

Digital Competence among School Teachers across Gender

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ABSTRACT- Education is the most powerful weapon which you can use to change the world said Nelson Mandela. Education is the need of the day for the progress of the country. Therefore every child must be given the best level of education. In order to achieve this goal, effective teachers with collective professional competency and efficient skills are required in the education system (Rajyam. V R et al., 2014). As observed, digitalization is one of the modes which take our nation towards global growth. Hence all the educational institutions are encouraged to use e-method of teaching. Though the concept of technology is not new, adoption from traditional method of classroom teaching to the advanced skills will take more time to the teachers. The present study intends to learn more about the concept called digital competence among school teachers. The study adopts purposive sampling method. The sample involves 64 school teachers working in English and Kannada medium schools of Belthangady taluk out of which 32 are female and 32 are male teachers. The research design for the study is two group design. Teacher Digital Competence Scale was administered to the samples and the obtained data was analysed using independent sample t-test. The result shows no significant difference among the male and female school teachers in digital competence.

Key words: digital competence, teachers, and education

Introduction:

The education is considered to be an important contribution for moral, cultural, political and socio-economic development of a nation. As quoted by Benjamin Franklin, an investment in knowledge pays the best interest. Nations that wish to compete in the global economy recognize education as an indispensable tool of development. Progression of the country depends on proper education in day to day life. Educational progress depends upon the quality of teachers. Schools are considered as preparatory grounds for the adult life. The effectiveness of the school may influence what the child imbibes as a student (Rajyam. V R et al, 2014)

Role of a Teacher:

A teacher has a significant role in the teaching learning process. They are called as the architect of the society as they play major role in nation building. Their needs and aspirations and hopes for future life are no different from the rest of the members of the society. He is in the same competition as anyone else. Rise and fall of quality education alone lies in the hand of a teacher, thus deciding the future of the country (Rajyam.V R et al, 2014).

The National Policy on Education (1986) stressed the need to employ educational technology to improve the quality of education. The National Curriculum Framework also highlighted the significant role that ICT can play in school education (NCERT, 2005). In order to improve the digital literacy among students, government of India framed a National Policy on Information and Communication Technology in School Education in (MHRD, 2012) and the National Educational Policy, 2020 which interplay of education and technology. For seeing the importance of digital technology in today's world many commissions and committees in India emphasized on the proper infrastructure in teacher education institutions and their appropriate use in teaching learning process as well as for administration purposes (Ramakanta M, 2020). In the present pandemic circumstances, with virtual learning replacing in-person learning experiences, students and teachers have been bound to re-imagine conventional learning and teaching techniques (Mitra & Singh 2020). The use of information and communication technology (ICT) and digital technology in the education system are strongly recommended by different committees and commissions for increasing its efficiency (Ramakanta M, 2020).

Digital competence:

Digital competence has been defined by Ferrari (2013) as the confident, critical and creative use of ICT to achieve goals related to work, employability, learning, leisure, inclusion and/or participation in society. Digital competence is the set of skills, knowledge and attitudes that enable the confident, creative and critical use of technologies and systems. It is the skill set that enables a person to be a confident digital citizen, to interact and collaborate digitally, to produce work digitally, and to be confident in handling data and computational thinking (Wales Govt., 2018).

One of the important resources of our nation is the population of youth, who are considered to be strength and take major role in developing nation. As it is known, education is the only weapon that will decide the future of youth, where school takes major role in educating the younger generation for the needs of the future. However, schools struggle to keep up with the recent developments in digital technology. The reasons could be like lack of resources, skills, competencies or interest, and there also may be great differences between schools.

Though digitalization in education has been a hot topic already for ages within different disciplines and also few digital tools are extensively already utilized in schools. According to the studies (Papagiannidis, Harris & Morton, 2020; Vial, 2019), many teachers and educational administration have been poorly prepared for acting as leaders and change agents in digital transformation (Livari.N et al., 2020).

The covid 19 pandemic, which is ruling the whole world since one year has brought up several changes in day to day lifestyle. It is true that it has evidently shown prominent changes in education sector. The pandemic appears as a reminder for us to enable students with skills they will need in order to navigate an unpredictable future: 21st century skills of communication, collaboration, critical thinking, and creativity. In the months following the lockdown, states must continue to build on their current foundation, keeping 21st century skills as a priority and towards this, establish education leadership institutions, and boost tech literacy of educators. It is the perfect time to emphasize the importance of this amongst educators and determine how technology can shape the future of innovations in education. The present situation of controlling the pandemic is pushing educators to bring much needed innovation in the teaching – learning process. Due to the lockdown, online education has become the new norm, and is likely to change the way education is imparted in the

future, with less dependency on the physical, in-class exchange. Digital literacy, access to modern information and communication technology is at the center of this changing paradigm. While private institutions in metro are making headway in running online classrooms, one wonders at the plight of children in public schools, especially in rural India, where internet density is comparatively low. The nation is focussing on building up alternative strategies to provide education to rural regions (India Today Web desk, 2020).

The use of technology in teaching has been a challenge to many organizations without proper training to the teachers. The India, where the traditional teaching was adopted since many years has come across complex condition due to e-teaching. According to the study by Hatlevik&Christophersen (2013), modern digitalization has meant an increasingly complex school environment. Due to this teachers are forced to rethink and transform previous educational traditions by means of technology (Petersson. F, 2018).

Gender differences:

One factor that has been under discussion with respect to digital competency is gender. Gender-based digital competency and the digital divide have been extensively studied, with controversial results. Studies say that gender is a more relevant variable than age for understanding differences in knowledge of technological resources. According to the studies, discrepancies are found on the gender differences in teachers. On the one hand, there shows a clear difference that male teachers have a great capacity to gather information by technological means than female teachers. On the other side, it says women seem to be less competent both in ICTs in general and in access and use of the internet, this also includes female teachers (Canon. R et al, 2020). There are also studies which did not find differences by gender relating to the digital competence of teachers either (Jimenez. H D et al, 2020).

Review of literature:

The study by Prado.M et al., (2020) showed that there exist gender differences in the student's reported perceptions. Men were more likely to perceive themselves as competent in the use of ICTs, reporting better information management and online collaboration skills using digital media. Besides, they made more use of more computers as their sole device for browsing, downloading and streaming and felt more confident about solving problems with devices. In contrast, women reported making more use of mobile phones and were more familiar with social media and aspects related to image and text processing and graphic design. In contrast the study by Prieto. J et al., (2020) suggests no significant gender differences between teachers with respect to the application of e-skills by teaching professionals, despite the existence in other contexts of a large digital gender gap in new technology professionals.

Method:

Research question:

- Is there any difference in digital competence among male and female school teachers?

Objectives:

- To assess the level of digital competence among male and female school teachers.

- To compare the digital competence among male and female school teachers.

Hypothesis:

- There is no significant difference in digital competence among male and female school teachers.

Variables:

Independent variable: male and female school teachers

Dependent variable: digital competence

Sample:

Sample size is 64 out of which 32 are male school teachers and 32 are female school teachers.

The study adopts purposive sampling method.

Locality: the samples were collected from English and kannada medium schools of Belthangady Taluk.

Research design: The study adopts two group design.

Inclusion criteria:

- Teachers with more than two years teaching experience
- Secondary school teachers

Exclusion criteria:

- Part time teachers
- Retired teachers

Tool:

Teacher's Digital Competence Scale (TDCS) is a likert type 5-point scale measures digital competence of secondary school teachers. The scale consists of 50 items and measures five different factors such as knowledge of digital practices (1,2,3,4,5,6,20,40,41,42,43,44), expertise in using digital technology for teaching learning (7,8,10,13,23,24,27,33,34,35,36,50), evaluating and authorizing online information (19,22,31,32,37,38,39,45,47,48), managing and communicating digital data (9,15,18,25,26,28,30,46) and collaborating and sharing digital data for teaching learning (11,12,14,16,17,21,29,49). The scale has 0.89 reliability in test-re test method (English version) and has good validity by item test correlation method.

Scoring:

The scoring is on a five point alternatives, strongly agree (5), agree (4), undecided (3), disagree(2) and strongly disagree (1). The interpretation of the score is based on the z score.

Procedure:

The purpose of the study was conveyed to the participants and consent for the research was taken. The demographic details were collected from each participant and later, with proper instructions, the

Digital Competence among School Teachers across Gender

questionnaire was administered. The obtained responses were scored according to the manual and data analysis is done.

Statistical analysis:

Independent sample 't' test was used to assess the significant difference in digital competence among school teachers.

Result and Discussion:

The objective of the study is to study the significant difference in digital competence among male and female school teachers.

Hypothesis 1 states that there is no significant difference among school teachers under digital competence across gender.

Table 1.1: Mean, standard deviation and t value of male and female school teachers under digital competence

Variables	N	Mean	SD	T
Male	32	1.96	35.46	.059NS
Female	32	1.76	50.00	

Not Significant at 0.05 level

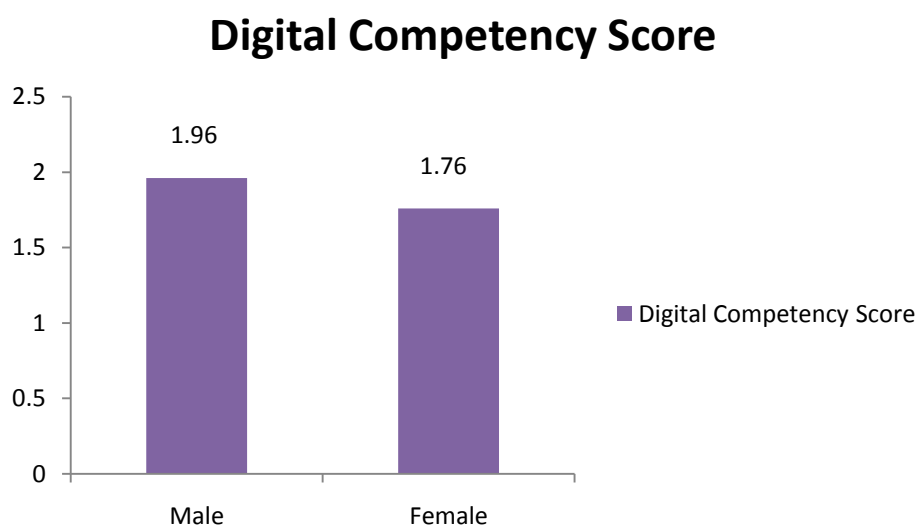


Figure 1.1: Mean scores of male and female school teachers under digital competency.

The hypothesis stating that there is no significant difference in the digital competence among male and female school teachers was tested by using the Independent samples t test. The male school teachers have scored the mean of 1.96, with a standard deviation of 35.46. The female school teachers have scored the mean of 1.76 with the standard deviation of 50.00. The t value is 0.059, which is not significant at 0.05 levels. Thus the result shows that there is no significant difference in digital competence and hence the null hypothesis is accepted. The present result is supported by previous findings of Prieto.J S et al., (2020), which makes an important contribution to the literature,

showing that men and women are more similar in the use of technology. Overall, the result shows high digital competence among both male and female school teachers in digital competence scale

Conclusion:

India is working towards digitalization. The nation is preparing itself to face the challenges and rejoice the growth and development by inculcating new systems, updating oneself to new ideas and skills and utilizing their potential in the course of success. In the path, education being prime part teachers plays a significant role in understanding their roles and responsibilities. It is true that modern digitalization has caused lot of difficulties to the teachers when they are asked to transfer traditional method of teaching to technology but now it is the responsibility to provide them relevant facilities and training to reach the goal. The challenges are for the educational institutions in developing suitable strategies to meet the demands. Gender being an important factor contributes largely towards various aspects of society. Across the globe, women's personal finances and their position in the labour market is weaker and less securing (Linde.A et al., 2020). Under unavoidable circumstances, female are found to be economically vulnerable as most of them work under informal sector. Digital competency is also one of the factors that contribute towards women's economic downturn (Shah.K, 2020). Thus the present study was aimed at identifying the digital competence among teachers across gender. The result showed that there is no significant gender difference among school teachers with respect to access to technology. This result can be taken forward in training the teachers and helping them inculcate essential skills necessary for e-education and thus contributing successfully towards digitalization of India.

Limitation:

- The present study is conducted with smaller sample size.
- Generalization of result is limited to teachers working in one sector of job.

Scope for further study:

- Other geographical area can be focused in further studies.
- Studies involving other areas of teaching such as primary, engineering, medical and graduation teachers can be taken.

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Digital Competence among School Teachers across Gender

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