



Usage of Multimedia Technologies to Reduce Stress

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Abstract: *This research presents the experiments on use of multimedia technologies in learning computer science. Multimedia technologies are becoming more and more central to teaching and learning process. Stress affects mental and physical activity among the learners. Because of the stress the learners' activities such as memory, exam performance will be affected. Multimedia tools play a very important role in teaching and learning process. This research analyzes the role of multimedia technologies in learning and teaching computer science among the adult learners between the ages of groups 20 to 30. Multimedia technologies reduce the stress among the learners and help to improve the exam performance. It also helps the teachers to do their job effectively. The ultimate aim of this research is to study the stress level as well as exam performance level due to the effective multimedia technologies and interactive digital environment.*

Keywords— *Multimedia technologies, Stress level, Exam performance, adult learners, learning process.*

I. INTRODUCTION

Even though multimedia technologies is implemented two decades ago in the education environment, still virtual reality, 3D animation, Simulation, Digital environment is the dream of many Indian Universities and colleges in India. Learning style can used to predict the learning performance. Studies have identified the mediating and moderating effects of tools between the learning style and performance [1]. Multimedia technology mediates in teaching system in all the forms of communication-in delivering, in searching, in storing, in evaluating, in managing, in transmitting, in reproducing lectures and notes and so on. Multimedia tools help the process such as modeling of learners, the modeling of courses, and he personalization of learners [2]. Multimedia technologies include web technology, electronic and digital media technology. There is a developing interest in multimedia technologies in the learning environment [3]. Apart from job opportunity these trends create flexibility in the learning and teaching process [4]. These tools also help educators, research scholars, students and others. Even though many software and tools are available in the educational industry, still educators don't have the full fledged, flexible and combined tool for teaching evaluating and managing educational environment.

I.2 STRESS

Because of the industrial revolution vocational aim is the first choice of the parents [5]. Many educational technologies and parents think that education must enable the learner to get a good job in order to earn money and respect [6]. The question always arises 'what is the first priority? Job or Knowledge? Many parents give pressure to score very high marks. For them the job is the first priority. Learners interest and knowledge gaining goes second priority [7]. This type of business and commercial mindset gives stress among the learners especially the adult learners. Dr. Radhakrishnan said that 'Education is not merely a means of earning.' It is a light of life [8].

Today the educational system is being very commercial. Parents, teachers, peer groups forces the learners to get good score in exams. Because of the materialistic way of life jog becomes the first priority. This expectation leads the learners to stress which will develop psychological as well as physical illness [9].

I.3 STRESS NSAD QUESTIONNAIRE

International stress management association, United Kingdom developed the standard stress identification questionnaire to find out the stress among the adults. According to them, 4 or fewer points in NSAD questionnaire had no major impact in health and mental stability among the adults. But 5 to 13 points had minor sure impact on both mental as well as physical stability and disturbances [10]. More than 14 it had major impact on mental and physical health consequences among the adults which required medical consultations by a trained psychologist. More than 14 points of NSAD questionnaire would impact health illness like migraine, anxiety, high blood pressure and even heart attacks.

I.4 MULTIMEDIA TECHNOLOGIES

Media generally refers to communication media tools such as microphone, printer, email, radio, cinema, television, etc. Multimedia refers to combination of printer, audio with system and multi combination of audio visual media, etc. Multi media includes the media like electronic media, digital media, social media, etc. Multi media tools and software

develops the communication ways and paths in many areas [11]. Especially the teaching and learning processes develop a lot. Multi media tools such as audio visual interactive projectors, smart boards, mobile learning devices, virtual environments helps the learners to memorize the concepts as well as helps the learners to understand the basic designs with ease [12]. Apart from flexible delivery the multi media tools reduces the stress in the educational environment by the way of simplicity [13] Multi media tools not only helps the learners to learn but also helps the trainers, educators, lecturers to deliver, store, transmit, print materials as well as in teaching,. The advancement of multimedia software and tools development of multimedia learning systems has started a revolution for instructional content delivering, learning activities, and social communication.

II. RESEARCH METHODOLOGY

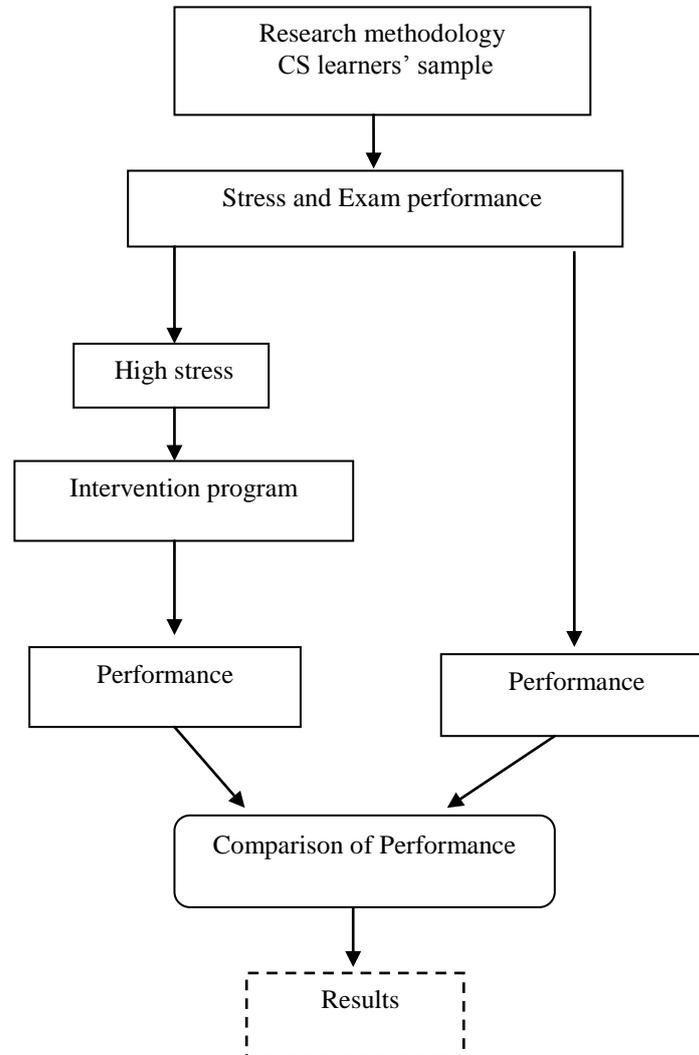


Figure 1: Research design

III. OBJECTIVE OF THE WORK

The main objectives of the research are as follows

- 1) To study the stress level among the computer science students in a B grade level college.
- 2) To suggest Multimedia technologies to reduce the stress among the learners.
- 3) To study the awareness level among the learners and educators.
- 4) To suggest meditation and other training to learners to reduce stress.

IV. HYPOTHEIS

- 1) There is an association between stress and exam performance among the computer science learners.
- 2) There is an association between multimedia technology application and exam performance.
- 3) There is an association between multimedia technology in teaching strategy and reduction of stress level.
- 4) There is an association between multimedia skill and teaching methodology.

V. QUESTIONNAIRE DESIGN

- 1) 60 computer science undergraduate learners were analyzed by NSAD questionnaire. High level stress was separated. The sample of 30 high level stress holders was studied and their exam performance also calculated.

2) 30 computer science trainers gave their feedback to calculate their awareness level about the multimedia technology.

VI. SAMPLING

This experimental study investigates the effects of Multimedia technologies on learning performance among the students between the age groups of 20 to 30. The independent variables were the Multimedia technologies and without multimedia technologies for teaching computer science. The selected sample size was 60 BSc computer sciences from an B grade college in Trichy district. Pre test was conducted before the study. 30 high level stress students were selected for the study. After one hour learning session conducted with the software Adobe photo shop cs2, the results were analyzed. The pre test was objective type to get the stress level. The post test was also objective type to get the exam performance level. High level stress learners' exam performance was taken into consideration. This test was given to analyze the difference. The results showed that Multimedia technologies were more beneficial for high level stress students' exam performance improvements.

VII. ANALYSIS AND INTERPRETATIONS

This research clearly shows the Multimedia technologies awareness among the teaching staffs. 80 % of the teaching staffs have multimedia knowledge

It also clearly shows that 90 % learners have more than 10 point levels of stress in studying.

It also shows the stress level and exam performance after the intervene program.

Multimedia technology application improves the exam performance among the computer science students.

VIII. FINDINGS OF THE STUDY

1. All the respondents were between the age groups of 20 to 30
2. All the staffs were qualified more than PG degree.
3. 30 % of the staffs had prior multimedia knowledge.
4. Majority of the staffs used multimedia technologies in their teaching.
5. 90 % of the students had stress level more than 10 in NSAD questionnaire.

IX. SUGGESTIONS

1. Majority of the trainers had awareness about the multimedia technology in teaching. It should be made mandatory in teaching. The multimedia technology skills should be taught to learners and trainers.
2. Multimedia technology specialist should be appointed in colleges to conduct multimedia programs.
3. Stress management programs should be conducted in the colleges to reduce stress among the computer science students.
4. Workshops and seminars should be organized to reduce stress among the learners.
5. Medication and yoga, parents meeting, counseling programs should be conducted the educational environment.

X. CONCLUSIONS

This study clearly shows that students' exam performance such as memorizing concepts and mathematical ability have beneficial influence by Multimedia technologies. High low stress students have maximum benefit in learning concepts. Students' family background, parents and peer groups influences, teaching supports and meditation can also impact the exam performances. This research clearly shows that the exam performance among the computer science students goes up even though they have more stress in learning. A Multimedia technology not only helps the learners to perform but also helps the trainers for their easy and flexible teaching. Majority of the trainers have awareness about the multimedia technologies application for their teaching. But the software tools and facilities are very low in B level college.

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