USAGE OF TECHNOLOGY IN TEACHING AND LEARNING AT TEACHER EDUCATION INSTITUTES OF BIHAR

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Abstract

Technology has radically changed our world and way of life over time including our academia. Additionally, technology has produced incredible tools and resources that put helpful information about various areas of teaching and learning at our fingertips. A universe of opportunities for the improvement of the education sector are made possible by technology. It is intended to educate teachers as well as students. Technology makes it possible for teachers to receive regular training programmes in their own institutions through online learning. NEP 2020 also emphasizes on the usage of technology in the teaching learning process.

Introduction –

The main determinants of technology adoption in education are any system's goals, programmes, and curricula, as well as methods of instruction, learning resources, and materials, as well as communication, support, and delivery systems, as well as student mentors, staff members, and other subject-matter experts. Other important aspects include management and evaluation. Therefore, the introduction of technology will undoubtedly improve higher education by enabling students to pursue an education that is tailored to their specific needs. Through the use of technology tools, they can evaluate their own strengths and flaws. Additionally, they are able to maintain their pace and complete their learning goals. Through the use of technology, students can review difficult material in lessons. For the changes occurring in the educational field, new information from the application of technology is helpful in making the authentic information of any subject easily available. Along with this technology, it aids in tying isolated, inhospitable, and backward regions to the national network. helps keep knowledge current. Bhattacharjee, B., & Deb, K. (2016) also mentioned

in their study that ICT has enabled better and swifter communication; presentation of ideas more effective and relevant way. It is an effective tool for information acquiring-thus students are encouraged to look for information from multiple sources and they are now more informed then before. So, for this reason ICT is very much necessary for Teacher Education

Objective

To analyze the usage of technology in teaching learning at teacher education institutes at Bihar.

Research question

How technology is using in teaching learning at teacher education institutes at Bihar.

Methodology

For this study both primary and secondary data are used. Primary data is collected through self-made questionnaire by random sampling from the teacher educators of different teacher education institutes of Bihar whereas secondary data are gathered with the help of various articles, websites, journals etc.

Reviews of Related Literature

Odeke-Nato, J. (2021). Conducted a study on "Information and Communication Technology (ICT) in Teacher Education: Towards facilitating conducive learning environments for learners with visual impairment". In this study it is mentioned that successfully initiation and implementation of the teaching of ICT for educational purposes in educational programs depend strongly on teachers' support and attitudes. If the teachers' attitudes are positive toward the use of ICTs as pedagogical tools during teaching, then they can easily provide useful insight about its adoption and integration into teaching and learning processes (Guma et al., 2013). All stakeholders need to change their attitude to identify the significance of teaching prospective teachers the aspect of using ICTs as pedagogical tools towards facilitating conducive learning environments for learners with visual impairment.

Rana, K., & Rana, K. (2020). Conducted a study on "ICT Integration in Teaching and Learning Activities in Higher Education: A Case Study of Nepal's Teacher Education" in which researcher found that the university's Faculty of Education has already begun to integrate digital technology into instructional activities, despite the fact that no formal

strategic document about the integration of ICT or technology in teacher education could be identified. For example, the professors offered a 100-hour course. At its several campuses in various districts, it offers ICT training to both teaching and non-teaching employees. Financed the establishment of ICT labs on several campuses so that their teaching and administrative staff could be trained. For a variety of factors, this study found that implementing higher education policy in ICT is difficult. The challenges include developing ICT infrastructure in every department and classroom, a lack of government funding and a stable source of income for the university's ICT project, unskilled staff and insufficient ICT training for staff, particularly lecturers and professors, and an unreliable electricity supply. Although international initiatives (SHEP and NORHED) have contributed to some degree to alleviating these challenges, the observation revealed that the infrastructure, including classrooms and furniture, was not adequately controlled with technology.

Rodrigues, A. L. (2020). Conducted research on "Digital technologies integration in teacher education: the active teacher training model". In this study, teachers could see that using digital technology is effective, that it increases their flexibility of action, and that it allows them to check on students' development both within and outside the classroom. Teachers' usage of it is influenced by their students' motivation. This could be a deciding element in how digital technology is integrated in the future. Teachers were found to have effectively understood the potential of incorporating technologies into the teaching-learning process through experimentation. Thus, In the last few years, their autonomy has grown. They will be able to verify the benefits and profits associated with the utilization of DT as educational techniques in a variety of ways. The concept, production, and implementation of the Active Teacher training model for the integration of digital technology into education were examined in this study. This demonstrated the ability of teachers developing unique teaching approaches and practices.

Usharani, C., & Nachimuthu, K. (2020). Conducted a study on "The Role of ICT in Teacher Education" The outcomes of this study show that pre-service technology education is slow to develop and lags behind advancements in the industry. Learning and applying ICT takes time, so having only one semester of ICT literacy is not recommended. Based on the findings of previous research in the same context and the findings of this study, it is

recommended that the ICT literacy course be offered in two semesters and two levels. The training would focus on ICT skills, with a follow-up course and ICT pedagogical subject knowledge training is covered. Technologies of information and communication (ICTs) have the potential to greatly improve the lives of underprivileged people.

Mohalik, R. et.al. (2018) conducted study on digital literacy among teacher trainees at secondary level. The main objective of the study is to examine the process of using digital devices and applications for teaching learning by teacher trainees. Survey method was adopted by using self-developed questionnaire with sample 170 trainees selected purposefully. The study found that 88.8% of trainees have smart phone, 57.4% of trainees do not have internet connection but all training institutes have computer with internet connection. Majority of trainees are familiar with the uses of different digital devices but not familiar with its use for teaching and learning.

Luhamya, A., Bakkabulindi, F. E. K., & Muyinda, P. B. (2017). Conducted a study on "Integration of ICT in teaching and learning: a review of theories" in which they focused that when ICTs is used properly, they aid in increasing access to education by allowing for speedier information distribution and availability at any time and location (Aktaruzzaman et al., 2011). Given the importance of ICT integration in teaching and learning (IITL), one goal of study is to find elements that may be controlled to influence IITL positively. While various hypotheses can be considered for determining IITL variables, this work has analyzed six of them and identified gaps for future research. We hope that this evaluation will spur future research into IITL in particular, as well as the utilization of innovations in general. They also mentioned about TPACK framework where a teacher's ability to effectively integrate ICT into teaching and learning is dependent on three domains of knowledge (IITL). Content knowledge (CK), pedagogical knowledge (PK), and technology knowledge are the three domains (TK).

Usage of Technology in Teaching Learning-

i)   Preparation for Class- It is best to prepare for lessons so that teachers can make progress on the final task and they experience less stress. The task becomes less intimidating for teachers if they can visualize how they will accomplish their goals. In this context researcher found that in the teacher education institutes of Bihar teacher educators uses internet to collect materials for classes, create digital learning materials for classes while some of the teacher educators uses different online library for preparing classes.
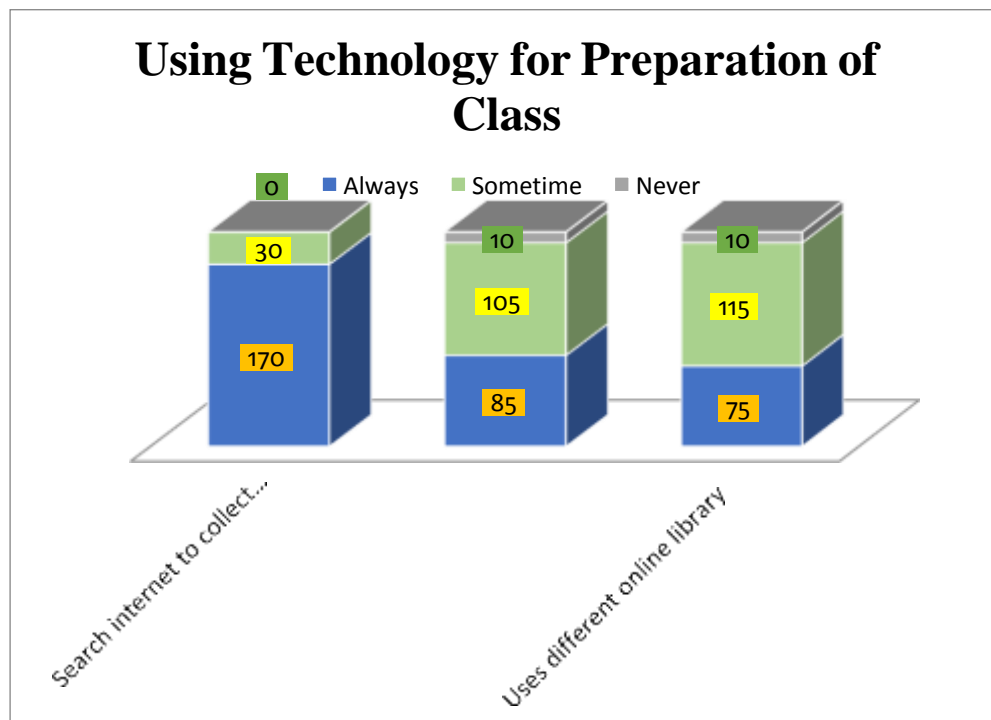
Fig.(i) - showing usage of technology for preparation of class

Instruction -The act of teaching and involving students in content is known as instruction. It concerns the way a teacher sets aside time and manages her classroom activities to carry out her lesson plan. Giving students precise instructions can help to ensure that they fully understand what is expected of them in the classroom. It will put students at ease, calm their anxieties, and help them understand our expectations so they may be successful and happy. Technology usage makes this instruction simpler and more interesting. In this regard it is found that in the teacher education institutes of Bihar, PPT are used by the teacher educators while other teacher educators are using the following for instructional part.

Uses video clips for teaching

Share online material with students

Use mobile applications (Edmodo/Google class) for teaching
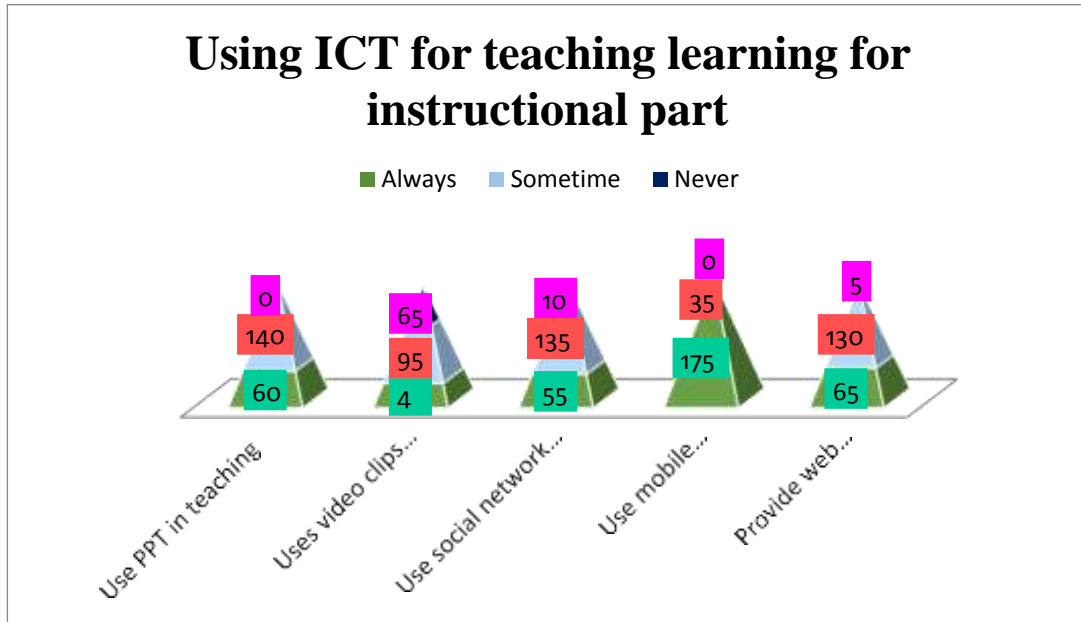
Provide web references to students

Fig.(ii) - showing usage of technology for instructional part

Feedback -Feedback gives evidence about current knowledge and skill growth for both the teacher educator and learner. The teacher educator can decide what the next steps should be in the learning programme by taking into account the learner's development and degree of achievement. The system of education must include feedback. Feedback aids each student's understanding of the material being studied and provides them with clear instructions on how to enhance their learning process. Student confidence, self-awareness, and excitement for understanding what is being taught can all be improved through feedback. It is found by the researcher that teacher educators from the teacher education institutes of Bihar uses ICT for feedback and in this connection, they provide and receive online assignments.
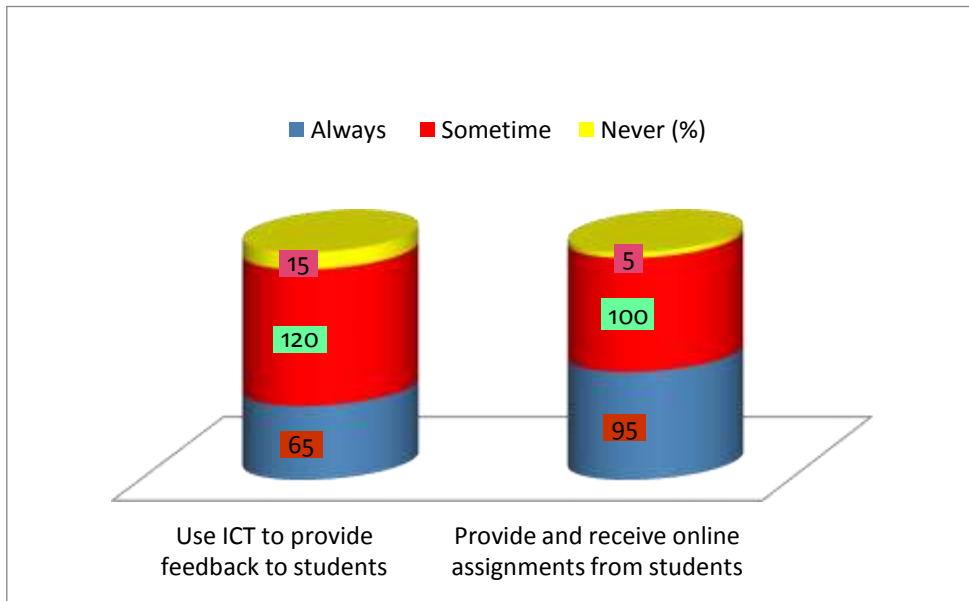
Fig.(iii) - showing usage of technology for feedback

Communication - Since communication is at the heart of teaching, developing strong soft skills is essential for knowledge transfer. Being a good educator requires excellent communication skills. In addition to providing information, communication also promotes effort, alters attitudes, and stimulates thought. In the absence of it, prejudices emerge, communications are twisted, and learning is inhibited. The communication abilities and knowledge of teachers are extremely important for a student's educational and behavioral growth. Researcher found that teacher educators mostly use ICT for communication. they use to share online material with students. Teacher educators use group email and what's app for academic purpose.
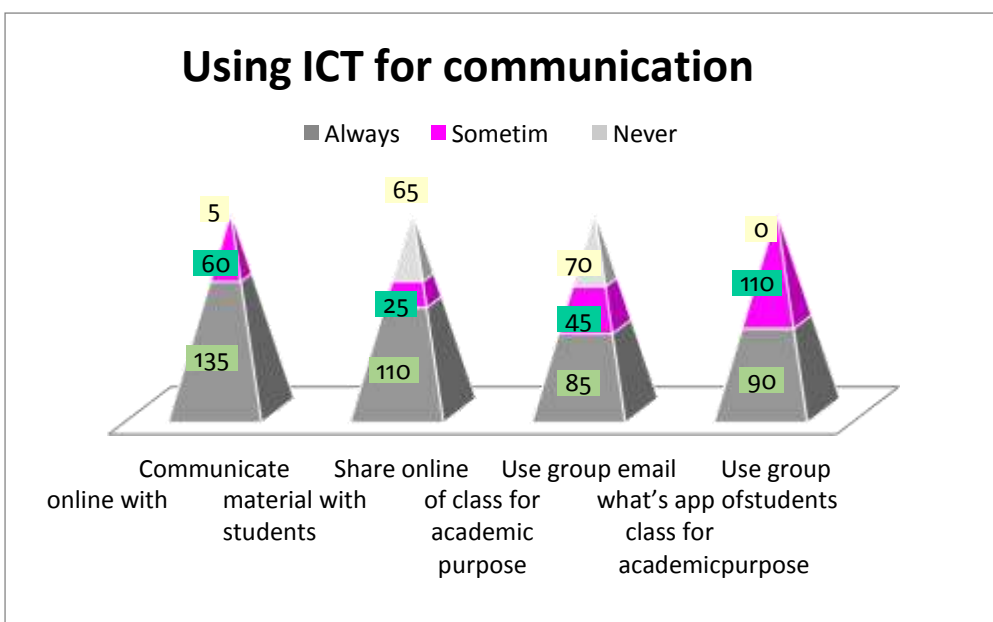

Fig.(iv) - showing usage of technology for communication part

Updating Knowledge / Professional development- Instead of understanding teacher development as an outside force imposing change on teachers, one might perceive it as teachers learning. The educators were growing in their knowledge, refining their classroom techniques, and attending to their sentiments related to change. Teachers are helped in molding their students' lifelong learning through effective professional development. Prospects for professional development for teachers are carefully considered, geared on enhancing student results and promoting a growth mentality. Researcher found that teacher educators from the teacher education institutes of Bihar. Most of the times attends online seminar and workshop for professional development and on the other hand sometime they study online regarding their specialization.
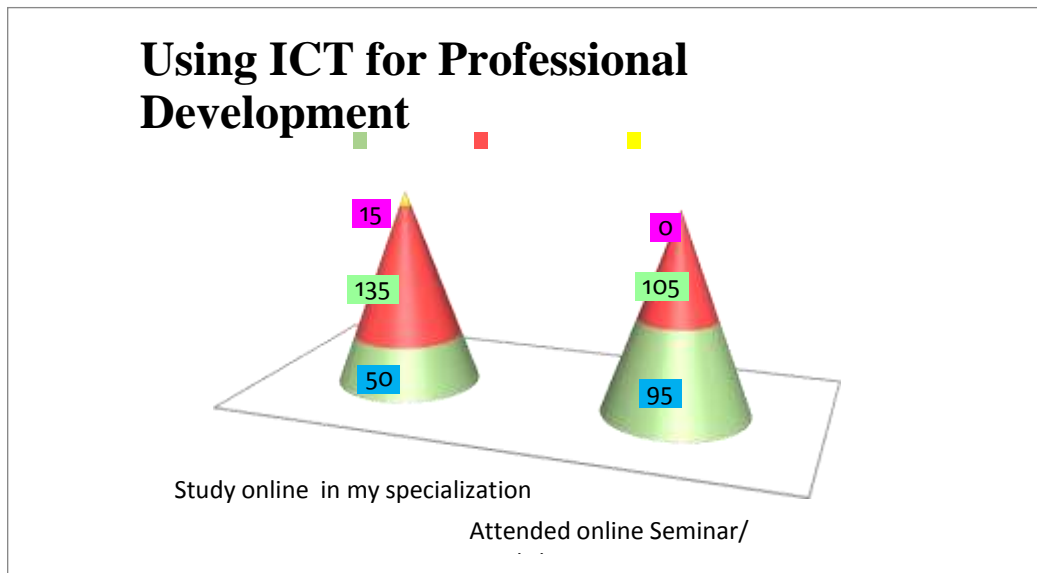

Using ICT for Professional Development

15
135
50

0
105
95

Study online in my specialization

Attended online Seminar/

Fig.(v) - showing usage of technology for professional development

Conclusion - Human connections and relationships are at the core of education. While there can never be a substitute for the magic that happens when outstanding teachers and students interact in person, we should concentrate on the social components of technology to improve relationships when people are separated by distance. Much greater focus must be placed on how technology can improve instruction and learning in a blended learning environment that reaches students at home and in the classroom.

References

Odeke-Nato, J. (2021). Information and Communication Technology (ICT) in Teacher Education: Towards facilitating conducive learning environments for learners with visual impairment.

Rana, K., & Rana, K. (2020). ICT Integration in Teaching and Learning Activities in Higher Education: A Case Study of Nepal's Teacher Education. Malaysian Online Journal of Educational Technology, 8(1), 36-47.

Rodrigues, A. L. (2020). Digital technologies integration in teacher education: the active teacher training model. Journal of e-learning and knowledge society, 16(3), 24-33.

Usharani, C., & Nachimuthu, K. THE ROLE OF ICT IN TEACHER EDUCATION.

Mohalik, R., Agarwal, P. C., & Sethy, P. D. R. (2018). DIGITAL LITERACY AMONG TEACHER TRAINEES AT SECONDARY LEVEL.

Luhamya, A., Bakkabulindi, F. E. K., & Muyinda, P. B. (2017). Integration of ICT in teaching and learning: a review of theories. Makerere Journal of Higher Education, 9(1), 21-36.

Bhattacharjee, B., & Deb, K. (2016). Role of ICT in 21st century's teacher education. International Journal of Education and Information Studies, 6(1), 1-6.