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Analyzing Media Literacy Skills in Teacher Trainees: An Extensive Study

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Abstract: The study aimed to evaluate the media literacy competencies of teacher trainees, focusing on the overall sample and specific subject-wise subgroups. Key objectives included determining the media literacy levels across the entire sample and within individual subject groups, assessing the percentage of student teachers with various media literacy levels, and examining differences in media literacy competencies among subject groups.A representative sample of teacher trainees from various graduate-level education programs participated, encompassing students from Commerce, English, Malayalam, Mathematics, Natural Science, Physical Science, and Social Science. Data was collected using the Media Literacy Scale and the findings revealed a high level of media literacy among all teacher trainees and across subject groups. Component-wise analysis also indicated high proficiency in areas such as source evaluation, media message analysis, understanding media ownership and control, digital literacy and privacy, media production, critical thinking and reflection, and media literacy in a social context. Among the subjects, Natural Science students scored the highest, while Physical Science students scored the lowest.The results suggest that teacher training programs effectively incorporate media literacy education, preparing future educators to engage critically with media. Ensuring uniformly high standards across all subjects will help in maintaining the effectiveness of media literacy education in teacher training programs.Overall, this study underscores the critical importance of media literacy in contemporary education and demonstrates that current teacher training programs are successfully equipping trainees with essential media literacy skills. Integrating media literacy into teacher education, providing ongoing professional development, and fostering collaborative learning environments are essential steps in preparing educators to navigate and teach in a media-rich world.

Keywords: Media Literacy

Introduction

Media literacy is an essential skill in the modern world, and its importance in education cannot be overstated. Teacher trainees must be equipped with robust media literacy skills to prepare the next generation of students for the challenges of a media-saturated society. Through targeted training, access to resources, and continuous professional development, future educators can become proficient in media literacy, ultimately benefiting their students and society at large.

Media literacy refers to the ability to access, analyze, evaluate, and create media in various forms. It is a crucial skill in the digital age, where individuals are constantly bombarded with information from diverse media sources. Finding and using media and technology tools effectively, critically evaluating media content and understanding its underlying messages, assessing the credibility and relevance of media sources,producing media content responsibly and ethically etc empowers people to understand the complex messages conveyed through television, radio, the internet, newspapers, and social media. It involves critical thinking, understanding the role of media in society, and recognizing bias, misinformation, and propaganda.

Teacher trainees, or pre-service teachers, are the future educators responsible for preparing students to navigate a media-rich world. Their media literacy is crucial for several reasons: Teachers who are media literate can model critical thinking and analysis skills for their students, fostering an environment where questioning and evaluating information becomes a norm.Media literacy can be integrated into various subjects, helping students see the relevance of media in everyday life and enhancing their learning experiences.Educators equipped with media literacy skills can better address misinformation and teach students to discern factual information from falsehoods, an essential skill in the digital age .Media-literate teachers can guide students in becoming responsible digital citizens who understand the ethical use of media and technology.Utilizing media and technology effectively can make lessons more engaging and relevant, catering to the interests and needs of digital-native students.

Review of Related Literature

The burgeoning digital landscape has emphasized the importance of media literacy, especially among educators who play a crucial role in shaping the critical thinking skills of future generations.Potter (2010) describes media literacy as a dynamic skill set that adapts to the evolving media environment, emphasizing the importance of lifelong learning for educators.Several studies underscore the necessity of media literacy for teacher trainees. According to Hobbs (2011), media literacy equips future teachers with

the tools to foster critical thinking and digital citizenship among their students. This preparation is crucial in an age where misinformation can spread rapidly through digital platforms. Research indicates a gap in media literacy training within teacher education programs. A study by Redmond (2015) found that while many teacher education programs acknowledge the importance of media literacy, they often lack comprehensive curricula to address it. Redmond advocates for integrated media literacy education within teacher training programs to ensure that teacher trainees are well-prepared to incorporate media literacy into their teaching practices. Studies reveal varying levels of media literacy skills among teacher trainees. For instance, a survey by Tiede, Grafe, and Hobbs (2015) assessed the media literacy competencies of teacher trainees across several countries. The results indicated significant disparities, with some trainees demonstrating strong analytical skills while others showed limited understanding of media bias and misinformation.

Several challenges hinder the development of media literacy among teacher trainees. These include: Lack of Resources, Inadequate Training and Evolving Media Landscape. Limited access to up-to-date technology and media resources can impede the development of media literacy skills (Koltay, 2011).Many teacher education programs do not provide sufficient training in media literacy, leaving trainees underprepared (Fedorov, 2008).The rapid evolution of digital media poses a challenge for educators to stay current with new technologies and platforms (Buckingham, 2003).

Research suggests several strategies for enhancing media literacy among teacher trainees like Integrative Approaches, Professional Development and Collaborative Learning. Incorporating media literacy across various subjects rather than treating it as a standalone topic can enhance its relevance and application (Rogow, 2011). Continuous professional development opportunities focusing on media literacy can help teachers stay updated with new media trends and tools (Mihailidis, 2014). Encouraging collaboration among teacher trainees through workshops and group projects can foster a deeper understanding of media literacy concepts (Schmidt, 2012).

Several case studies highlight successful implementations of media literacy training. Finnish teacher education programs integrate media literacy across the curriculum, emphasizing critical thinking and digital citizenship. This approach has been credited with producing highly media-literate educators (Grizzle & Wilson, 2011).Programs like the Media Education Lab at the University of Rhode Island provide extensive resources and training for pre-service teachers, focusing on practical applications of media literacy in the classroom (Hobbs & Jensen, 2009).

Theoretical background

Assessing media literacy in students through a multifaceted approach is grounded in several theoretical perspectives that highlight the complexity of media interactions and the skills required to navigate them. Critical theory , particularly the works of the Frankfurt School, emphasizes the role of media in shaping ideologies and power structures within society. Constructivist learning theory, rooted in the ideas of Jean Piaget and Lev Vygotsky, posits that learners construct knowledge through experiences and interactions with their environment. Socio-cultural theory, also influenced by Vygotsky, emphasizes the role of cultural tools and social context in learning. Media, as cultural tools, shape and are shaped by societal values and practices. And the TPACK model(Mishra, & Koehler,2016), integrates technology, pedagogy, and content knowledge to provide a framework for teaching with technology. By incorporating these theoretical frameworks educators can create comprehensive assessment frameworks that not only measure students' media literacy skills but also foster their development as critical, informed, and responsible media consumers and producers.

By considering the above theoretical foundations the researcher chose the following assessment components to develop a scale to assess media literacy of student teachers. Those components are the following:-

1. **Source Evaluation**

Here questions are framed according to critical theory which informs the need to teach students how to critically evaluate sources, recognize biases, and understand the implications of these biases on information dissemination.

2. **Media Messages Analysis**

Critical theory and constructivist learning theory underpin the need for students to analyze media messages critically, understand the use of persuasive techniques, and recognize the portrayal of stereotypes.

3. **Understanding Media Ownership and Control**

Critical theory highlights the importance of understanding media ownership and its impact on content, encouraging students to explore the economic and political influences on media.

4. **Digital Literacy and Privacy**

Socio-cultural theory and the TPACK model support the need for students to develop digital literacy skills, ensuring they can navigate digital environments safely and critically evaluate online information.

5. **Media Production**

Constructivist learning theory emphasizes the importance of hands-on media production experiences, allowing students to apply their knowledge and understand the ethical implications of media creation.

6. **Critical Thinking and Reflection**

Critical theory and constructivist learning theory highlight the need for reflection and critical thinking, encouraging students to consider how personal and societal factors influence media interpretation.

7. **Media Literacy in Social Context**

Socio-cultural theory emphasizes the role of media literacy in promoting democratic engagement and social justice, empowering students to use their media skills for positive societal impact.

Methodology

Objectives

1. To find out the level of Media Literacy of teacher trainees for total sample and subject wise sub samples.
2. To find out the percentage of student teachers with various levels of Media Literacy among total sample and subject wise sub sample.
3. To find out the level of component wise Media Literacy of Teacher trainees in total sample.
4. To find out the subject wise difference in Media Literacy among teacher trainees.

Hypotheses

1. There will be a high level of Media Literacy among total sample and subject wise sub samples of teacher trainees.
2. There will be no significant difference of Media Literacy among teacher trainees based on subject.
3. There will be a high level of component wise Media Literacy among the total sample of teacher trainees.

Participants of the study

The study involved a representative sample of 477 teacher trainees from various graduate-level teacher education programs. This included trainees 42 Commerce, 84

English, 30 Malayalam, 69 Mathematics, 99 Physical Science, 76 Natural science and 48 Social Science. Participants were selected from different colleges of education, ensuring that factors such as gender, locale, and type of institution were adequately represented to reflect the true diversity of the population.

Instruments used for the study

The Media Literacy Scale developed by Bisini (2024) was used to collect data. This scale comprises 21 items with a Likert-type response format ranging from strongly agree to strongly disagree. It has a reliability coefficient of 0.814 and ensures content validity.

Procedure

After collecting the data, percentage analysis was used to determine the level of media literacy among the overall sample and the sub-samples based on subjects and individual components.

Analysis and Interpretation

To analyze and interpret the data, the mean, standard deviation, and percentage scores of the variable , Media Literacy was calculated.

First of all the existing level of Media Literacy of Student Teachers on total sample and based on subject was found out. Media Literacy Scale (Bisini, 2024) was the tool used for this purpose. The Media Literacy Scale is of 5 points consisting of 21 items. The maximum and minimum scores are 105 and 21 respectively. This tool was administered on a sample of a total 477 student teachers from seven optional subjects like 42 Commerce, 84 English, 30 Malayalam, 69 Mathematics, 99 Physical Science, 76 Natural science, 48 Social Science. The responses were collected, scored tabulated and then the mean, median, mode, standard deviation, skewness and kurtosis were calculated.

These values are calculated separately for total sample and subsample based on subject. These are presented in Table 1

Table 1

Important Statistical Properties of the Variable Media Literacy for Total Sample and Subsample based on Subject of Student teachers

	Total	Commerce	English	Malayalam	Mathematics	Physical Science	Natural Science	Social Science
N	447	42	30	30	69	99	75	48
Mean	78.81	77.43	76.8	76.8	79.57	75.97	81.16	77.63
Median	79	76	81	81	81	75	82	79
Mode	82	68	81	81	84	63	82	81
Std. Deviation	9.65	9.77	7.32	7.32	8.66	10.62	11.22	4.95
Skewness	0.24	0.68	-1.33	-1.33	0.36	0.32	-0.07	-0.4
Kurtosis	-0.249	-0.297	0.123	0.123	-0.381	-1.165	0.145	-1.182

From Table 1 it is clear that the arithmetic mean, median and the mode of all the groups are almost the same. The Media Literacy Scale has an average score 63 as the maximum and minimum scores of the scale are 105 and 21 respectively. The mean scores of all the groups are above the scale average value. This reveals that Media Literacy of student teachers is high. The mean score of total sample is 78.81 and standard deviation is 9.65. The mean and standard deviation of student teachers for subject wise were 77.43, 9.77 Commerce, 76.8, 7.32 English, 76.8, 7.32 Malayalam, 79.57, 8.66 Mathematics, 75.97, 10.62 Physical Science,81.16, 11.22 Natural Science,77.63, 4.95 Social Science. If we arrange teacher trainees in a descending order of Media Literacy they come in a line as Natural Science, Mathematics, Social Science, Commerce, English and Malayalam,and Physical Science.

The standard deviations of the groups of the variable indicate that the scores are somewhat dispersed from the central value. This shows that there are individual differences within the groups

To find out the percentage of student teachers with various levels of media literacy,The score of media literacy scale was divided into five groups above 80% of total score as very high, in between 80% and60% as high 60% and 40% as average 40% and 20% as low and below 20% as very low. Then the number of students that come under each category is divided by the total number of students and the percentage is calculated by multiplying it by hundred.

These values are calculated separately for total sample and subsample based on subject. These are presented in Table 2

Table 2

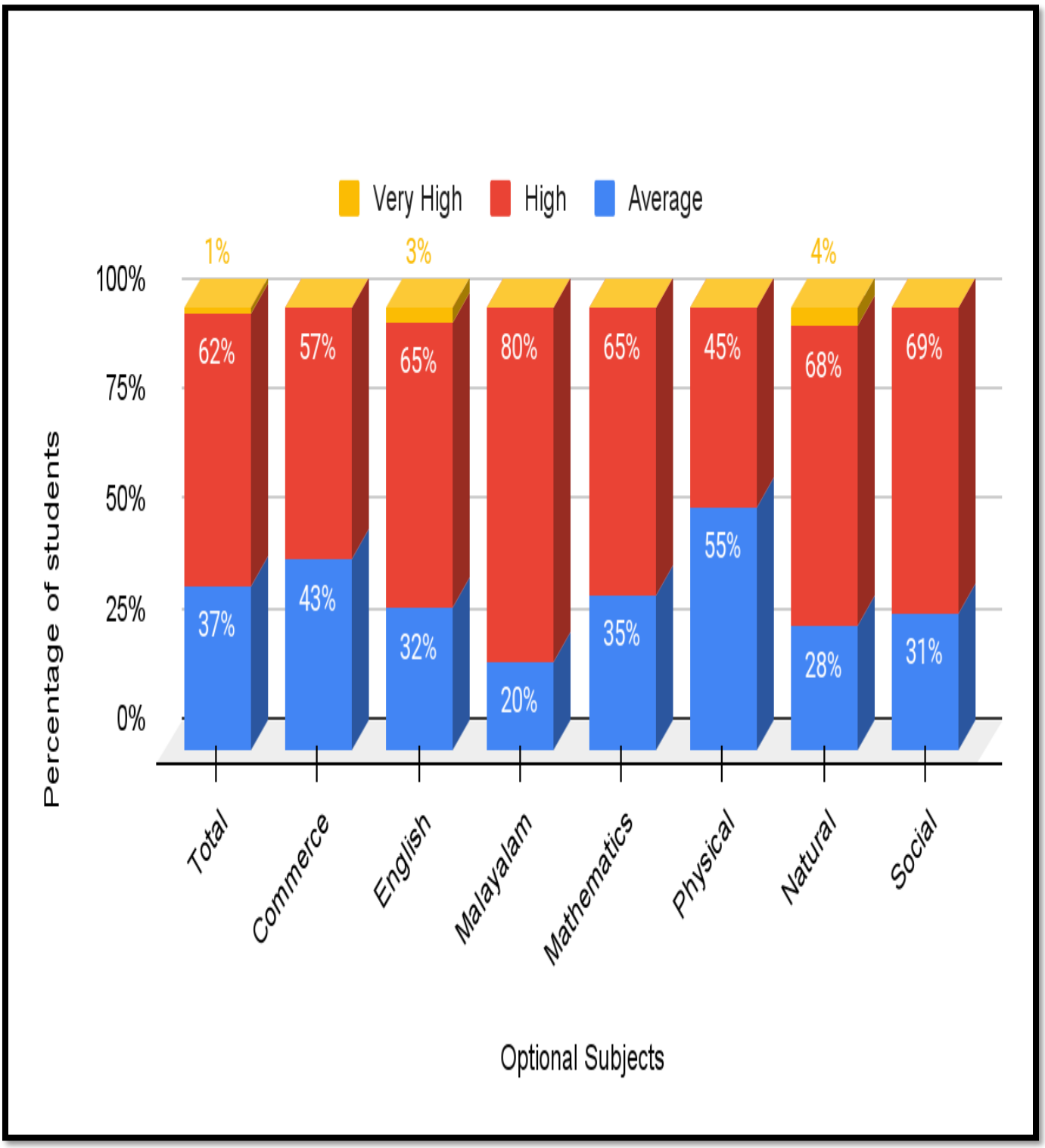
Percentage of Student Teachers with various levels of Media Literacy

Sample	Total number	Average		High		Very High	
		Number	Percentage	Number	Percentage	Number	Percentage
Total	447	165	37%	276	62%	6	1%
Commerce	42	18	43%	24	57%		
English	84	27	32%	54	65%	3	3%
Malayalam	30	6	20%	24	80%		
Mathematics	69	24	35%	45	65%		
Physical Science	99	54	55%	45	45%		
Natural Science	76	21	28%	52	68%	3	4%
Social Science	48	15	31%	33	69%		

The table shows that for the total sample 37% of student teachers are with average media literacy , 62% with high and 1% with very high media literacy. For the subject wise subsamples among commerce students 43% have average 57% have high media literacy.English 32% average 65% high and 3%very high ,Malayalam 20% average 80% high, Mathematics 35% average 65% high, Physical science 55% average 45% high, Natural science 28% average 68% high 4% very high, Social science 31% average 69% high media literacy.These data are represented in the figure shown below.

Figure 1

Percentage of Student Teachers with various levels of Media Literacy



From the figure shown above it is clear that the majority of students have a high level of media literacy and the rest have an average level of media literacy. The figure also shows that very few students from English and natural science have a very high level of media literacy. No one has a low or very low level of media literacy.

Table 3

Important Statistical Properties of the components of the Variable Media Literacy

	Source Evaluation	Media Messages Analysis	Understanding Media Ownership and Control	Digital Literacy and Privacy	Media Production	Critical Thinking and Reflection	Media Literacy in Social Context
N	447	447	447	447	447	447	447
Mean	11.30	11.28	11.01	11.74	11.32	11.19	10.96
Median	11	11	11	12	12	11	11
Mode	12	12	12	12	12	12	9
Std. Deviation	1.79	1.86	1.76	2.049	1.85	1.88	2.06
Skewness	-0.35	-0.11	-0.04	-0.28	-0.14	-0.07	0.05
Kurtosis	0.60	-0.50	-0.42	-0.23	-0.32	0.10	-0.32

Table 3 shows that all seven components of media literacy Source Evaluation,Media Messages Analysis,Understanding Media Ownership and Control,Digital Literacy and Privacy,Media Production,Critical Thinking and Reflection and Media Literacy in Social Context have a mean value which is in between 9 and 12. This indicates that student teachers have a high level of component wise media literacy.

Result and Discussion

The researchers through this investigation tried to probe into the level of Media Literacy of teacher trainees and subject wise difference of these variables among them. It also tries to find out the component wise media literacy of student teachers. The study revealed that the level of media literacy is at a high level for total sample and subject wise subsample and accepts the first hypothesis. The component wise media literacy for all seven components of media literacy Source Evaluation,Media Messages Analysis, Understanding Media Ownership and Control,Digital Literacy and Privacy,Media

Production,Critical Thinking and Reflection and Media Literacy in Social Context is also high among student teachers.All students teachers from different subjects have high media literacy. Among them, Natural Science students score a maximum score and Physical Science student teachers score is minimum. If we arrange teacher trainees in a descending order of Media Literacy they come in a line as Natural Science, Mathematics, Social Science, Commerce, English and Malayalam,and Physical Science.

Interpretation:

- **Overall Competence:** The high level of media literacy among all teacher trainees suggests that they are well-prepared to engage critically with media, an essential skill in the modern educational landscape. This indicates that teacher training programs are effective in incorporating media literacy education.
- **Subject-Specific Insights:**
    - The high scores across all subjects indicate that media literacy is a well-integrated part of the curriculum for teacher trainees. However, Natural Science students scoring the highest suggests that media literacy might be more emphasized or more relevant in their training compared to other subjects.
    - Physical Science students having the lowest scores might highlight a need for additional focus or resources to enhance media literacy in their training programs.
- **Component-Wise Proficiency:** The high scores across all components of media literacy demonstrate that student teachers are not only capable of understanding and analyzing media but also proficient in evaluating sources, understanding media ownership, ensuring digital privacy, producing media content, thinking critically, and contextualizing media within a social framework. This comprehensive skill set is crucial for educators who will be guiding students in an increasingly media-saturated environment.
- **Educational Implications:** The results imply that future teachers are equipped with essential media literacy skills, which they can pass on to their students. However, targeted interventions might be necessary to bring Physical Science student teachers' media literacy skills on par with their peers. By addressing these disparities, teacher training programs can ensure a uniformly high standard of media literacy education across all subject areas.

Conclusion

The literature on the media literacy of teacher trainees underscores its critical importance in contemporary education. But the present study reveals that our student teachers are equipped with essential media literacy skills , which they can pass on to their students.This also proves that our teacher education programmes are using effective strategies and best practices from various educational contexts which helps in developing media literacy skills in student teachers. Integrating media literacy into teacher training programs, providing ongoing professional development, and fostering collaborative learning environments are essential steps in preparing future educators to navigate and teach in a media-rich world.

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