Digital Literacy And Teaching Competence: A Correlational Study On The Factors Of Digital Literacy And Teaching Competence

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Abstract:
The study was undertaken to study the relationship between the factors of Digital literacy and Teaching Competence of Prospective Teachers enrolled in various teacher training colleges (B.Ed, colleges) of Kashmir Valley. Multistage random sampling technique was used in order to get the required sample of 350 Prospective Teachers from the target population. For the collection of data, the investigator employed tools VIZ; Teachers' Digital Competence Scale developed by Ramakrishna (2017) and General Teaching Competence Scale developed by Vimal Vadushy (2020), and Correlation was computed by employing Pearson's Product Moment Coefficient of Correlation on Digital literacy and Teaching competence of Prospective teachers at dimension level. The findings of the study revealed that an insignificant posititive relationship was found between the factors; Knowledge of Digital Practices, Expertise in using Digital Technology for Teaching Learning and Sharing Digital Data for Teaching Learning with time management factor of Teaching Competence. However, a significant and positive relationship was found between the factors of Digital literacy with all the rest of the factors of Teaching Competence.

Key Words: Prospective Teachers, Teaching Competence. Digital literacy, Time Management, Correlational Study.

Introduction

Quality teaching is considered as the most significant and determinant contributor to the educational and overall development of a nation. Dr. Radhakrishnan, the Chairman of University Education Commission (1949) has beautifully stated, "Teachers do occupy an important place in the community because they act as the advocates of transmitting

intellectual traditions and technical skills through generations and help keep the lamp of progress glowing." Undoubtedly, the educators are the real architects, protectors and preservers of the community. Presently, the role of teachers is quite challenging because teaching strategies change due to advances in information technology. The teachers challenging role does not demand only a high level of intelligence but technological empowerment also. In the present challenging world, only those teachers would be able to deliver effectively and efficiently who are empowered with optimum knowledge and technological skills. The importance of a teacher as the maker of our future generation demands that only more competent, digitally efficient, and creatively intelligent members be allowed to enter this noble profession.

Teacher education programmes are being provided to the teachers to enhance the needed competencies, skills and attitudes among the Prospective Teachers. Since the purpose of the teacher education programme is to prepare effective and competent teachers, Teacher's Competencies should be reviewed from time to time in tune with contemporary changes, challenges and reforms through technological & scientific impacts. The contemporary technological revolution has necessitated digital efficiency for Teachers. To be confident and competent in their use of technology, it is important to develop digital literacy among Prospective Teachers enabling them to make use of the increasing number of digital resources. The concept of competency-based teacher education is gaining the attention of the world, so that teacher may develop the essential educational competencies among his student learners. Teachers need Digital literacy to have an awareness of the standards governing online behavior. It encourages teachers to see technology for all of its creative potential, helping them to unlock their deeper teaching abilities. The more digitally literate our teachers are, the more they'll be able to foster a strong sense of digital orientation in our students. In a world where technology is playing its vital role in the teaching-learning process, students need wider opportunities to learn how to brainstorm and think creatively in order to hit their targets.

Teaching Competence has been investigated in relation to many personal and Environmental variables. Mutha (1980) investigated "An Attitudinal and Personality Study of Effective Teachers" and found Personality traits like anxiety, mental adjustment, extroversion, job satisfaction and teaching attitude predicting teacher effectiveness significantly. In the study of Pachauri (1983), it was inferred that reserved, relaxed, adjusted and controlled teachers were more efficient in teaching than those who were outgoing, tense and possessed more anxiety. It was also found that less intelligent, imaginative and trusted teachers with high aggression were better in teaching. In the study "Some Correlates of Success in Teaching of Secondary School Teachers" Mann (1980) revealed that more competent teachers were significantly more expressive, ready to co- operate, bright and alert, efficient in abstract thinking, attentive to people, emotionally mature and realistic about life. In the study of Sherry (1954), intelligence was

found as most important to success in teaching. . Jain (1977) found intelligence creativity and interests as important factors for teaching competence. In the study of Talwar, A. Kaur, M. (2014),a significant positive relationship was found between teachers' teaching competency and their emotional intelligence. The findings in the Research study of Chahar (2005) showed a significant relationship between General Teaching Competency and Self-concept.

Augustine (2010) found a significant relationship between teaching competency and teaching aptitude of student teachers. In a comparative study of Bala and Singh (2013),it was found that Teacher trainees having high aptitude obtained higher teaching competency as compared to the teacher trainees having low aptitude. NaliniSrivastava and Pratibha (2009) studied the relationship of teaching competency with teaching aptitude and found a positive and significant connection between teaching aptitude and teaching competency of the teachers. Darling-Hammond (1999) in their study highlighted a substantial relationship between good results and qualified teachers. The study also highlighted a substantially negative relation between results obtained by untrained teachers. (Fetler1999) was of the opinion that teachers with short training did not perform well, when compared with trained and experienced teachers. Schiefelben (1921) is of the opinion that the quality of teaching performance is directly influenced by the academic qualification and professional training of the teachers. The results of the study conducted by Fuller& Alexander (2004) highlighted that students who were taught by educationally qualified teachers showed better learning outcomes. The study of (Laczko-Kerr and Berliner, 2002) also indicated that students taught by untrained teachers performed substantially poorly as compared to those who received education from qualified and trained teachers. Basi (1991) found a positive correlation between the measures of job satisfaction and the criterion measures of teaching competence. According to the study undertaken by Gupta & Kaur (1993), it was found that professionally efficient teachers who enjoyed good relations with students and colleagues possessed a high level of teaching competence and a high level of job satisfaction.

The Findings put forth by Jacobson Barineka Nbina (2012) highlighted a significant relationship between teachers' competence and students' academic performance in chemistry. The study of Agharuwhe, A. Akiri (2013) highlighted no significant relationship between teachers' effectiveness and students' academic performance. The results put forth by Dr.Umar Maimuna Rabo(2018)showed a significant relationship between teacher competence and student's academic performance

Singh & Sheojee (2019) found that Highly competent prospective teachers showed a high level of digital literacy, inspirational leadership and creative intelligence. Pachaiyappan and Sadayakumar (2018), in their study 'Soft Skills in Relation to Teaching Competency

of Prospective Teachers' found a significant positive relationship between soft skills and teaching competency among B.Ed. pupil teachers was also revealed in the study. In the study of Sherlin (2017) titled as 'A study on Teaching Competency of Prospective Teachers in Relation to their Computer Literacy', the findings revealed that there is significant difference in teaching competency in total and its dimension's clarity, rapport and audiovisual aids of prospective teachers with respect to their computer literacy. The findings of the research by Liakopoulou (2011) declared that majority of the teachers related their teaching effectiveness with personality characteristics and "didactic and pedagogical knowledge and skills. The study concluded that special skills, pedagogical and content knowledge of teachers play a crucial role in enhancement of teaching competence. In the study of Singh & Mohinder (2019), Teaching competence and digital literacy were found positively correlated implying that prospective teachers with high digital literacy are more competent in teaching. Singh & Sheojee (2019) found a significant and positive relationship among teaching competence, digital literacy, inspirational leadership and creative intelligence.

An overview of the related literature shows that ample studies have been carried out on Teaching Competence and it has been studied from different perspectives. On the basis of the literature review the general trend has been observed that investigators have studied the Teaching Competence in relation to Personality traits, creativity, intelligence, Self-concept, teaching aptitude, emotional intelligence, academic achievement, teaching experience, qualification, job satisfaction, teacher effectiveness etc. Very less has been investigated with respect to Digital literacy. A careful glance at the above-mentioned studies shows that no research study has been carried out in Kashmir taking into consideration the significant variables of Digital Literacy and Teaching competence. Hence, the above- mentioned research studies map out a strong base in the formulation and shaping of the present study. Hence, the investigator took the initiative of studying Digital Literacy, and Teaching Competence of Prospective Teachers.

Objectives of the Study
The objectives of the present study are as follows:

1) To study Digital Literacy and Teaching Competence of Prospective Teachers
2) To find out the relationship between the factors of Digital Literacy and Teaching Competence of Prospective Teachers

OPERATIONAL DEFINITIONS OF THE KEY TERMS USED

Digital Literacy:

Digital Literacy refers to one's ability to use digital technology, communication tools or networks to locate, evaluate, use and create information.

In this study Digital Literacy refers to the scores obtained by Prospective Teachers on Teachers' Digital Competence Scale developed by Ramakrishna (2017), under the following dimensions;

Knowledge of Digital Practices, Expertise in using Digital Technology for Teaching Learning, Evaluating and Authorizing Online Information, Managing and Communicating Digital Data, Collaborating and Sharing Digital Data for Teaching Learning.

Teaching Competence:

Teaching competence for the study means the competencies of the Prospective Teachers in carrying out their prescribed job.

In this study Teaching Competence refers to the scores obtained by Prospective Teachers on General Teaching Competence Scale standardized by Nand kishor, and Vimal Vadushy (2020), under the following dimensions;

Planning Lessons, Class room Management, Knowledge of Subject, Interpersonal Relationship, Development of Teaching Learning Material, Time Management, Evaluation Process during Teaching-Learning and Competencies related to Working with Parents, Community and other Agencies.

Prospective Teachers: Teacher candidates enrolled in Teacher Training Colleges and are in their final semester of their course (B.Ed**.)**

Hypotheses:

The following hypotheses have been formulated for the present study:

Ha: There exists a significant relationship between Digital Literacy and Teaching Competence of Prospective Teachers (Factor wise)

SELECTION OF THE SAMPLE

Sampling frame:

The target population of this study comprised of the Prospective Teachers enrolled in the Teacher Training Colleges (B.ed. Colleges) of Kashmir Valley. For the present study multistage sampling technique was employed to choose the sample. The initial sample comprised of 700 Prospective Teachers, out of which final sample of 350 was identified.

Tools

In the present study, the researcher has used the following standardized tools to collect the required and relevant data:

1) General Teaching Competence Scale standardized by Nand Kishore and Vimal Vadhushy (2020).
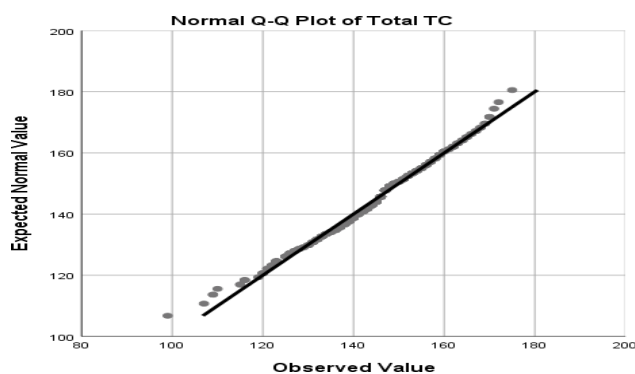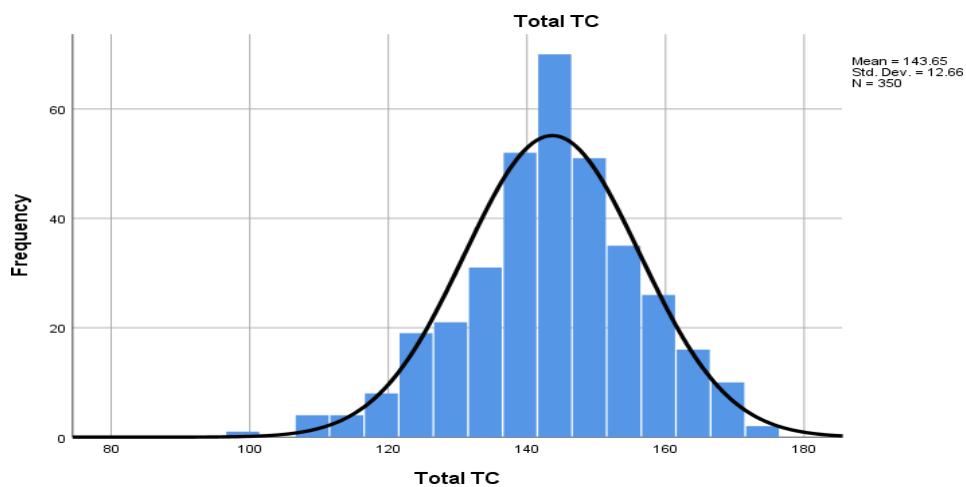2) **Teachers' Digital Competence Scale standardized by Ramakrishna

(2017)3) **Analysis and interpretation**

Descriptive Analysis

4) **Teaching Competence**
5) **Table 4.1: Showing Normal Distribution of the variable Teaching Competence**

N	Mean	Median	Mode	S.D	S.E of Mean	Z Value of Sk.	Z Value of Ku.	Z Standard
350	143.65	145.00	146	12.66	.677	-2.33	1.10	±3.39

Figures (1&2): Showing Normal Distribution of the variable Teaching Competence
Digital Literacy

Table 4.2. Showing Normal Distribution of the variable Digital literacy

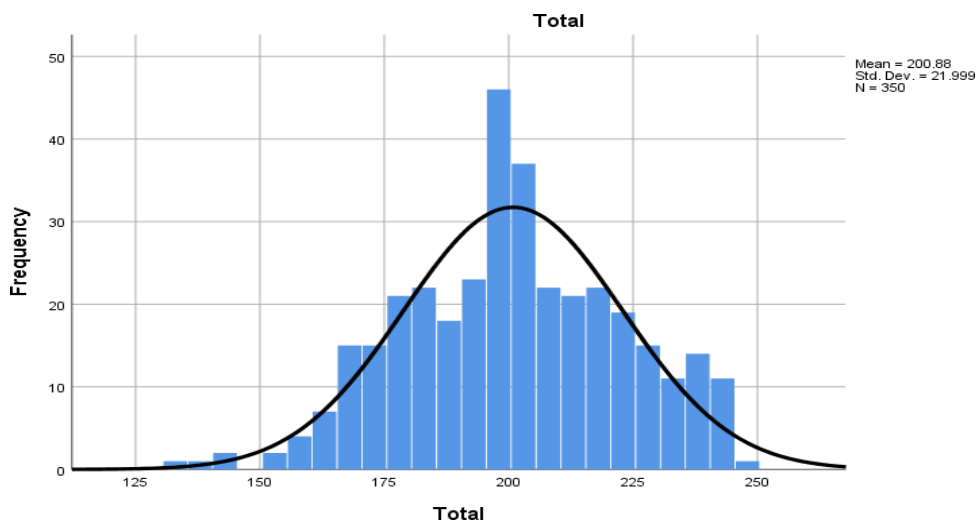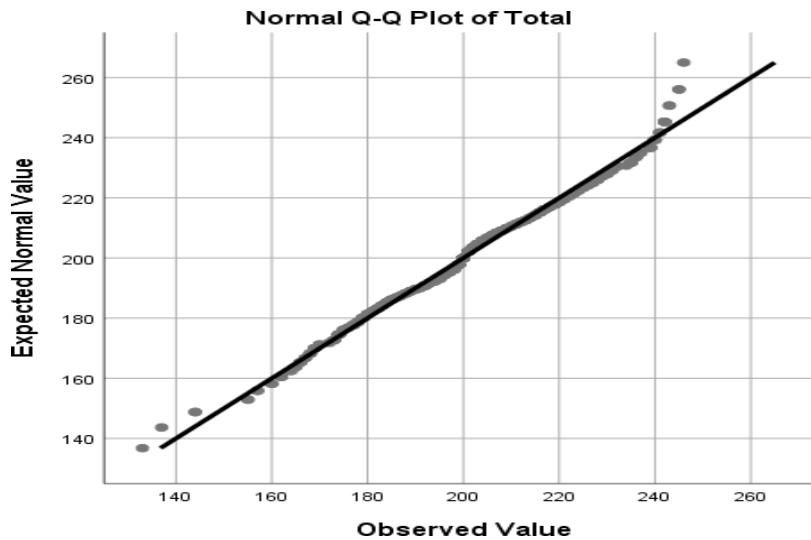| N	Mean	Median	Mode	S.D	S.E of Mean	Z Value of Sk.	Z Value of Ku.	Z Standard
350	200.88	200.00	200	21.99	1.176	-0.87	-1.088	±3.29

Fig 3

Fig 4 Figures (3&4): Showing Normal Distribution of the variable Digital Literacy

Co-relational Analysis

Correlation was computed by employing Pearson's Product Moment Coefficient of Correlation on Digital Literacy and Teaching Competence of Prospective Teachers (350) at dimension level.

Table 1:

		P.L	C.M	K.S	I.R	D.T.L.M	T.M	E.P	C.P.C	TC
Pearson Correlation	K.D.P	.217**	.276**	.206**	.136*	.196**	.039	.334**	.156**	.324**
	E.D	.262**	.278**	.258**	.136*	.224**	.078	.366**	.168**	.360**
	EA	.257**	.229**	.237**	.166**	.411**	.210**	.370**	.217**	.410**
	MC	.250**	.224**	.291**	.118*	.303**	.106*	.380**	.257**	.388**
	CD	.247**	.199**	.207**	.166**	.294**	.000	.273**	.194**	.319**

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Factors of Digital Literacy: KDP (Knowledge of Digital Practices), ED (Expertise in using Digital Technology, for Teaching Learning, ED (Evaluating and Authorizing Online Information), MC (Managing and Communicating Digital Data), Collaborating and Sharing CD (Digital Data for Teaching Learning).

Factors of Teaching Competence: PL (Planning Lessons), C.M (Class room Management), K.S Knowledge of Subject, Interpersonal Relationship,

IR (Interpersonal Relationship) DTLM(Development of Teaching Learning Material), TM(Time Management),

EP (Evaluation Process during Teaching-Learning) and C.P.C (Competencies related to Working with Parents, Community and other Agencies.

Coefficient of Correlation between Digital Literacy and Teaching Competence

The perusal of the table 1. Clarifies that Coefficient of Correlation between factor Knowledge of digital practices of Digital Literacy and the factor Time management of Teaching competence is .039 which shows a positive but insignificant relationship. However, the correlation between the factor KDP and the factors Planning Lesson PL, Class room Management C.M, Knowledge of Subject K.S, Interpersonal Relationship I.R, Development of Teaching Learning Material D.T.L.M, Evaluation Process during Teaching-Learning E.P and Competencies related to Working with Parents, Community and other Agencies C.P.C is .217**,.276**,.206**,.136*,.196**,.334**,.156**, and .156** respectively, indicating significant positive relationship. It signifies that prospective teachers, who are having knowledge of digital practices, are good at lesson planning, have better 'Classroom Management' and are better at knowledge of the subject dimension of Teaching competence They exhibit good interpersonal relationship, are better at the preparation of relevant supporting materials for teaching , have better understanding of how to make proper utilization of different types of evaluation techniques and evaluation criteria , and understand better the importance of parent , teacher and pupil relationship in an educational setup.

The Coefficient of Correlation between factor Expertise in using Digital Technology for Teaching Learning, with factor Time management is .078, i.e. positive but insignificant. However the correlation between the factor Expertise in using Digital Technology and the factors Planning Lesson (PL), Class room Management C.M, Knowledge of Subject K. S, Interpersonal Relationship I.R Development of Teaching Learning Material D.T.L.M, Evaluation Process during Teaching-Learning E.P and Competencies related to Working with Parents, Community and other Agencies C.PC is.262**,.278**,.258**, .136*,.224**, .366**, .168** respectively. It signifies a positive and significant relationship with all these factors. It implies that Prospective teachers who have expertise in using digital technology, prove

better lesson planners and subject experts. They are better at developing relevant teaching learning material to beautify the process of pedagogy, exhibit better interpersonal relationships with subject experts and other specialized personal, and have the needed knowledge of utilizing proper, psychological based evaluation techniques.

Coefficient of Correlation between Evaluating and Authorizing Online Information and factors Planning Lessons, Class room Management, Knowledge of Subject, Interpersonal Relationship, Development of Teaching Learning Material, Time Management, Evaluation Process during Teaching-Learning and Competencies related to Working with Parents, Community and other Agencies is, .257**, .229**, .237**, .166**.411**, .210**, .217** .370**, respectively. It indicates a positive and significant relationship, signifying that Prospective Teachers who are more competent in choosing reliable sources when working with online information, can show better competencies at lesson planning, are better at organizing the teaching learning process, and Class room management activities. They update their knowledge of specialization and show better interpersonal relationship with subject experts and other specialized personal through digital mode. They are better at better time management, exhibit expertise in developing relevant teaching learning material and utilize online information in communicating and working with parents and community through various modes such as forums, informal chat sessions, sharing sessions and learning circles etc. in order to update and enrich classroom experiences.

The perusal of the table 1. also Clarifies that Coefficient of Correlation between factor Managing and communicating digital data and the factors Planning Lessons, Class room Management, Knowledge of Subject, Interpersonal Relationship, Development of Teaching Learning Material, Time Management, Evaluation Process during Teaching-Learning and Competencies related to Working with Parents, Community and other Agencies is .250**.224**,.291**,.118*, .303**,.106*,.380**,.257** respectively, indicating a positive and significant relationship. It signifies that prospective teachers who are good at Managing and communicating digital data, are also better at lesson planning. and organizing the teaching learning process. They are equally better at class management and manage interpersonal relationships with subject experts and other specialized personal. They enhance their teaching competence via digital mode and update knowledge of their specialized subjects. Teachers having expertise in Managing and communicating relevant digital data, are equally better in utilizing proper, psychological based evaluation techniques. They also show expertise in utilizing such digital knowledge in communicating and working with parents, community and other agencies.

Coefficient of Correlation of factor Collaborating and Sharing Digital Data for Teaching Learning with the factors of Planning Lessons, Class room Management, Knowledge of Subject, Interpersonal Relationship, Development of Teaching Learning Material, Time Management, Evaluation Process during Teaching-Learning and Competencies related to Working with Parents, Community and other Agencies is

.247**,.199**,.207**,.166**,.294**,.000, .273**,.194** respectively. it indicates a positive and significant relationship. It signifies that teachers showing expertise on collaborating and sharing digital data would be also better at lesson planning, organizing the teaching learning process and developing relevant Teaching Learning materials. They are equally good at knowledge of their specialized subject, show better interpersonal relationship with subject experts and other specialized personal through digital mode resulting in their updating of teaching competence. Having expertise in collaborating and sharing of digital data helps Prospective teachers in having the needed knowledge of utilizing proper, psychological based evaluations, and in utilizing such knowledge in communicating and working with parents, community and other agencies.

Taking into consideration the above discussion regarding the factors of Digital literacy and teaching competence, it can be concluded that positive significant relationship existed between the factor Knowledge of Digital Practices and the factors Planning Lesson (PL), Class room Management C.M , Knowledge of Subject K.S, Interpersonal Relationship I.R, Development of Teaching Learning Material D.T.L.M, Evaluation Process during Teaching-Learning E.P and Competencies related to Working with Parents, Community and other Agencies of teaching competence. Positive and significant relationship existed between the factor Expertise in using Digital Technology for Teaching Learning with Planning Lessons, Class room Management, Knowledge of Subject, Interpersonal Relationship, Development of Teaching Learning Material, Evaluation Process during Teaching-Learning and Competencies related to Working with Parents, Community and other Agencies of Teaching Competence. Positive and Significant relationship exists between Evaluating and Authorizing Online Information with all the factors of Teaching competence. Positive and significant relationship existed between the factor Managing and Communicating Digital Data of Digital literacy with all the factors of teaching. Positive and significant relationship existed between Collaborating and Sharing Digital Data for Teaching Learning with factors Planning Lessons, Class room Management, Knowledge of Subject, Interpersonal Relationship, Development of Teaching Learning Material, Evaluation Process during Teaching-Learning and Competencies related to Working with Parents, Community and other Agencies of Teaching Competence of teaching competence factors of Teaching Competence.

However positive but insignificant relationship existed bet the factor Knowledge of Digital practices and time management factor of Teaching competence. Positive but insignificant relationship existed bet the factor Expertise in using Digital Technology for Teaching Learning and time management factor of Teaching competence and between the factor Collaborating and Sharing Digital Data for Teaching Learning and factor Time management of Teaching competence.

Therefore, the Hypothesis Ha 1 which states that

Ha 1: There exists a significant relationship between Digital Literacy and Teaching Competence of Prospective Teachers (Factor wise) is partially accepted

The results discussed and analyzed in the above paragraphs, are in line with, **Dinesh Shaky (2018), Shailaja(2015), Ramkrishna (2017), Singh,Mohinder(2019), Singh,**
Dinesh Shaky (2018) found a significant correlation between General Teaching Competence and Computer awareness among Teacher Trainees. **The study undertaken by Shailaja (2015)** found a significant relationship between Utilization of e-Resources and Teaching Competency among the selected B.Ed. Trainees. The findings put forth by **Ramkrishna (2017)** reveal that teachers having higher levels of digital competence are more effective than those having low levels of digital competence. A significant and positive relationship was found between teaching competence and digital literacy in the study of **Singh, Mohinder (2019).** Prospective Teachers who were highly competent in their teaching were having high level of digital literacy...

Conclusion:
1) positive significant relationship existed between the factor Knowledge of Digital Practices and the factors Planning Lesson (PL), Class room Management C.M Knowledge of Subject K.S, Interpersonal Relationship I.R, Development of Teaching Learning Material D.T.L.M, Evaluation Process during Teaching-Learning E.P and Competencies related to Working with Parents, Community and other Agencies of teaching competence.
2) Positive and significant relationship existed between the factor Expertise in using Digital Technology for Teaching Learning with Planning Lessons, Class room Management, Knowledge of Subject, Interpersonal Relationship, Development of Teaching Learning Material, Evaluation Process during Teaching-Learning and Competencies related to Working with Parents, Community and other Agencies of Teaching Competence
3) Positive and Significant relationship exists between Evaluating and Authorizing Online Information with Planning Lessons, Class room Management, Knowledge of Subject, Interpersonal Relationship, Development of Teaching Learning Material, Time management, Evaluation Process during Teaching-Learning and Competencies related to Working with Parents, Community and other Agencies of Teaching Competence.
4) Positive and significant relationship existed between the factor Managing and Communicating Digital Data of Digital literacy with Planning Lessons, Class room Management, Knowledge of Subject, Interpersonal Relationship, Development of Teaching Learning Material, Time management, Evaluation Process during Teaching-

Learning and Competencies related to Working with Parents, Community and other Agencies of Teaching Competence.

5) Positive and significant relationship existed between Collaborating and Sharing Digital Data for Teaching Learning with factors Planning Lessons, Class room Management, Knowledge of Subject, Interpersonal Relationship, Development of Teaching Learning Material, Evaluation Process during Teaching-Learning and Competencies related to Working with Parents, Community and other Agencies of Teaching Competence of teaching competence factors of Teaching Competence.

6) Positive but insignificant relationship existed bet the factor Knowledge of Digital practices and time management factor of Teaching competence.

7) Positive but insignificant relationship existed bet the factor Expertise in using Digital Technology for Teaching Learning and time management factor of Teaching competence.

8) Positive but insignificant relationship existed between the factor Collaborating and Sharing Digital Data for Teaching Learning and factor Time management of Teaching competence

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