

DEMOGRAPHIC DETERMINANTS OF MULTIMEDIA USAGE AMONG ADOLESCENT STUDENTS

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Abstract

Multimedia refers to the integration of multiple forms of communication such as text, audio, video, graphics, and interactive elements to convey information in a dynamic and engaging manner. In the modern educational context, multimedia has become a powerful tool that influences the aspirations, values, and learning behaviours of adolescents. It combines traditional learning resources with digital innovations, creating an environment where knowledge is not only consumed but also experienced. The study observes multimedia usage of Adolescent Students. A simple random sample of 600 students of 9th class from Tirupati and Chittoor districts were selected. Multimedia scale prepared and standardized by the investigator was used for the collection of relevant data for the study. Mean, SD and 't' values were calculated. The study revealed that there is no significant difference in the Multimedia of adolescent students with reference to the variables – Locality, Type of Management and Medium of institution. The study also found that the significant influence of gender in their multimedia usage.

Key Words: adolescent students, education, learning environment, multimedia, social media

INTRODUCTION

Multimedia provides a technology-based constructivist learning environment (M. Neo and T.K. Neo, 2009) where students are able to solve a problem by means of self-explorations collaboration and active participation. Simulations, models and media rich study materials like still and animated graphics, video and audio integrated in a structured manner facilitate the learning of new knowledge much more effectively. The interactive nature of multimedia provides the room to enhance traditional “chalk-and-talk” method of teaching (Indira Dhull & Suman Beniwal, 2013) with more flexibility to learners to adapt to individual learning strategy. It enables both the educators and learners to work together in an informal setting. The role of educators and learners are extended. Furthermore, it encourages and enhances peer learning as well as individual creativity and innovation.

The integration of social media into the daily lives of adolescents has sparked considerable interest in its influence on their social value formation. Social media, serving as a repository of varied information and knowledge, plays a pivotal role in subtly shaping the value orientations and behavioral propensities of adolescents. This research delves into the dynamics between educational content on social media platforms and the evolution of adolescents' social values, addressing a notable gap in quantitative analysis and model development within this discourse. Employing the social media educational content-emotion calculation (SMEC-EC) method, the study quantitatively analyses the social values of adolescents influenced by social media, thereby establishing a benchmark for evaluation.

Media has always been a part of society, may be in terms of paintings or writings. Human beings have tried to use different modes of communication from very early times. From using drummers to announce the news to the digital mode today, we have come a long way. The media can have a significant impact on one's behavior and with developments in technology and digitalization, its presence and influence on our behaviour is multifold. There is an increased amount of dependence on media and keeping apart the

advantages in terms of access and amount of information that is now available on our finger tips, there are also issues such as internet addiction, behavioral issues that, mainly find their roots in media.

Secondary school students, at an age marked by heightened social awareness and identity development, are particularly susceptible to the influences of social media. The study acknowledges the potential benefits of social media in facilitating communication, collaboration, and access to information. However, it also recognizes the challenges posed by excessive screen time, cyberbullying, and the pressure to conform to online norms

Definition of Multimedia

Multimedia can be defined as the use of more than one medium of communication to present information. It includes a combination of visual, auditory, and interactive elements such as animations, simulations, presentations, and digital games. In education, multimedia is used to simplify complex concepts, enhance retention, and provide experiential learning opportunities.

Characteristics of Multimedia

- **Interactivity:** Multimedia allows learners to actively engage with content rather than passively consume it.
- **Integration of multiple formats:** It combines text, images, audio, and video to create a holistic learning experience.
- **Accessibility:** Digital platforms make multimedia resources available anytime and anywhere, breaking geographical and temporal barriers.
- **Engagement:** Multimedia captures attention through visuals and sound, making learning more appealing to adolescents.
- **Adaptability:** It can be tailored to different learning styles, whether visual, auditory, or kinaesthetic.

Challenges of Multimedia Usage

While multimedia offers immense benefits, it also presents challenges:

- **Distraction:** Adolescents may use multimedia for entertainment rather than education, leading to reduced focus.
- **Overexposure:** Excessive screen time can cause fatigue, stress, and diminished academic performance.
- **Value distortion:** Exposure to inappropriate or materialistic content may influence adolescents' value orientation negatively.
- **Digital divide:** Unequal access to multimedia resources can widen educational gaps between students of different socio-economic backgrounds.

Significant Changes Due to Multimedia

Multimedia has transformed the way adolescents learn and interact:

- **Learning styles:** Students increasingly prefer visual and interactive learning over traditional textbooks.
- **Peer interaction:** Online platforms and digital communities extend peer relationships beyond physical boundaries.
- **Identity exploration:** Adolescents experiment with digital identities through social media, gaming, and online forums.
- **Global exposure:** Multimedia connects adolescents to global cultures, ideas, and opportunities, influencing their aspirations.

Emotional Impact of Multimedia

Multimedia strongly affects adolescents' emotions:

- **Mood fluctuations:** Social media likes, comments, and digital validation can cause rapid shifts in self-esteem.
- **Emotional stimulation:** Music, films, and interactive games evoke strong emotional responses, sometimes leading to stress or anxiety.
- **Introversion and reflection:** Multimedia can encourage solitary engagement, leading adolescents to retreat into digital worlds.
- **Empathy and awareness:** Educational multimedia can foster empathy by exposing students to diverse perspectives and social issues.

Necessary Skills for Healthy Multimedia Usage

To manage the influence of multimedia, adolescents must develop digital and emotional competencies:

- **Digital literacy:** Understanding how to critically evaluate online content.
- **Self-regulation:** Managing screen time and avoiding overdependence on digital platforms.
- **Empathy in digital spaces:** Recognizing the emotions of others in online interactions.

- **Conflict resolution online:** Learning to handle disagreements respectfully in digital communities.
- **Cooperation and collaboration:** Using multimedia tools for teamwork, such as group projects or online learning platforms.

Multimedia is both a powerful educational resource and a potential source of distraction. Its impact on adolescents' educational aspirations and value orientation depends on how it is used and guided. When integrated thoughtfully into education, multimedia can enhance learning, foster creativity, and broaden horizons. However, without proper regulation and emotional skills, it may distort values and hinder academic achievement. Thus, the role of parents, educators, and policymakers is crucial in ensuring that multimedia becomes a constructive force in adolescent development.

Need of the Study:

The study on the effect of Multimedia on Adolescent students is crucial as it introduces a specialized assessment tool tailored to this demographic, allowing for a thorough examination of social media's multifaceted influence. By exploring variables like academic performance, social relationships, mental health, and time management, the research sheds light on both positive and challenging dimensions of social media engagement. The study's significance extends beyond academia, offering practical insights for educators, parents, and policymakers. It informs the design of targeted interventions and digital literacy programs, aligning educational initiatives with the unique needs of Secondary School students in the digital age. Serving as a foundational resource, the research promotes evidence-based decision-making, advocating for a balanced approach that harnesses technology's benefits while safeguarding students' holistic development.

Review of Related Literature:

Singh and Gupta (2016) conducted a study on the effectiveness of multimedia approach in teaching science to secondary school students in India. The study found that multimedia approach significantly improved the students' achievement in science and helped develop a positive scientific attitude. Kaur and Singh (2015) investigated the effect of multimedia approach on the development of scientific attitude among secondary school students in India. The study revealed that multimedia approach positively influenced the students' scientific attitude, which in turn enhanced their achievement in science. Reddy and Jha (2017) conducted a study on the use of multimedia approach in teaching physics to secondary school students in India. The study showed that multimedia approach had a significant impact on the students' achievement in physics and helped develop a positive attitude towards the subject. Kumar et al. (2018) investigated the effectiveness of multimedia approach in teaching biology to secondary school students in India. The study found that multimedia approach significantly improved the students' achievement in biology and helped develop a positive attitude towards the subject.

Operational Definitions of Key Terms:

Multimedia: In this study, multimedia usage refers to how adolescent students make use of digital tools such as mobile phones, computers, tablets, and televisions. It will be looked at in terms of Type of multimedia used (educational apps, social media, games, online classes, videos, etc.), type of device (smartphone, computer, tablet, television), Purpose (learning, entertainment, communication, social networking, information seeking) and Extent of usage (the amount of time and frequency of multimedia use in a day or week).

Adolescent Students: Adolescent students are the one who studying in class 9th. The researcher selected 9th class students as sample of the study.

Objectives of the Study:

To find out the Multimedia usage of Adolescent students with regard to the following variables a) Gender b) Locality c) Type of Management d) Medium of Instruction.

Hypotheses of the study:

1. There is no significant difference between boys and girls in their multimedia usage.
2. There is no significant difference in multimedia usage between rural and urban students studying in secondary school.
3. There is no significant difference in the multimedia usage between Government and Private school students.
4. There is no significant difference in the multimedia usage between English and Telugu medium school students.

METHODOLOGY

The present study employed descriptive survey method. The study is limited to 600 students of 9th class only. The sample was selected using simple random sampling technique in Tirupati and Chittoor districts of Andhra Pradesh. The study is limited to the variables such as Gender, Locality, Type of Management and Medium of Instruction.

Research Tool:

The investigator developed multimedia usage scale initially with 50 items. After conducting pilot study the scale consists of 30 items with five point scale i.e. Strongly Agree, Agree, Disagree, Strongly Disagree, Undecided which is 5, 4, 3, 2, 1 is positive items and 1, 2, 3, 4, 5 for negative items. The Split-half coefficient Reliability was found to be 0.82. and the obtained intrinsic validity of the Multimedia usage scale was 0.75. Mean; SD; % of mean and 't' values were calculated

ANALYSIS AND INTERPRETATION OF DATA:

Objective -1: To find out the multimedia usage of Adolescent students with regard to the following variables

(a) Gender (b) Locality (c) Type of Management (d) Medium of Instruction

Hypothesis - 1: There is no significant difference between boys and girls in their multimedia usage.

Table -1

Variable	Gender	N	Mean	Std. Deviation	t-value	p value
Multimedia Usage	Boy	283	124.23	13.80	3.873	0.179
	Girl	317	125.72	13.26		

S- Significant at 0.01 level

Hypothesis - 2: There is no significant difference in multimedia usage between rural and urban students studying in secondary school.

Table 2

Locality wise difference of multimedia by the Adolescent students

Variable	Locality	N	Mean	S.D.	t-value	p value
Multimedia Usage	Rural	74	124.47	13.54	0.370	0.111
	Urban	526	125.10	13.54		

NS- Not Significant at 0.05 level

Hypothesis - 3: There is no significant difference in the multimedia usage between Government and Private school students.

Table 3

Type of School Management wise difference of multimedia by the Adolescent students

Variable	Locality	N	Mean	S.D.	t-value	p value
Multimedia Usage	Government	277	124.26	13.13	1.266	0.206
	Private	323	125.67	13.84		

NS- Not Significant at 0.05 level

Hypothesis - 4: There is no significant difference in the multimedia usage between English and Telugu medium school students.

Table 4

Medium of Instruction wise difference of Multimedia usage by the Adolescent students

Variable	Locality	N	Mean	S.D.	t-value	p value
Multimedia Usage	Telugu	21	120.57	15.09	1.535	0.125
	English	579	125.18	13.45		

NS- Not significant at 0.05 level

MAJOR FINDINGS

- There is a significant influence of gender on the of multimedia usage of adolescent students.
- The variables like Locality, Type of school management and Medium of instruction were not significantly influenced on multimedia usage of adolescents.

EDUCATIONAL IMPLICATIONS:

- Teachers use multimedia to create dynamic lessons, breaking down barriers between school and the real world.
- Platforms and tools (like YouTube for Education or India resources) provide ways to incorporate simple projects like creating name animations or video introductions, fostering creativity and community.
- Develop educational multimedia that caters to diverse interests, using varied content like images, videos, and interactive elements to keep both genders engaged.
- Integrate culturally relevant content into the curriculum to leverage the positive impact of social media on cultural development. Encourage the use of social media as a platform for cultural exchange, allowing students to explore and share their cultural heritage in an educational context.
- Tailor interventions to address the unique needs and challenges of students from reserved castes. Promote inclusivity by ensuring that educational programs consider the diverse backgrounds of students, fostering a supportive learning environment for all.

CONCLUSION

This study reveals that there is a significant influence between boys and girls in their awareness on multimedia. There is no significant difference in the multimedia of adolescent students with reference to the variables – Locality, Type of Management and Medium of Instruction.

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