

RECONCEPTUALIZING DIGITAL LITERACY: A MULTIDIMENSIONAL REGRESSION ANALYSIS TO ENHANCING SOCIAL INTELLIGENCE

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Abstract

The present study aims to identify the predictive role of the dimensions of digital literacy – Communication, Copyright, Critical Thinking, Connectedness, Creativity and Collaboration, and social intelligence. Samples were gathered from 850 B.Ed. college students studying in colleges affiliated to TNTEU and Deemed Universities in Chennai districts. A 18-item of Digital Literacy adopted and modified and an 8-item of Social Intelligence Scale prepared by the researcher along with the research supervisor were used to evaluate digital literacy and social intelligence, respectively. Descriptive survey method is used for the study. Descriptive analysis and multiple regression analysis was conducted and the results showed that the model was statistically significant with a p value of <0.001. The study showed that there is 38.1% pf variance in Social Intelligence with an R² value of 0.381. It is found from the analysis that, Communication (p < 0.001) and Critical Thinking (p < 0.001) are strong predictors of Social Intelligence. Copyright (p = 0.049) and Collaboration (p = 0.017) are also found to be significant predictors but Creativity (p = 0.912) and Connectedness (p = 0.140) have no effect on the Social Intelligence of B.Ed. college Students. The findings of the study highlight the importance of the six dimensions of Digital Literacy (Communication, Copyright, Critical Thinking, Connectedness, Creativity and Collaboration) on Social Intelligence.

Keywords: Digital literacy, Social intelligence, Critical thinking, Communication, Regression analysis

1.0 INTRODUCTION

The current educational landscape is completely digitalized. Digital literacy is no longer just the knowledge of the latest technologies but also includes the dimensions such as Communication, Copyright, Critical Thinking, Connectedness, Creativity and Collaboration. Digital literacy deals with using digital tools to understand and have an awareness about social and cultural situations. Social intelligence is the ability to get along with others and the depth of the one's knowledge of the social surrounding. Both Digital Literacy and Social Intelligence contribute to Digital Socialization which is very important in this digital era. This study delves into the predictive analysis of the dimensions of digital literacy on Social Intelligence.

1.1 NEED AND SIGNIFICANCE OF THE STUDY

The role of teachers in this era of rapid transformation in digital technologies is focussed not just on the content delivery but also focuses on their social interactions. The study by National Association of Software and Service Companies (NASSCOM) in 2023, has estimated that India's digital literacy rate is around 37% and that there is significant increase from the previous years. According to the Annual Status Education Report (ASER) 2024, there is a rise in the digital literacy in Tamil Nadu. It is seen that the percentage of government school students who have access to smartphones in Tamil Nadu has seen a rise from 38% in 2018 to 88.3% in 2024. (ASER Centre, 2024, p. 52). After the onset of the COVID 19 pandemic there is an increase in the demand for the digital knowledge of the student teachers. With the increase in the usage of digital technologies, it is importance to maintain a balance as it has an impact on the social intelligence also. The present study focuses on bridging the gap and understanding the relationship between Digital Literacy and Social Intelligence. This shows that it is important to not only be digitally proficient but also to be socially efficient in the diverse classrooms of this digital era.

2.0 LITERATURE REVIEW

A. Dr. Chaityaset Promsri (2019) conducted a research to measure “The Association between Digital Literacy and Social Intelligence”

Sample: 60 undergraduate students studying in management program at a selected public university in Bangkok.

Tool: Digital Literacy Awareness Scale and Tromsø Social Intelligence Scale (TSIS)

Methodology: Pearson correlation analysis.

Findings: The overall digital literacy was found to have a positive association to social information process ($r = .439$, $p < 0.01$), and a negative correlation to social awareness at a low level ($r = -.259$, $p < 0.05$).

B. Dr. Savita Aggarwal (2019) conducted a study on “Opportunities and Challenges in Digital Literacy: Assessing the Impact of Digital Literacy Training for Empowering Urban Poor Women”

Sample: 400 urban poor women and men in slum and rural areas of the National Capital Region of Delhi, India

Tool: A training module comprising of multi-media mix was developed and field-tested to meet the various needs of women. Training in digital literacy was imparted to 100 women in four batches comprising 25 women per batch. Data was collected for both men and women across the selected slums and villages using quantitative as well as qualitative tools.

Methodology: Qualitative and Quantitative analysis in three phases.

Findings: Women were found to be more illiterate than men. About 75 percent males were either self-employed or in service (drivers, attendants, helpers) and the rest were unemployed but took up odd jobs when available. By comparison, 69 percent women were housewives while the others were either self-employed or were worked as domestic helpers. 90 percent of the males had mobile phones for their personal and exclusive use whereas only 58 percent of the females had mobile phones. About 51 percent men used WhatsApp daily, only 13 percent women did so. Almost 24 to 50 percent males used Facebook, YouTube and Google; hardly 3-8 percent women did so.

C. Febi Junaidi, Sarwiji Suwandi, Kundharu Saddhono and Nugraheni Eko Wardani (2022) conducted their research on “Improving Students’ Social Intelligence Using Folktales during the Covid 19 Pandemic” to illustrate how folktales were used to improve students’ social intelligence in Kedurang Bengkulu while they were studying at home.

Sample: Quantitative – 25 elementary school students to obtain information on students’ social intelligence. Qualitative – Narrative enquiry was done through interviews with teachers, families and students.

Tool: Questionnaire based on the aspects of Goleman, 2006 was used to collect scores for the dimensions of social awareness and social facility.

Methodology: Mixed method approach with Statistical analysis, observations, interviews, and documentation studies.

Findings: This study revealed that folktales could be used as educational materials to help students enhance their social intelligence. There is a significant difference in the mean score of the pre-test and post-test, supported by the results of interviews.

D. Dr. A.R. Anandhakrishnaveni and T. Karthikeyan (2021) conducted their research on “Social Intelligence of High School Students with Certain Background Variables” to find out the social intelligence of high school students from Virudhunagar District, Tamil Nadu, India.

Sample: 300 High school students in Virudhunagar district, Tamil Nadu, India.

Tool: Social Intelligence Scale constructed and validated by the investigator and the guide consisting of 20 statements and 3 dimensions – Social Knowledge, Social Awareness and Social Interaction.

Methodology: Quantitative approach with Statistical analysis.

Findings: This study revealed that there is no significant difference between male and female high school students in their social intelligence and a significant difference is found between single child and not single child high school students in their social intelligence.

E. Malsawmtluangi Vanchhawng, Lalhriatpuii, Susan Lalthanpuii, Lynda Vanlalruati, Lalhrualtuangi Sailo and Reuben Lalchuangkima conducted research on “An Empirical Study on the Social Intelligence of Student Teachers Among the Tribal Community” to analyse the detailed dimensions of social intelligence of student teachers among tribal community in the northeast part of India.

Sample: 51 (175 males and 276 females) were selected randomly as sample from the teacher training institutes in Mizoram.

Tool: Social Intelligence of student teachers of Mizoram, the investigator used Social Intelligence Scale (2013) standardized by N. K. Chadha and Usha Ganesan, published by National Psychological Corporation, Agra 1971.

Methodology: Students were selected using stratified random sampling technique. Descriptive survey method was used.

Findings: The research findings revealed that the student teachers of Mizoram had above average level of social intelligence and there was no significant difference in terms of gender.

3.0 OBJECTIVES AND HYPOTHESES:

3.1 OBJECTIVES OF THE STUDY:

1. To find the level of Digital Literacy of B.Ed. college students.
2. To find the level of Social Intelligence of B.Ed. college students.
3. To find out the predictive influence of the dimensions of Digital Literacy on Social Intelligence of B.Ed. Students

3.2 HYPOTHESES OF THE STUDY:

1. The level of Digital Literacy among B.Ed. college students is moderate.
2. The level of Social Intelligence of B.Ed. college students is moderate.
3. The dimensions of Digital Literacy are not significant predictors of Social Intelligence of B.Ed. Students

4.0 METHODOLOGY

The investigator conducted the study through survey method and the collected data was analysed for the differences in the mean scores. The population of the study is B.Ed. students in Chennai district. The data was collected from 850 B.Ed. students in Chennai district.

4.1 TOOLS USED:

Digital Literacy Scale:

The “Digital Literacy Scale” was remodelled by the Researcher and the Research Supervisor from the tool which was Published by Hina Amin, Muhammad Abid Malik and Bulent Akkaya (2021). The final tool had 18 questions. The tool uses a 5-point Likert scale with the options Strongly Disagree, Disagree, Undecided, Agree and Strongly Agree.

Social Intelligence Scale:

The “Social Intelligence Scale” was prepared and validated by the Researcher and the Research Supervisor. The final tool had 8 questions. The tool uses a 5-point Likert scale with the options Strongly Disagree, Disagree, Undecided, Agree and Strongly Agree.

5.0 RESULTS AND DISCUSSIONS:

5.1 HYPOTHESIS 1: LEVELS OF DIGITAL LITERACY OF B.ED., STUDENTS

An analysis has been conducted to find out the level of Digital Literacy of B.Ed., College students. The level of Digital Literacy among B.Ed. college students is moderate in nature.

Table 1 - Level of Digital Literacy of B.Ed. Students

Groups	Digital Literacy Range	Number of B.Ed. Students	Percentage
Low	Below 42	64	7.5
Moderate	42-66	552	64.9
High	Above 66	234	27.5
Total		850	100.0

From the above table, it is inferred that 7.5% of the B.Ed. Students are low, 64.9% of them are moderate and 27.5% of them are high in their Digital Literacy. **Hence the hypothesis – 1 stating that “The level of Digital Literacy of B.Ed. Students is moderate in nature” is accepted.**

5.2 HYPOTHESIS 2: LEVELS OF SOCIAL INTELLIGENCE OF B.ED., STUDENTS

An analysis has been conducted to find out the level of Social Intelligence of B.Ed., College students. The level of Social Intelligence among B.Ed. college students is high in nature.

Table 2 - Level of Social Intelligence of B.Ed. Students

Groups	Social Intelligence Range	Number of B.Ed. Students	Percentage
Low	Below 19	52	6.1
Moderate	19-29	340	40.0
High	Above 29	458	53.9
Total		850	100.0

From the above table, it is inferred that 6.1% of the B.Ed. Students are low, 40% of them are moderate and 53.9% of them are high in their Social Intelligence. **Hence the hypothesis – 2 stating that “The level of Social Intelligence of B.Ed. Students is moderate in nature” is rejected.**

5.3 HYPOTHESIS 3: THE EFFECT OF DIMENSIONS OF DIGITAL LITERACY ON SOCIAL INTELLIGENCE OF B.ED. STUDENTS

Table 3 - Predictive Nature of the dimensions of Digital Literacy on Social Intelligence

Predictor variables	Unstandardized Coefficients		Standardized Coefficients	t	p value	Remarks
	B	Std. Error	Beta			
Communication	0.691	0.084	0.292	8.261	<0.001	Strongest predictor
Copyright	0.181	0.092	0.073	1.969	0.049	Weak but significant
Critical Thinking	0.484	0.072	0.263	6.755	<0.001	Strong predictor
Connectedness	0.125	0.084	0.059	1.478	0.140	Not significant
Creativity	-0.008	0.071	-0.004	-0.110	0.912	Not significant
Collaboration	0.241	0.101	0.085	2.391	0.017	Significant

Dependent Variable: Social Intelligence

The regression model was statistically significant with the below values:

R = 0.617; R² = 0.381; Adjusted R² = 0.377; F(6, 843) = 86.57, p < .001

The model explains **38.1% of the variance**, indicating a strong effect size.

Hence, Hypothesis – 3 stating that “The dimensions of Digital Literacy are not significant predictors of Social Intelligence of B.Ed. Students’ is partially rejected.

5.4. DISCUSSIONS

5.4.1. LEVEL OF DIGITAL LITERACY:

It is observed from the study that the level of Digital Literacy of B.Ed. college students is moderate in nature. A study conducted by Serpil Demirezen (2023) from Akdeniz University, Antalya, Turkey have found that the level of digital literacy is high among pre-service teachers. The difference in the current study calls for extra emphasis on the curriculum development, accessibility to technology and ICT integration. The results show that there should be more focus on the pedagogical training and the institutional support provided to the B.Ed. college students.

5.4.2. LEVEL OF SOCIAL INTELLIGENCE:

It is observed from the study that the level of Social Intelligence of B.Ed. college students is high in nature as 53.9% of the students have high levels of Social Intelligence. The study by Vanchhawng et al. (2023) on 451 student teachers from Mizoram had exhibited above average level of Social Intelligence which is the same as the present study. This shows that the B.Ed. students who are the prospective teachers have good interpersonal skills, social awareness, social attunement and social empathy which are very important for classroom management and to have an efficient teaching learning process. Thus, we can say that teacher education programs significantly contribute to the social competencies of teachers.

5.4.3 PREDICTIVE NATURE OF THE DIMENSIONS OF DIGITAL LITERACY ON SOCIAL INTELLIGENCE:

The study shows that Digital Literacy significantly predicts Social Intelligence where Communication and Critical Thinking are strong predictors of Social Intelligence. Copyright and Collaboration are also found to be significant predictors but Creativity and Connectedness have no effect on the Social Intelligence of B.Ed. college Students. A systematic review by Silvia Farias-Gaytan et.al (2023) has shown the emphasis of digital competencies such as communication, critical thinking and technology are essential to adapt themselves to complex digital environments. The findings of the present study are also compatible with this. It also shows that not all dimensions of Digital Literacy equally contribute to Social Intelligence. Thus, difference in the significance of the dimensions show that greater emphasis should be placed on the individual digital competencies of the B.Ed. students.

6. EDUCATIONAL IMPLICATIONS AND CONCLUSIONS

6.1 EDUCATIONAL IMPLICATIONS:

The findings of the study have shown that the Digital Literacy is moderate in nature and Social Intelligence

is high in nature. The regression analysis has shown that Communication and Critical Thinking are strong predictors of Social Intelligence. This shows that Communication being the strongest predictor has to be concentrated upon in the B.Ed. teaching as these students who are going to be the future educators should have good communication skills. This can be increased through activities like group discussions, peer teaching etc. Likewise Critical Thinking is more important to enhance their problem-solving skills. Students should have knowledge about copyright issues to avoid problems of plagiarism while using the digital technologies. It is important to have knowledge about collaboration as it helps the learners to collaborate not just with their own peers and teachers but also with experts and peers globally. This helps them to know about the curriculum worldwide. The competencies such as Creativity and Connectedness are not significant. This also shows that Creativity can be enhanced more through real time activities and staying away from the digital world as they get to observe more from their surroundings than from the enclosed digital world. Connectedness though very much needed also tends to divert the students from focussing on their studies. It is important to Strengthen communication skills, integrate critical thinking with digital learning, promote collaborating learning platforms, support students with low levels of Digital Literacy and Social Intelligence and by reworking on the curriculum.

6.2 CONCLUSION

Digital Literacy is not only the advancement of technological skills alone but the ability to understand and use them in practical life situations. The present study explored the levels of digital literacy, Social Intelligence and the predictive nature of the dimensions of Digital Literacy on Social Intelligence. Digital Literacy has a significant effect on the Social Intelligence with Communication and Critical Thinking to be a strong predictor of Social Intelligence. When educated properly the digital literacy skills can be highly efficient and the learners can develop their social and moral skills with the usage of the evolving digital technology. The findings of the study show that by strengthening the digital competency of the B.Ed. students, there can be a control on their Social Intelligence. It's high time that, teacher education institutions should prioritize on the digital literacy training to bring about competent and resilient future educators.

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