Digital Awareness of Secondary School Teachers of Patna

[1]Ignatius Topno, [2]Sneha Sinha
[1]Professor, [2]Research Scholar
St. Xaviers College of Education

Abstract - **Digitalization has an impact on nearly every aspect of our lives from working to socializing, learning to playing. Digital technology is developing rapidly therefore in order to balance it the whole educational system is to be reformed. Through technology, teachers can also obtain real-time data and advice about how to help each of their students succeed, saving time and improving performance. The main reasons to digitize are to enhance access and improve preservation. Institutions can make information accessible that was previously only available to a select group of users by digitizing their collection,. Digitization can also help preserve materials making high-quality digital images available electronically and may reduce wear and tear on brittle and fragile documents. The objectives of the study was to find Awareness of Digitalization of Secondary School Teachers of Patna. Using Survey method 300 randomly selected secondary school teachers from Patna where taken. Self-constructed and validated tool on digital awareness of was used. Mean, S.D. and t-test were executed to analyze the data. The finding of the study revealed there is a significant difference between the mean scores of secondary school teachers in their digital awareness on the basis of gender and locality whereas there is no significance difference between the mean scores of secondary school teachers in their digital awareness on the basis of medium of instructions, type of institutions, professional qualifications, educational qualifications and years of experiences.**

keywords - **Digitalization, Awareness, Learning, Performance, Professional**

I. INTRODUCTION

Education is not all about studying and getting good marks. It is really a means to discover new things which we don't know about and increase our knowledge. An educated person has ability to differentiate between right and wrong or good and evil. It is the foremost responsibility of a society to educate its citizen. A person becomes perfect with education as he/she is not only gaining something from it, but also contribution to the growth of a nation. We must aim to ensure that each citizen of our nation is educated and independent. It opens various doors to the opportunities of achieving better prospects in life so promotes career growth. Education as we understand it here is a process of inviting truth and possibility, of encouraging and giving time to discovery.

Present education scenario is greatly influenced and highly driven by technology. The technical advancement in the field has transformed the learning system at its core. When technology was evolving in education, the innovations embraced its evolution. Innovation add value in the case of education First of all, educational innovations can improve learning outcomes and the quality of education provision. Changes in the educational system or in teaching methods can help customise the educational process. New trends in personalised learning rely heavily on new ways of organising schools and the use of digital media. The challenge of closing the ever-widening gap between the haves and have-nots may rest with the willingness of the education community to view education from a new perspective and to innovate. This may include making use of affordable and accessible technologies to expand access to education.

Technology has changed just about every field, including education. Digital learning is reshaping education in unprecedented ways. The ways in which students learn are changing rapidly thanks to technology, and both students and teachers will benefit from it.

The digital era has changed education including the role of the teacher and the student they teach. The need to develop and use creative approaches to educational practices and the inclusion of digital technologies is recognized as necessary in facing 21st century challenges the role of digitalization in education has evolved over the better part of the last twenty years. Digitalization has highly influenced crucial aspects of society including growth, sustainability, welfare, equality, safety, economy and democracy.

Thus Digitalization is the integration of digital technologies into everyday life by the digitization of everything that can be digitized. The literal meaning of digitalization gives an apparent idea of development and technology dependent world.

It constitutes a strong and powerful influencing force on how education is to be carried out what is expected of future generation. The adoption and use of digital technology has clearly stated that school children and teacher should have access to modern learning to at that are required for contemporary education. Digitalization help us learn better, more efficiently and creatively to innovate, to solve complex problem and access wider and more up to date knowledge.

Schools can allow teachers and learners the freedom to explore potential new uses of devices and systems as well as combinations of technologies into novel digital environments. Teachers can make the best use of technology in the classroom by developing their awareness of a range of digital technologies and considering carefully both how and why they can be used to support students' learning. Employing digital technology to transform the teaching profession in ways that benefit students holds

enormous promise. That promise will likely go unrealized, however, without significant changes in public policies and management systems, in the allocation of funds, in the technology infrastructure, and, perhaps most importantly, in the level of will and demand for better student outcomes. Through technology, they can also obtain real-time data and advice about how to help each of their students succeed, saving time and improving performance. Digital learning makes it easier to personalize instruction.

Teacher effectiveness has always experimented with the art of teaching. Teaching has evolved over centuries by adopting new approaches, methods, tools, and technologies to reach a wider audience. As technologies advance, educators should carefully use, evaluate, and adopt the changes to utilize the technologies and track their impacts.

Teachers are the greatest asset of any educational system. They stand in the interface of transmission of knowledge, skills, and values. Its focus is on the acquisition of knowledge, self-learning and transferable skills in communication, entrepreneurship, management and technology that are the characteristics of the learning society of today. Today's age of 21st Century and it is also the age of information and technology (IT). The scenario of the classroom is changing and in this context. Digitalization is being considered as the backbone of the education system in the modern days. Awareness of digitalization and use of technology skill in teaching and learning have become vital for today's teacher educator. Teachers must know the use of digital technology in their subject areas to help the learner for learning more effectively. In order to integrate it in schools, the first need is to study and assess the teacher's attitude who are going to teach the students. Teacher must aware about the use of digital technology in the education to help learners for learning more effectively. So awareness of digitalization is very much essential for the both prospective teachers as well as in-service teachers also. This will help teachers to know integrated technology with classroom teaching.

Application of digitalization in education has precedence of development of educational technology. As the present-day digital technology have all the strength of erstwhile education technology and even other fields of educational technology has called themselves as digital education. In this sense digitalization includes both traditional as well as the modern educational technology.

Disintegration of digital technology in the field of education has been due to the major reasons. The first one is the paradigmatic change in the way we started looking at the process of learning and consequently the teaching practices. The second one is the evolution of new technology which could meet the needs from the first change.

i. **The Paradigm Shift :** The major part of the 20th century was dominated by the behaviourism as a central theory which governs the principal practiced in educational practice. The result of the practices guided by behaviouristic principles lead to educational practices which could be broadly termed as "instructivism". In this form of practice teaching models predominantly believed in "information transfer". By the last decade of 20th century educational practices starting getting influenced highly buy a theoretical position namely "constructivism". Constructivist paradigm of educational practice believed in knowledge creation by the learner. Traditionally learning was hard, based on deficit model of student, and process of transfer, and reception was individualized and facilitated by division of content into small units and linear process, but introduction of technology has changed the traditional concept. Technology defines learning as neutral, social, active, linear or non-linear, integrative, and contextualized, based on ability and strength of students. Use digital technology in teaching-learning environment can bring a rapid change in society. It has a potential to transform the nature of education i.e., where and how learning takes place and role of learners and teacher in the process of teaching-learning. It is essential that teachers must have basic technology skills and competencies. It is for the teacher to determine how technology can best be used in the context of culture, needs and economic conditions. Good teaching is not simply adding technology to the existing teaching and content domain rather it should cause the representation of new concepts and requires developing sensitivity to the dynamic, transactional relationship between the three components of knowledge: Content, Technology and Pedagogy. During the last three decades, the changes in educational environment have been phenomenal. The model focus, role of the learner and technology has been changed drastically from traditional instruction to virtual learning environment. The pedagogical practices change from lecture mode to the interaction mode.

ii. **Convergence of technology and telecommunication:** Parallel development in the field of Technology lead to the convergence of Technology and telecommunications. We saw as mentioned earlier the way we got connected with each other. Social networking becomes a virtual reality. Interacting with people who are hundreds of thousands of kilometres away specially in real-time became a reality. The barriers of distance to communicate dissolved. There were new avenues to express oneself in the form of blog and micro blog. Digital Revolution with data processing very easy to handle. In other words, technology provided an idle platform for the learning in the new paradigm. The evolution of Technology resulted in increase in speed, reduction of size, less expensive and also more versatile. For example, the mainframe computers occupy the room but the modern computers as small as our palm. The speed of Computer has increased exponentially the earliest televisions where extra expensive but present ones are affordable. The earliest display boards were output devices but modern display boards are both, input as well as output devices.

II. DIGITAL AWARENESS

It is the knowledge, education, and consciousness as much as a user perceived to be sufficient to learn and use digital technology and realize its overall characteristics, strategic functionality, and competitive advantage.

Twenty years ago, the teacher was basically limited to providing class notes, showing a video, and using a limited variety of other tools to try and make learning fun and interesting. With this, they were expected to reach a variety of learning styles simultaneously without the proper tools to help them accomplish this task.

Today, a teacher role has changed to facilitator and supporter as students collaborate and use apps that suit their learning style. This enables the teacher to be more proactive about providing individual help when needed without having to worry about hindering other students in the classroom that are ahead in the learning process.

The growth of technology in the classroom represents a win-win situation for educational institutions. Teachers now have the tools they need to reach each student and students can choose the way they wish to consume lesson content. It will be interesting to see where technology takes education in the next two decades to come.

III. ROLE OF TEACHERS IN DIGITAL EDUCATION

The teacher has a responsibility to help promote learning preconditions such as working habits, attitudes, knowledge and motivation. Thinking through various teaching methods and assessing which possibilities they offer for learning is, in our opinion, not just important, but also challenging for the teacher. As technology advances, teachers must advance with it. This means professional development courses become particularly important. Digital technology makes it possible for teachers to learn quicker and better. It allows them to connect with other teachers, and it has the potential to boost the effectiveness of ordinary, average teachers. It has the ability to turn boring, non-innovative lessons into fun and engaging ones.

Veteran teachers must learn how to adjust to these new changes, both inside of the classroom as well as outside of the classroom. Inside of the classroom, teachers need to learn how integrate technology, such as using computer programs, iPods and Smart boards. Outside of the classroom, many teachers are learning how to navigate their way through the Internet by having classroom websites and e-mailing parents. Long gone are the days that paper notes are sent home, and the parent/teacher communication that is face-to-face. Today, teachers are receiving texts, e-mails, and instant messages from concerned parents. As the world adapts into this digital age, teachers must follow.

As a professional practitioner, the teacher is likely to become a role model or standard for his or her students. The teacher should also be a subject developer. Teachers role in the 21st century has become more complex in today's changing world were knowledge is almost unlimited. Teachers are expected to become technologically oriented & responsible not only for their teaching but also for their students learning. They have to cater for special needs of individual students in heterogenic classes & create student centred learning environment which strives for excellence & offers opportunity for enquiry & active learning.

Technology involving every day, therefore they must have the ability to grasp new things more quickly as compared to their students. In this web-based learning culture, technical skills & critical thinking is equally important for a tutor. So that they can think out of box.

IV. SIGNIFICANCE OF THE STUDY

The purpose of study is to study the level of digital awareness among secondary school teachers, because is digital technology which provides access to the information sources, enable communication, create interacting learning environment in classroom. In this era of digital technology, education is incomplete without the use of digital technology especially at secondary level and above. In these days too, there are many teachers who because of any reason are unaware of digital technology in education, so the researcher wants to investigate the level of digital awareness among secondary school teachers.

The use of digital technology is very important in helping teachers to learn and achieve good in their teaching pedagogical subject. It makes an understanding of what digitalization is and how it works and role and impact of digital technology in teaching – learning process in the class room. With the help of digital technology, students develop an insight and incorporate united thinking and analytical view towards any problem. Digitalization accelerates the effectiveness of teaching.

The significance of this study stems from its contribution of knowledge, particularly its generation of useful information to support future development in the use of digital technology in educational system. This study will provide educators with new understandings of, and insights into secondary school teachers' usage of digitalization in the classroom and their perceptions of it. The study provides educators and stake holders with new information relating to issues which need to be considered in addressing future educating policies. This will inform policy makers about the extent of their awareness of such utilization and their expectations of new policies, reforms or initiatives. It opens the way for research on the future of education.

V. STATEMENT OF THE PROBLEM

Awareness of Digitalization of Secondary School Teachers of Patna

VI. OPERATIONAL DEFINITIONS

Awareness - Knowledge or perception of a situation or fact.

Digitalization - The integration of digital technologies into everyday life by the digitization of everything that can be digitized.

Secondary School - A high school or a school of corresponding grade, ranking between a primary school and a college or university.

Teacher - Persons who teach, especially in a school.

VII. OBJECTIVES OF THE STUDY

i. To find the significant difference between the mean scores of awareness of digitalization between male and female secondary school teachers.
ii. To find the significant difference between the mean scores of awareness of digitalization of secondary school teachers on the basis of medium of instructions.
iii. To find the significant difference between the mean scores of awareness of digitalization of secondary school teachers on the basis of types institution.
iv. To find the significant difference between the mean scores of awareness of digitalization of secondary school teachers on the basis of locality.

VIII. TOOL USED

Self-constructed and validated tool on Awareness of Digitalization.

IX. METHOD USED

In order to carry out the research, the researcher has to employ certain method through which the collected data to reach the solution of the problem. The method employed depends upon the nature of the problem selected and the kind of data necessary for its solution. Since the problem of the study is concerned with the Awareness of Digitalization of Secondary School Teachers in Patna. Hence, survey method was employed.

X. POPULATION OF THE STUDY

The population of the study comprise all secondary school teachers of Patna

XI. SAMPLE

The researcher collected data from 300 teachers from secondary school in Patna. For the collection of data, the researcher used purposive sampling method. The data was collected from 10 schools.

XII. STATISTICAL TECHNIQUES

i. Mean
ii. Standard deviation
iii. 't' test

XIII. DELIMITATIONS OF THE STUDY

i. The study is taken up from Patna Educational District.
ii. The sample size is 300 teachers.
iii. The study has only one variables i.e. Awareness of Digitalisation .
iv. The population is secondary school teachers.

XIV. NULL HYPOTHESES

Null Hypotheses - 1

There is no significant difference between the mean scores of awareness of digitalization of secondary school teachers on the basis of gender.

Table - 1

Gender wise Awareness of Digitalization of Secondary School Teachers

Gender	N	Mean	Std. Deviation	t-value	p-value	Remark
Male	165	157.03	15.207	2.663	0.008	S
Female	135	152.58	13.368			

(At 1% level of significance, the table value of 't' is 2.58)

It is inferred from the above table that the calculated value of 't' is more than the critical value of 't' at 1% level of significance. Therefore, the null hypothesis is rejected. Hence, there is no significant difference between the mean scores of secondary school teachers in their Awareness of Digitalization on the basis of gender.

Null Hypotheses - 2

There is no significant difference between the mean scores of awareness of digitalization of secondary school teachers on the basis of medium instructions.

Table - 2

Medium of instruction wise Awareness of Digitalization of Secondary School Teachers

Medium	N	Mean	Std. Deviation	t-value	p-value	Remark
Hindi	108	153.25	13.747	1.590	0.113	NS
English	192	156.03	14.932			

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that the calculated value of 't' is less than the critical value of 't' at 5% level of significance. Therefore, the null hypothesis is accepted. Hence, there is no significant difference betweenthe mean scores of secondary school teachers in their Awareness of Digitalization on the basis of medium instruction.

Null Hypotheses - 3

There is no significant difference between the mean scores of awareness of digitalization of secondary school teachers on the basis of types of institutions.

Table - 3

Type of schools wise Awareness of Digitalization of Secondary School Teachers

Type of Schools	N	Mean	Std. Deviation	t-value	p-value	Remark
Govt.	96	156.98	12.546			
Private	204	154.11	15.354	1.598	0.111	NS

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that the calculated value of 't' is less than the critical value of 't' at 5% level of significance. Therefore, the null hypothesis is accepted. Hence, there is no significant difference between the mean scores of secondary school teachers in their Awareness of Digitalization on the basis of on the basis of types of institution.

Null Hypotheses -4

There is no significant difference between the mean scores of awareness of digitalization of secondary school teachers on the basis of locality.

Table - 4

Locality wise Awareness of Digitalization of Secondary School teachers

Locality	N	Mean	Std. Deviation	t-value	p-value	Remark
Rural	24	142.17	14.042	2.528	0.012	S
Urban	276	154.41	14.457			

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that the calculated value of 't' is more than the critical value of 't' at 5% level of significance. Therefore, the null hypothesis is rejected. Hence, there is a significant difference between the mean scores of secondary school teachers in their Awareness of Digitalization on the basis of on the basis of locality.

XV. CONCLUSION

The world of today is moving swiftly with digital technology. The use of technology has become a necessary evil. The digitalization of information, particularly the educational information with the help of technology can be called as the one of the revolutions in education. Technology can provide the access to information sources, enable communication, create interacting teaching learning environment and promote change in method of teaching.

Effective teaching is a communication process between teachers and students, which is perceived by the students as novel and valuable in helping them to develop and to be ready to face new challenges. In effective teaching process rote memory and blind imitation are not encouraged, whereas special emphasis is laid on independent thinking. It also benefits student engagement an improve student achievement, allowing and encouraging cross fertilization among ideas and subject areas which promote self-initiated learning. Effective teaching involves teachers' competencies, tea accountability, and commitment. So, the teachers and the learners regularly participate in activities and in innovative teaching learning methods. As a result, Awareness of Digitalization is helping in the enhancement of Teacher Effectiveness of secondary school teachers. The effective teaching process integrate digital technology in teaching which extends the boundary of teaching and making it innovative, interactive, flexible, innovative and more effective. It deliberately provides teachers with hands-on opportunities to generate new ideas, and enhance complementary skills such as fluency, flexibility, elaboration, and originality. That is way Awareness of Digitalization is needed to make the teacher effective.

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