter deals with the experimental study that was carried out in three institutions, namely B.S.Abdur Rahman University, Tagore Engineering College and Asan Memorial College of Engineering. The steps in the experimental study, sampling procedure, validity and reliability criteria are presented in this chapter. The evaluation methods that are used to analyse the results are illustrated in detail along with the extracts from students test scripts. Subsequently the statistical procedures and the results of the paired sample t-test are presented. In the last part of the chapter, the students’ feedback questionnaire on the effectiveness of multimedia instruction was analysed.

Chapter- Seven

The concluding chapter presents the findings of the study. The limitations and implications of the study are elaborately described. Suggestions pertaining to multimedia integration in the context of teaching writing are enlisted. Directions for further research are discussed eventually.