

An analysis on usage and accessibility of multimedia among special teacher educators

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Abstract

In the 21st century educational systems around the world are under mounting pressure to use the new technologies to teach the students the knowledge and skills they need. Education is at the convergence of powerful and rapidly shifting educational, scientific and political forces that will change the structure of the educational system across the globe. Many countries are occupied in the transform of educational system which enhances the teaching learning process. Multimedia has provided with an range of powerful tools that may help in transforming the present isolated, teacher centred and text bound classrooms into rich, students focused, interactive and knowledgeable environment. The schools must embrace the new technologies and appropriate multimedia approach for learning. They must also move toward the goal of transforming the traditional paradigm of learning. Teacher education institutions may either assume a leadership role in the transformation of education or be left behind in the swirl of rapid technological change.

In this present study an approach has been made to analyse the attitude and knowledge of special teacher educators on the variety of multimedia tools and the usage of it in teaching learning process. A descriptive research using survey method was adopted for the study. Purposive Sampling method was used in order to select the special teacher educators. For finding out the attitude and knowledge of multimedia devices a checklist was made by the investigator. The research drawn to a conclusion that the development of technology has essentially changed the education system. The capacity of multimedia tools used to smooth the progress of the teaching and learning process at institutions for the overall development of the child.

Keywords: multimedia, educational system

Introduction

The world we live in is completely reshaped by Globalization. Technologies have helped in shaping new global economy and producing rapid change in the society. Education has the potential power of transformation of human condition. The impact of technology in our day to day life as well as in education has drastically influence in the overall development of a child. Educational system all around the world are under increasing pressure to use the new technologies to teach the students. The technology has transformed in such a way that the nature of education has changed frantically that education can happen anywhere and anytime. With the advent of multimedia technology multimedia has made an impact on the learning needs, and help in enhancing educational potential of the students.

The quality and standard of educational institutions is enhanced and sustained at a high level through innovation, creativity ad regular monitoring which is applicable in education and teacher education. When compared with the other professionals the scenario of teacher education is deplorable. With the accomplishment of right kind of teaching staff, the progress of country is dependent on its educational system. Education has educational system which has powerful influence in the National development.

Multimedia education

Multimedia is an interactive instructional method that uses a computer to present material, track learning and directs the

user to additional material which meets the student's needs. Multimedia is a content that uses combination of different content forms such as text, audio, images, animations, video and interactive content for educational, communication and socialization of an individual. Primary application of multimedia involves an instructional situation where the learner is given control so that the reviewer can review the materials on their own pace and interest. Now days the technology has grown in such a way that the multimedia tools has replace the teacher role entirely. Multimedia provides students with flexible learning, increases motivation, retention and interest of the child.

Classification of multimedia

Multimedia has been classified into multiple forms like text, audio, video, animations etc. with the application of technology in education today's teachers are been offered the opportunity to move from a largely linear learning environment to increasingly nonlinear environment. The influence of multimedia offers multiple ways of engaging students in active teaching learning process. Now a day teaching learning not only includes chalk and board but also variety of multimedia tools. Multimedia has been mainly classified into seven categories namely

- **Graphic Media:** Books, Pictures, Photographs, Maps, Charts, Posters, Graphs, Diagrams
- **Display Media:** Chalkboard, Bulletin Board, Flannel Board, Peg Boards

- **Three Dimensional Media:** Models, Objects, Specimens, Puppets
- **Projected Media:** Slides, Filmstrips, Transparencies, Films, Video tapes, Gramophones, Records
- **Audio Media:** Radio, Audio cassettes, Gramophones, Records etc.
- **Video Media:** TV, Videocassettes, CD, Computers etc.
- **Activity Media:** Fieldtrips, Dramatization, Demonstration, Role-playing etc.

Principles of multimedia

Like every other concepts multimedia has its own principles. In the wider sense multimedia will refer to any computer that interacts with students in some of the other way in the educational process. Some of the principles of multimedia involve

- Principle of small and unique test
- Principle of active responding
- Principle of immediate conformation
- Principle of self-pacing
- Principle of student testing

Review of Literature

Palmas Anyagre and Sarah Anyagre (2000) conducted a study on the “Use of video and multimedia in teacher education”. This article mainly focuses on the latent benefit of using video in professional teacher education. The pedagogic stpes involved in applying video as teaching is also focused in discussing. This also examines the current structural arrangement for teaching in the colleges of education in terms of their sustainability for teaching with multimedia and the necessary expansions, adjustments and linkage that have to be made to facilitate the integration of video and multimedia in our teacher education system

Baiker (2015) conducted a study on “effective use of multimedia in education, teachers must develop their own educational multimedia applications”. This paper makes the

strong claim that for multimedia to have any significant effect on education, the educational multimedia applications must be designed by the teachers of those classes. The arguments Supporting this claim are presented in the headlines: curriculum, software, hardware and evaluation. The paper begins with an introduction discusses what is a multimedia and a multimedia authoring tools and describes some typical areas of multimedia application development. Finally the paper ends with the action plan and concludes that we must and need as educator to create our own multimedia applications if we really want to make use of the multimedia applications as an effective tool in education.

Objectives

The major objective of the study is to:

- Focus on multimedia approach, which can enhance the quality of teaching-learning process.
- Study the role of teacher in multimedia approach.
- Find out educational implications of multimedia.
- Analyse the attitude of teacher educators on the usage of multimedia tools of education

Methodology

A descriptive research survey method was used for the study. A checklist was developed and used by the researcher to collect the data from the special teacher educators in Chennai. Purposive Sampling Method was used in to select the special teacher educators form colleges which offer special education programs. The Independent Variable of the study is Special Educators and the Dependent Variable consists of four domains created by the investigator and used for collecting the data. The domains were

- a) Access to Facilitate
- b) Advantages of Multimedia
- c) Self Actualisation and Independency
- d) Socialisation and Independency

Results and Discussions

Table 1: Access to Facilitate

Domains	Agree		Disagree		Not sure	
	Number	%	Number	%	Number	%
Required for students with disabilities	34	97.14	0	0	1	2.86
Use of multimedia needs to be considered by the IEP team in the institutions	25	71.43	6	17.14	4	11.43
Has access to multimedia	31	88.57	2	5.71	2	5.71
Prepared to provide multimedia services	15	42.86	11	31.43	9	25.71
Students gets frustrated by the use of multimedia	27	77.14	1	2.86	7	20.00
Parents lack the awareness of multimedia	26	74.29	3	8.57	6	17.14
Reliable mode of learning	29	82.86	2	5.71	4	11.43
Teachers trained in multimedia	12	34.29	14	40.00	9	25.71
Difficult to integrate multimedia in the present curriculum	14	40.00	13	37.14	8	22.86
Able to use multimedia due to the pressure to prepare students to exams and tests	25	71.43	2	5.71	9	25.71
Parents are in favour of multimedia	31	88.57	2	5.71	2	5.71
Helps the students to learn in their own place	31	88.57	1	2.86	3	8.57
Assistive technology helps in connecting with the students	29	82.86	3	8.57	3	8.57
Helps to learn automatically	32	91.43	0	0	3	8.57
Aid in retrieving information	34	97.14	1	2.86	0	0
Training should be given in using technology in classroom	25	71.43	2	5.71	9	25.71

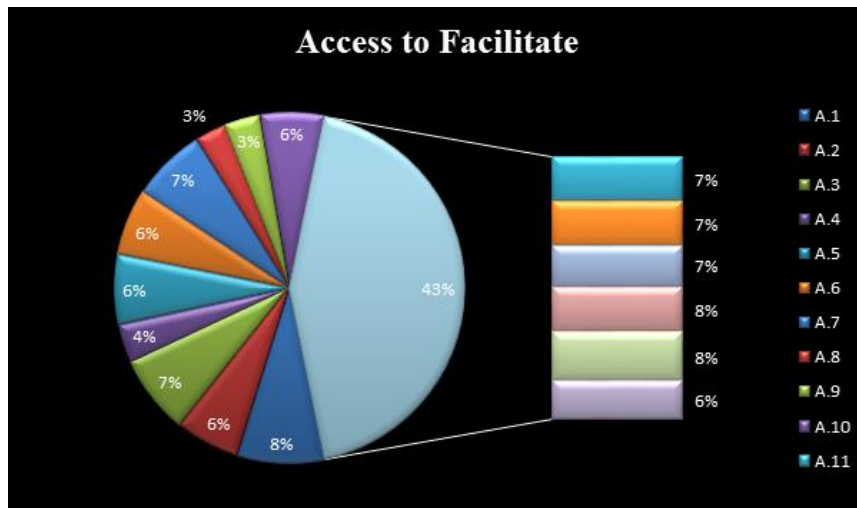


Fig 1

From the above table it is reflected that majority of teacher educators feel that multimedia is an essential requirement for students with disabilities and it is a reliable tool for learning. It also helps in retrieving more information on what has been learned. 14% of the teachers feel that some of the schools

should be provided with adequate teacher trained in multimedia. Some teacher educators also feel that the teacher in school cannot fully produce output using multimedia due to the pressure of exams and other administrative works.

Table 2: Advantages of Multimedia

Domains	Agree		Disagree		Not sure	
	Number	%	Number	%	Number	%
Aids in expanding the horizon of instructional learning	31	88.57	0	0.00	4	11.43
Lack of instructional materials for teaching the usage of multimedia	13	37.14	10	28.57	12	34.29
People with disabilities in rural areas lack awareness on multimedia	25	71.43	1	2.86	9	25.71
Lack of content in regional language in multimedia	21	60.00	4	11.43	10	28.57
Policies and actions to use multimedia in teaching and learning	18	51.43	1	2.86	16	45.71
Official policy statement about multimedia	11	31.43	1	2.86	23	65.71
Attended training on usage of multimedia	28	80.00	2	5.71	5	14.29
Training should be given to students on the usage of multimedia	32	91.43	1	2.86	2	5.71
Use of multimedia helps in blended learning	28	80.00	3	8.57	4	11.43
Aids in easy search of information	32	91.43	2	5.71	1	2.86
Aids in improving students retention rate	27	77.14	0	0.00	8	22.86
Price of Multimedia devices has increased drastically	28	80.00	1	2.86	6	17.14

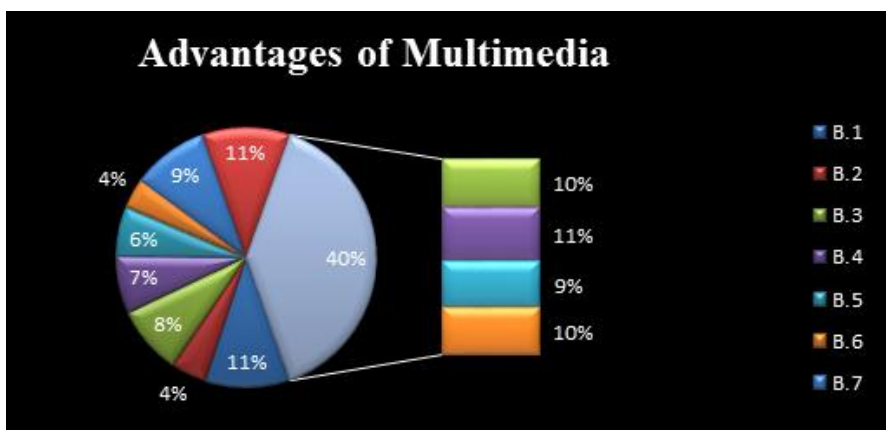


Fig 2

From the collected data it is found that 91% of the teachers agree that training should be given to students on the use of multimedia and multimedia helps in easy search of information. 88% of teachers also feel that multimedia helps in expanding the horizon of instructional learning. 16% of the

teachers also believe that there are limited policies and actions to use multimedia for teaching and learning. Some of the teachers also agrees that the price of multimedia devices has increased drastically.

Table 3: Social Actualization and independency

Domains	Agree		Disagree		Not sure	
	Number	%	Number	%	Number	%
Develops values in students while learning	33	94.29	1	2.86	1	2.86
Provides an independent life	30	85.71	3	8.57	2	5.71
Aids in tracking the progress of the child	31	88.57	0	0.00	4	11.43
Helps in building up the confidence of the child	32	91.43	0	0.00	3	8.57
Increases students motivation	34	97.14	0	0.00	1	2.86
Increases students achievement	33	94.29	0	0.00	2	5.71
Increases students higher order thinking	30	85.71	1	2.86	4	11.43
Aids in transversal skills like learning to learn	30	85.71	0	0.00	5	14.29
Prepares to live in 21 st century	32	91.43	0	0.00	3	8.57
Influence child's interest, experience and desires	34	97.14	0	0.00	1	2.86
Tracking the progress of students is possible	29	82.86	2	5.71	4	11.43
Helps in building confidence in students	32	91.43	1	2.86	2	5.71

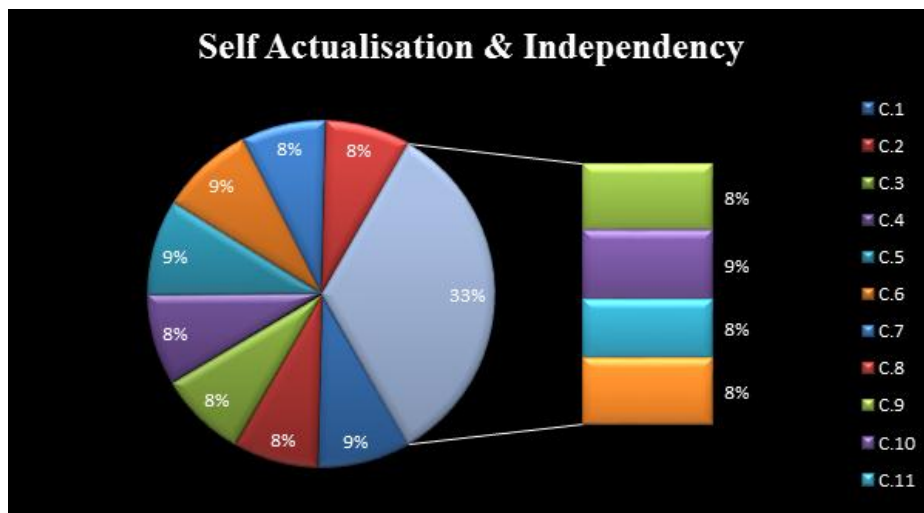


Fig 3

From the above found data it is concluded that multimedia influence students interest, experiences and desires, it also helps in bringing up values to students while learning. Its is also found that multimedia also helps in building up the confidence of the students and helps in improving the higher

order thinking and also improves transversal skills like learning to learn.. 11% of the teachers also disagree with the fact that multimedia helps in tracking the progress of the students

Table 4: Socialization and communication

Domain	Agree		Disagree		Not sure	
	Number	%	Number	%	Number	%
Improves the quality of living situation	32	91.43	2	5.71	1	2.86
Essential for pursuing educational goals	34	97.14	0	0.00	1	2.86
Improving telecommunication and information technology	34	97.14	1	2.86	0	0.00
Improves teaching pedagogy	34	97.14	0	0.00	1	2.86
Helps to move child from special school to inclusive school	26	74.29	1	2.86	8	22.86
Helps in working in collaborative way	30	85.71	0	0.00	5	14.29
Helps in improving students communication	35	100.00	0	0.00	0	0.00
Improves socialisation skills	33	94.29	0	0.00	2	5.71
Provides flexibility and personalisation of students	34	97.14	0	0.00	1	2.86
Brings equality in classroom	32	91.43	1	2.86	2	5.71
Aids in effective use of teacher potential	31	88.57	1	2.86	3	8.57
Helps in mobilisation	30	85.71	0	0.00	5	14.29
Enables in accessibility	31	88.57	1	2.86	3	8.57
Aids in giving independence	32	91.43	0	0.00	3	8.57

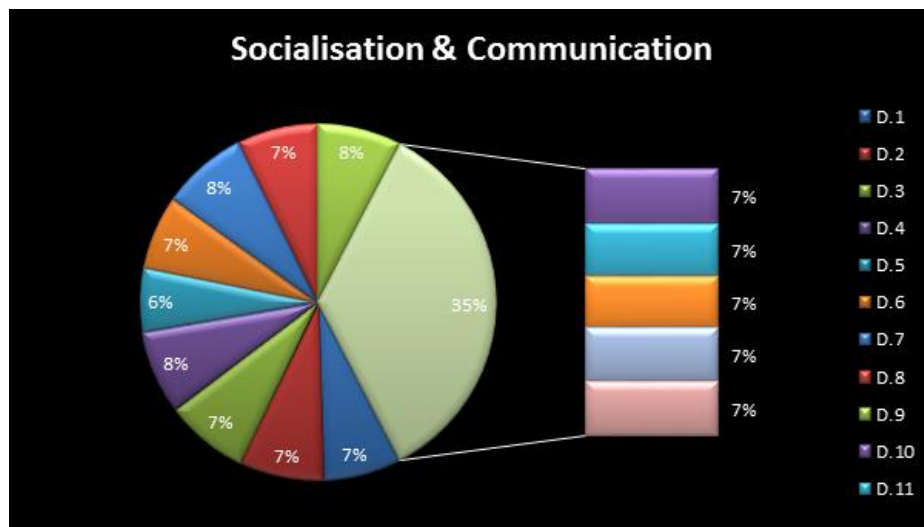


Fig 4

From the above collected data it is concluded that 100% of teacher educators accept that multimedia helps in improving the communication level of the students which helps in improving the teaching pedagogy of students. 97% of teachers feel that multimedia can also provide flexibility in teaching learning process. 22% of teachers disagree with the fact that multimedia does not help in bringing the child from special school to inclusive school

Conclusion

The findings of the present study have implications for using multimedia in teaching learning process produces a better achievement and long term retention in students. It also helps in improving the interest of the students in respective subjects. Multimedia also helps in overall learning and development of the child. It aids in in effective learning for students to learn both “from” and “with it” which makes them help in independent learning. Enables students to construct knowledge actively work in group and use multisenses at a time. It is an effective and advanced learning tool for higher education

Some suggestions are been made based on the conclusion are an appropriate guidance is given in multimedia devices can help in overcoming the students difficulties in effectual way in teaching learning process. The teachers should be give a special in-service and pre- service training on the knowledge and usage of multimedia so that they will discard the fear and inhibitions and hence develop positive attitude towards this devices. The schools should also have sporadic scrutiny program to see the condition of the multimedia devices. Necessary steps should be taken to encourage teacher educators to actively participate in workshops and training programme associated with advances in the field of multimedia devices. Multimedia devices helps in empowering students to an extent hence overcoming the reliance level taken place.

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