Digital competency of Post Graduate Students

Abstract:

In the age of continuous transformation, keeping in view the gradual increasement of usage of digital platform, this study aims to explore the digital competency among post graduate students of Burdwan University.Inthis study researchers have used a standardized questionnaire developed by Tzaflkou et al. (2022) consisting of 28 items. 5- Point Likert scale has made use for this research. Among randomly selected 112 respondents 65 were boys and 47 were girls in this study. The researchers have used "t test" for the analysis of the data. The evaluated data revealed that there was an insignificant difference of digital competency between male and female post graduate students where as a significant difference of digital competency at .05 level between post graduate students belonging to arts and science stream was prevailed here. Between Urban and rural post graduate students there was significant difference at 0.05level. As a conclusion the study revealed that the proposed scale could be utilized for new act and schemes regarding lifelong learning, planned modifications, in solitary area for the betterment of peoples including students.

Key Words: *Digital Competence, Digital Skill, Post Graduate students. Digital Technology.*

Introduction:

There is no permanent habit in human life. It becomes dynamic with the changes of time and situation. Many factors are responsible for these changes. Technology is one the main factor among them. From the last of 19th century digital platform has started its journey to replace traditional beliefs, methods and skills which brings radical change in the so -called orthodox society. The uses of digital platform make a man's life easier as it saves time, energy. Peoples are getting intensified globally in terms of upgraded thoughts, knowledge, skills, habits, perception. These all together lead to attitudinal change of a common man. Now it's a matter of concern what digital competency actually is. Till today digital competency is used as a synonymous form of digital literacy. Actually, digital competency is the confined form or the elaborate form of digital literacy, media studies, digital device, ICT skill, internet skill and digital skill. In 20th century the word 'digital skill' was massively used instead of 'digital competency'. The digital skill was limited within the professional field and there was no importance of individualization. But 21st century has widened the area of 'digital skill' which

is called as ‘digital competency’. ‘Social skills’ is emphasized and ‘individualization’ is prioritized in this digital competency arena (Ilomäki, Kantosalo, & Lakkala, 2011).

Digital competency is an evolving and more recent concept though it is not mandatory to have professional degree regarding this. It is more than a skill and it is even more than mastery of knowledge. Digital competency is an efficiency of profound knowledge of dealing something with more complicated, more crucial, more reflective, more productive matter in an effective way.

The ability to manage various technological, academic, and pedagogical components is supported by digital competence,(Mishra & Koehler, 2008)which is therefore seen as beneficial for the students specially for higher education. Post graduation students are in transition period where they step forward from casual students’ life to the battle field of hardcore reality. They struggle for existence in terms of professional, financial and academics too. In this age of digitalization, where we are moving forward to manual arena to digital arena, competency in digital platform is very much essential to overcome these problems related to professional, financial and academic area.

So, a good sense and proper implementation of digital platform is necessary for a post graduate student. Here this paper has tried to find out the digital competency among post graduate students of Burdwan University.

Statement of the problem:

Digital Competency of Post Graduation students of the Burdwan University.

Significance of the study:

The slow but steady jump from manual to the frequent use of digital platform is the new perspective of life which can be the main outcome of Digital Competency. Post Graduation stage can be said as the basement for entering a new phase of life. In case of professional, personal, or higher studies digital competency is required in every sphere of life. Those who are getting engaged in marriage or involved in any kind of family affairs, digital competency rather digital knowledge is essential for them to deal with those affairs smoothly. The better digital skill one has, he / she will receive extra advantage for any kind of advancement what ever may be the field is. To become capable in digital field, particular sector is not necessary. But to perform quite effortlessly, to save time, to make his / herself well equipped with time appropriate, contemporary knowledge with the realization of good or bad, with the awareness of what to take or what not in life, and with the understanding to apply it properly digital competence is very much needed.

National Education Policy 2020 emphasized on digital education. It aimed to enhancing the use of technology in all facets of education is another goal of NEP 2020. In order to strengthen online learning, it places a special emphasis on resources including learning apps, satellite-based educational TV channels, and teacher capacity building in addition to digital material.The National Educational Technology Forum (NETF), an independent organization, was created by the government to improve digital learning systems throughout the nation. The NETF's job is to make it easier for people to make decisions about how to deploy, introduce, and use technology to achieve NEP 2020 goals. The NEP framework sees technology as the key enabler for national universal education.

Objectives of the study:

The objectives of this study are as follows-

1. To find out whether any difference exists between male and female about digital competency of post graduate students in Burdwan University.

2. To find out whether any difference exists between rural and urban students at post graduate level about digital competency.

3. To find out whether any difference exists among arts, science students at post graduate level about digital competency.

Hypotheses:

The hypotheses of this study are as follows-

$H_0$1: There is no significant difference of digital competency between male and female post graduate students.

$H_0$2: There is no significant difference of digital competency between urban and rural post graduate students.

$H_0$3: There is no significant difference of digital competency betweenarts and science post graduate students.

Review of related literature:

Kantosaloet al. (2011), developed research on "Digital Competence". The main objective of this paper was to analyze digital literacy or information literacy. Till date these technical terms were used as a synonym of digital competence which was not correct actually. ICT, literacy skill, digital divide of 21st century had played a vital role to increase digital competency. As a conclusion it can be said the scope and content of digital skill needed to be modified.

Pimdee et al. (2017), conducted research on "Investing Competencies for Under Graduate Students at Nakhon Thammarat Rajabhat University". The main objective of this study was evaluating ICT competencies in the cognitive and psychomotor domains of under graduate students of that particular university. This paper involved focus group discussion including 131 variables. As a result, it was found that ICT competencies of students consisted of 7 elements that cover the cognitive and psychomotor domain.

Parmer and Pateria (2020), "developed research on "Digital Information Literacy Competencies among PG students of CCS Haryana Agricultural University, Hisar: A study. The aim of this paper was to study information literacy skill among PG students of that university. Identifying perception of users, finding awareness of various potentiality of digital resource were also the objectives of this paper. The paper used a questionnaire with 45 questions and 67 respondents. The findings of this study were that a particular number of students of this university were not capable of using different digital resource. As a result, it can be said that a well-equipped literacy program and effective training schedule could only be the antidote to reduce this kind of illiteracy.

Vishnu et al. (2022), conducted research on “Digital Competence of higher education learners in the context of Covid-19 triggered online learning”. The objective of this paper was to analyze socio -economic background, learners’ competency as they provide direct influence on digital competence. The Digital Competence Framework 2.0 of EO Science Hub (DIGCOMP) was used for this study. From this paper it was found that student’s digital competence was very important as todays learning environment was incomplete, insufficient without this kind of fundamental knowledge.

Scholes et al. (2022), conducted research on “Video gaming and Digital Competence among elementary school students”. Total evaluation of elementary school student’s digital self-efficacy to build up perception on digital competency was the objective of this study. This paper involved a Survey instruments – School Activities Attitude Questionnaire (SAAQ). Three-point Likert scale was used for this purpose. The findings of this study were that that this paper had different educational implications, irrespective of gender. But socio-economic background had played a vital role in pursuing digital competence.

Tzafilkou et al. (2022), explored research on “Development and validation of student’s digital competency scale (SDiCos). The main objective of this paper was to execute and validate digital literacy scale for students in higher education. The scale included 156 UG and PG students just before the starting of COVID 19 situations. A questionnaire consisted of 56 items with four dimensions were used for this purpose. This paper was concluded by saying that design of modified action, policies towards adult education, remote education would be benefited by this scale.

Borboutidis and Stiakakis (2023), explored a study on “Identifying the factors to enhance Digital Competence of students at Vocational Training Institute”. The main objective of this paper was to analyze the factors that left a significance impact on Digital Competence of students. This paper used 3 types of research design-1. Survey method 2. Self – assessment questionnaire 3. Laboratory computer-based performance. The purpose of this study was to reveal different domains of Education and advise new educational practices in the arena of Employee selection and lifelong learning which directly or indirectly effected by digital competence.

Gonzalez et al. (2023), conducted research on Explanations of pupils' digital competency levels through theoretical models. The research presented in this article made use of a cross-sectional design. This study set out to answer the question, "What factors affect students' digital competence in solving technical problems?" by looking at data from 12–14-year-olds. The results showed that digital competence was not directly affected by factors such as gender, attitude, or problem-solving ability.

Research Gap: Nowadays this topic is a most discussed and criticized one. A lot of woks on this topic has already done in India or outside of India. West Bengal is also witness of this type of work. But remarkable work on post graduate students were not getting importance properly on previous days. So, the researchers have chosen this area for their research.

Research methodology:

Population: All PG students of Burdwan University are considered in this study as population.

Sample: A simple random sampling method has used for collecting data. Students were chosen randomly for the research study. The total number of the sample was 112. The sample were collected from the post graduate students of Arts and Science department of Burdwan University.

Research tool:

A well-structured standardized questionnaire consisting of 28 items developed by Tzaflkou et al. (2022) is adopted for this study. 120 questionnaires are randomly distributed among students. Among them 112 respondents have provided their sincere response which is 93% through questionnaire. The study has used 5-point Likert Scale consisting of "strongly agree" to "strongly disagree" and vice versa. The collected data was tabulated, analyzed, and interpreted in the following section.

Analysis of data:

The analysis of data means the classification, well arrangement and framed according to the objectives and briefing of the answers of the questions collected from the questionnaires. Here some of the scores are calculated by Microsoft excel and other by hand.

1. **Table 1 :Digital Competency: Comparison between male and female students**

Group	Sample(N)	Mean (M)	S.D	t-value	Level of significance
Male	65	116.35	11.41	0.82	Insignificant
Female	47	114.53	11.59		

H_{01}: There is no significant difference of digital competency between male and female post graduate students.

Here the average of the digital competency of female students is 114.53 and the digital competency of male students is 116.35 and the S.D of female students is 11.59 and that male students is 11.41. Here the t-value is 0.82. It is seen from t-table that the value is insignificant at 0.05 level. So, the null hypothesis is accepted.

There is no significant difference of digital competency between male and female post graduate students.

2. **Table 2 :Digital Competency: Comparison between urban and rural students:**

Group	Sample (N)	Mean (M)	S.D	t-value	Level Of significance
Urban	42	118.60	12.04	2.13	Significant At 0.05 level
Rural	70	113.79	10.81		

H_{02}: There is no significant difference of digital competency between urban and rural post graduate students.

Here the average of the digital competency of urban students is 118.60 and the digital competency of rural students is 113.79 and the S.D of urban students is 12.04 and that rural students is 10.81. Here the t-value is 2.13. It is seen from t-table that the value is significant at 0.05 level. So, the null hypothesis is rejected at .05 level.

There is a significant difference of digital competency between urban and rural post graduate students.

3. **Table 3 :Digital Competency: Comparison between arts and science students:**

Group	Sample(N)	Mean(M)	S.D	t-value	Level of Significance
Arts	61	113.38	11.19	2.27	Significant at 0.05 level
Science	51	118.24	11.36		

H_{03}: There is no significant difference of digital competency between arts and science post graduate students.

Here the average of the digital competency of arts students is 113.38 and the digital competency of science students is 118.24 and the S.D of arts students is 11.19 and that science students is 11.36. Here the t-value is 2.27. It is seen from t-table that the value is significant in 0.05 level. So, the null hypothesis is rejected at .05 level.

There is a significant difference of digital competency between arts and science post graduate students.

Delimitations:

1. The study has delimitation that it is confined within the post graduate students of Burdwan University only.

Limitation:

Every study has its own limitations. This paper is also not an exception. The limitations of this study are as follows-

1. The samples are bounded within 112 PG students only.
2. Digital competency is measured using a standardized scale only. Use of other tools would be more useful for this purpose.

Conclusion:

Digital competency is now a basic requirement to create a technically sound productive society. The importance of digital literacy is rising alongside that of other forms of literacy. In this study the researcher found that there is an insignificant difference of digital

competency between male and female students of post-graduation level.This result is consistent with the earlier studies of Gil-Juarez, A. et al.2011, Sanchez Prieto, J.2020,Galindo-Domínguez, H.,2021.It shows that not only the number of female students has gradually increased in the different sectors of education but also the quality of their education, their tendency to use digital platform have also increased which leads to influence their competency level.

The findings revealed that there is a significant difference between post-graduate students of urban and rural students.The findings of this investigation are congruent with Rundel, C. &Salemink, K. 2021. Actually, they came to study at urban area rather Burdwan University. But their orientation is still related to rural area where students are still deprived from different types of technological support. Till today become digitally sound is like a dream to a lot of students who are belonged from rural areas.

Another finding of this study is that there is a significant difference between post graduate students of Arts and Science. The result is quite obvious. The cause behind it may be up to now the students belonged from arts faculty is still under developed than those students belonged from science faculty. The science back ground students receive special encouragement to learn technology skills and support to stay connect with new technologies. The science students and their laboratory work have to go through a constant enrichment of upgraded knowledge than arts students. For this they must be digitally sound or competent enough to deal with digital platform. As a result, they become more competent in the digital field than arts students.

Aiming to empower one family member with these abilities, the National Digital Literacy Mission (NDLM) was launched by the Indian government to promote digital literacy. Instruction and training in the use of digital tools should be made available to female students in order to encourage them to develop digital literacy.

References:

Barboutidis, G., &Stiakakis, E. (2023). Identifying the Factors to Enhance Digital Competence of Students at Vocational Training Institutes. Technology, Knowledge and Learning, 28(2), 613-650.

Biradar, K., & Naik, K. J. (2017). Digital literacy skills and competencies among the research scholars and PG students of deemed university libraries, Bangalore: A Study. Journal of Advances in Library and Information Science, 3(6), 252-257.

Galindo-Domínguez, H., & Bezanilla, M. J. (2021). Digital competence in the training of pre-service teachers: Perceptions of students in the degrees of early childhood education and primary education. Journal of Digital Learning in Teacher Education, 37(4), 262-278.

Gil-Juarez, A., Vitores, A., Feliu, J., & Vall-Llovera, M. (2011). Digital Gender Gap: A Review and a Proposal. EKS, 12, 25-53.

Ilomäki, L., Kantosalo, A., &Lakkala, M. (2011). What is digital competence?

Inamorato dos Santos, A., Chinkes, E., Carvalho, M. A., Solórzano, C. M., & Marroni, L. S. (2023). The digital competence of academics in higher education: is the glass half empty or half full? International journal of educational technology in higher education, 20(1), 9.

Morze, N., Kuzminska, O., Mazorchuk, M., Pavlenko, V., & Prokhorov, A. (2018). Digital competency of the students and teachers in Ukraine: Measurement, analysis, development prospects. Information and Communication Technologies in Education, Research, and Industrial Applications, Communications in Computer and Information Science, 2104, 366-379.

Parmar, S., &Pateria, R. K. (2020). Digital information literacy competencies among pg students of ccs Haryana agricultural university, hisar: a study. International Journal of Information Dissemination and Technology, 10(2), 88-93.

Rundel, C., &Salemink, K. (2021). Bridging digital inequalities in rural schools in Germany: A geographical lottery?. Education sciences, 11(4), 181.

Sánchez Prieto, J., Trujillo Torres, J. M., Gómez García, M., & Gómez García, G. (2020). Gender and digital teaching competence in dual vocational education and training. Education Sciences, 10(3), 84.

Sathyan, A. R., Funk, C., Sam, A. S., Radhakrishnan, A., Ragavan, S. O., Kandathil, J. V., & Vishnu, S. (2022). Digital competence of higher education learners in the context of COVID-19 triggered online learning. Social Sciences & Humanities Open, 100320.

Scholes, L., Rowe, L., Mills, K. A., Gutierrez, A., & Pink, E. (2022). Video gaming and digital competence among elementary school students. Learning, Media and Technology, 1-16.

Suwanroj, T., Leekitchwatana, P., &Pimdee, P. (2017). INVESTIGATING ICT COMPETENCIES FOR UNDERGRADUATE STUDENTS AT NAKHON SI THAMMARAT RAJABHAT UNIVERSITY.

Tzafilkou, K., Perifanou, M., & Economides, A. A. (2022). Development and validation of students' digital competence scale (SDiCoS). International Journal of Educational Technology in Higher Education, 19(1), 30.