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Significance of Digital education for stakeholder approach in context of new education policy

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Abstract: *Information and communication technology (ICT), in particular, has gained attention from academics, learners, and politicians as a result of the CORONA epidemic. In light of this, it would be important to critically evaluate the ET adaptation requirements in the Indian National Education Policy (NEP) 2020 to improve its clarity and provide a roadmap for our education in the next generation. Three fundamental elements of NEP 2020—pedagogical, organizational, and human—have been encoded in this reasonable analysis. The relevance of these elements has been documented in the literature, and their compatibility with the strategy has been assessed. According to the research, this statement of vision is effective in articulating a broad philosophy of implementing innovations with few restrictions. All three issues have been taken into consideration, and the proposal's forward-thinking attitude, with its increased focus on the disintermediation and digitization of content, is nevertheless an amazing achievement in the traditionally conservative educational system. A few issues have been brought up about the execution of this strategy, particularly in relation to organisational independence and self-reliance. Worries about difficulties related to human aspects such as instructor skill development, cooperation, group mentality development, and effectiveness have also emerged. From the standpoint of the consultation process, restructuring, and restoration of any nation, particularly emerging ones, this study is well-intentioned. By creating Working School Governing Bodies and putting the 3-E Model into practise, the researchers' proposals for administration quality in a time-bound approach hope to pave the way for ET incorporation at the primary level.*

Key Words: *Epidemic, Indian National Education Policy (NEP) 2020, Pedagogical, Disintermediation, Disintermediation & 3-E Model.*

1. INTRODUCTION:

Advocated for the need to use technology in educational settings since the dawn of time, humanity has relied on technology to make life easier, and its goal has been to continually complicate innovation. Modern intelligent computing has benefited humankind in every area, including schooling. The term "ephemeralization," first used by R. Buckminster Fuller in 1938, is at its peak now as we approach the computational turning points. Doing anything and everything with nothing is a way of thinking that has been rewiring our brains. The developmental agenda will undergo a radical shift in which technologies will play a more significant role than they do now.

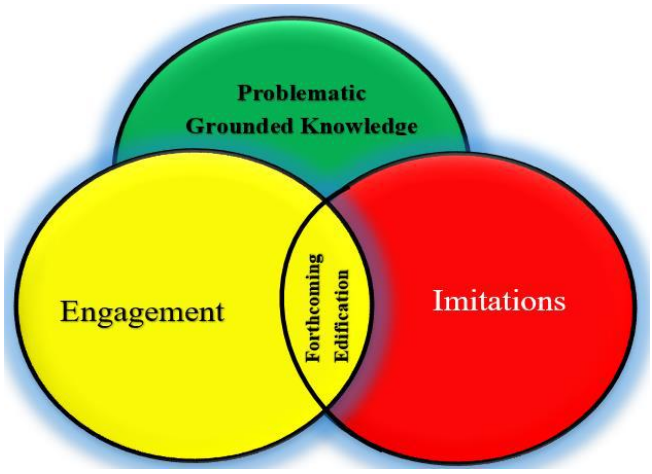

Figure 1: Logic diagram seizing imminent edification**.**

The underlying concepts of learning abilities as seen in the Venn diagram will include concern-based learning, which is the capacity of students to address genuine problems; absorption, which is ultimate decision formation; and modelling, which is a secure setting for conflict resolution (Fig. 1). Innovation will play an important role in all three aspects by shifting academic achievement from a purely learning process to the use of organisational moments in problem-solving and attempting to manipulate cleverer accommodations for information sharing. Examples of this innovation include machine learning, deep learning, and artificial intelligence, which imitate human minds. ICTs are very prevalent worldwide. Several studies have argued in favour of the use of technology in education, claiming that it will help students study independently, communicate with one another, constantly improve their knowledge, and expand their imaginations (Bransford et al., 1999). [2]. At this point, the surge in information and communication technology (ICT) with artificial intelligence (AI) has almost taken over the whole field of technology in education. Unquestionably, the CORONA pandemic has led to ICT's unchallenged dominion over digital learning. However, using information and integrating it are two distinct activities. Integration is a far more nuanced phenomenon, involving a variety of tools, approaches, skills, cultural considerations, and other sources. The majority of instructors are aware of the advantages of ET but are unable to use them in their lesson plans. In the article "Activity Science" by Argyris et al. (1985), where they distinguished between "Extensive Selection Theory" and "Hypothesis," they said that "Espoused Theories" are those that a person professes to adhere to, while "Theories-in-Use" are those that may be deduced from actual action. Whenever it comes to putting these concepts into practice, however, the teacher introduces the contrary path: exterior training, teacher-centered pedagogical and material approaches. Teachers are a crucial component of any education reform and are frequently found to have advocated for or believed in the possibility of digital learning inspired by social constructivist, pupil, consequence strategy, and deep learning. To better highlight the advantages of ET, Phillips (2005) [3] created a pictorial representation of the conceptual attributes that are advocated for ET (Fig. 2).

2. DIGITAL ACCEPTANCE IS A COMPLETE DETERMINATION:

The aforementioned picture (Fig. 1) makes it clear that ET has been used as a support mechanism for training instead of as a causative factor of education. Although technologies, the environment, people, and other things all do not have an impact on learning, people nor robots can ever provide training entirely. Teaching is an interior, conceptual model. According to Kundu (2021), there is a discrepancy here between the ET/ICT concepts that have been promoted and the concepts that are really being used, or the practical data showing how learning occurs when ET integration is utilised in classrooms and how instructors and organisations see education. ICT technologies are now more readily available in classrooms, but Aldunate and Nussbaum (2013) correctly noted that there is evidence that instructors are not using these resources as intended. Before moving on to the literature review, there are a number of other factors that need to be discussed that influence the adoption of educational technology in addition to this perceptual or cognitive discrepancy. According to Ertmer (1999), these variables are generally similar across national boundaries. The Venn diagram in Fig. 3 depicts the three primary elements that McNaught et al. (2000) [4] identified as affecting the acceptance of ET and ICT in particular.

This figure demonstrates that just enacting policies is insufficient to promote the use and incorporation of technology. The importance of the two additional components, the environment and assistance, is equivalent. When these three components harmoniously play their separate parts, an efficient acceptance cadence results. The lengthy strategic planning procedure typically has 4 stages, including development policies, programmes, and projects; assessment of cumulative responses; and appropriate policy adjustments.

A variety of institutional frameworks, such as ICT tools, networks, power, laboratories, etc., as well as managerial encouragement, are all part of the support element. The ideal automation occurs, as shown in the middle of the figure, when all three of these elements work in harmony (Fig. 3). The inference is that a strategy alone won't be effective unless and until the other two components complement it. Transmission networks are often seen piled in laboratories or storage rooms unutilized since, as was previously noted, technology usage and its proper integration are two distinct things (Kundu, 2021). The assessment of a technological tool that seamlessly fits into the predefined curriculum is thus a difficult undertaking since it must be acceptable and capable of enhancing learners' experiences without wearing them out or making them feel unimportant (Earle, 2002). In addition to calling for adjustments in social and institutional responsibilities, it also necessitates shifts in the instructor's position (Kundu, 2018) [5].

Figure 2: Part of ET's role in assisting knowledge undertakings

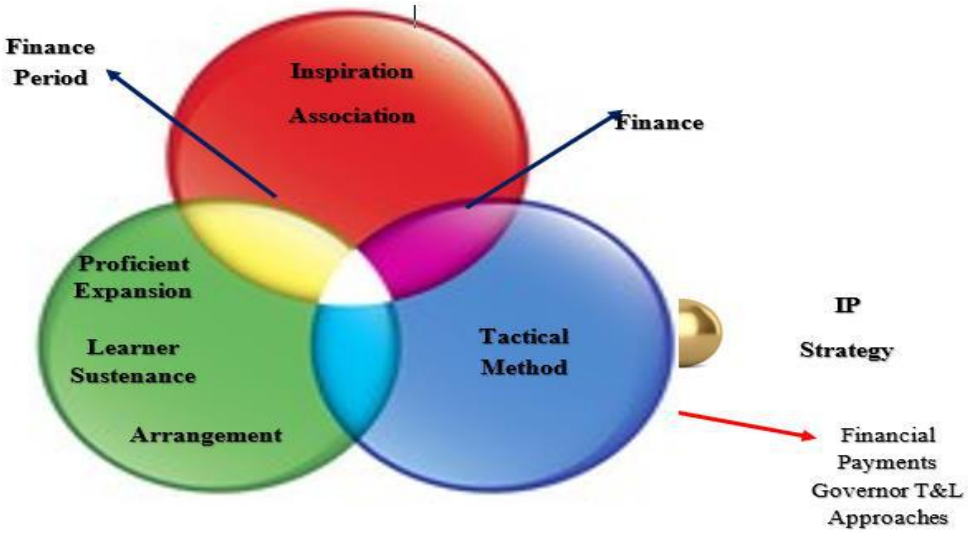

Figure 3: Vital Features after Expertise Acceptance

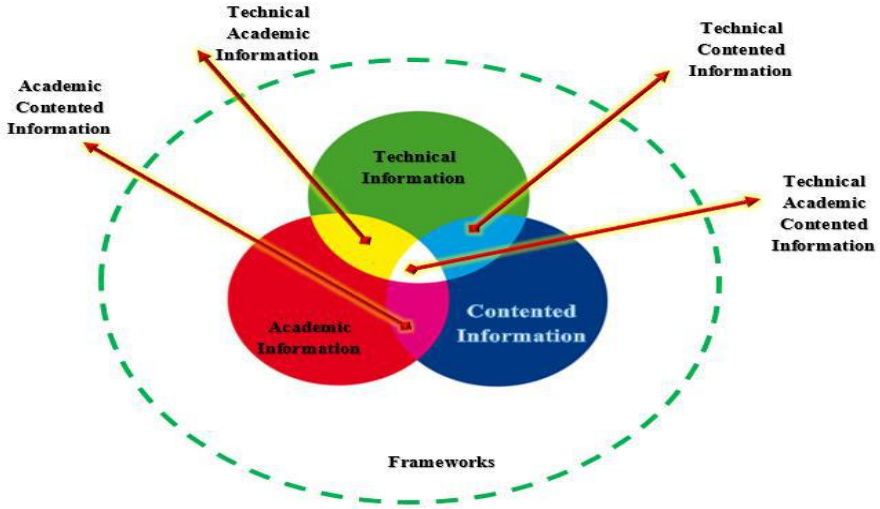

Figure 4: TPACK Structure

Furthermore, a brief overview of the TPACK platform provided by Koehler and Mishra (2008) might be useful to comprehend the kinds of abilities required of instructors for an effective implementation of technology into

the classroom. One of the most often used models, TPACK, effectively shows the many types of information that an instructor must possess in order to engage in successful pedagogy (Fig. 4). It will make it easier to determine if the education policy measures address the wide range of human abilities that educators require in order to successfully incorporate technologies. It discussed the three primary skill fields of technology, pedagogy, and material that are required for successful adoption of technology. When a good mix of these 3 cognitive domains occurs, a successful ET approach is implemented, as depicted in the middle of this Venn diagram. It contends that in order to provide students with a full academic opportunity, technical expertise must be complemented with pedagogical and content understanding. The TPACK paradigm is crucial for creating an environment in which instructors can openly discuss their experiences, including any mistakes they may have made while integrating technology into the classroom (Adams, 2019).

3. SOCIAL DETERMINANTS IN THE TECHNOLOGICAL ADOPTION:

Human activities are a crucial component of the adoption of technology. Teachers' views, attitudes, attitudes, intentions, mind-sets, effectiveness, and identity are important factors in the acceptance of ET (Guoyuan et al., 2010; Chigona, 2015; Kundu, 2020). The initial Technology Acceptance Model (TAM) (Fig. 5) created by Fred D. Davis (1989) and its later versions successfully illustrate this claim. Lacking appropriate synchronisation of various human elements, such as mind-set, intent, perceived utility, facilitating conditions of use, etc., this acquisition will not be successful or it may fail, as shown by TAM. The emotional dimension has been included in this study of the text as a key component.

4. AN OVERVIEW OF NEP 2020:

Our regime formally announced the much awaited National Education Policy (NEP) 2020 on July 29, 2020, under the stated motto "Educate, Encourage, Enlighten." This policy statement, which was released 34 years after its forerunner, the National Policy of Education in 1986, is noticeably different in a number of ways. It places a greater emphasis on the development of educators' 21st-century skills and rekindles involvement in research and innovations with the utmost goal of transforming our country into a learning society (Nandini, 2020) [6].

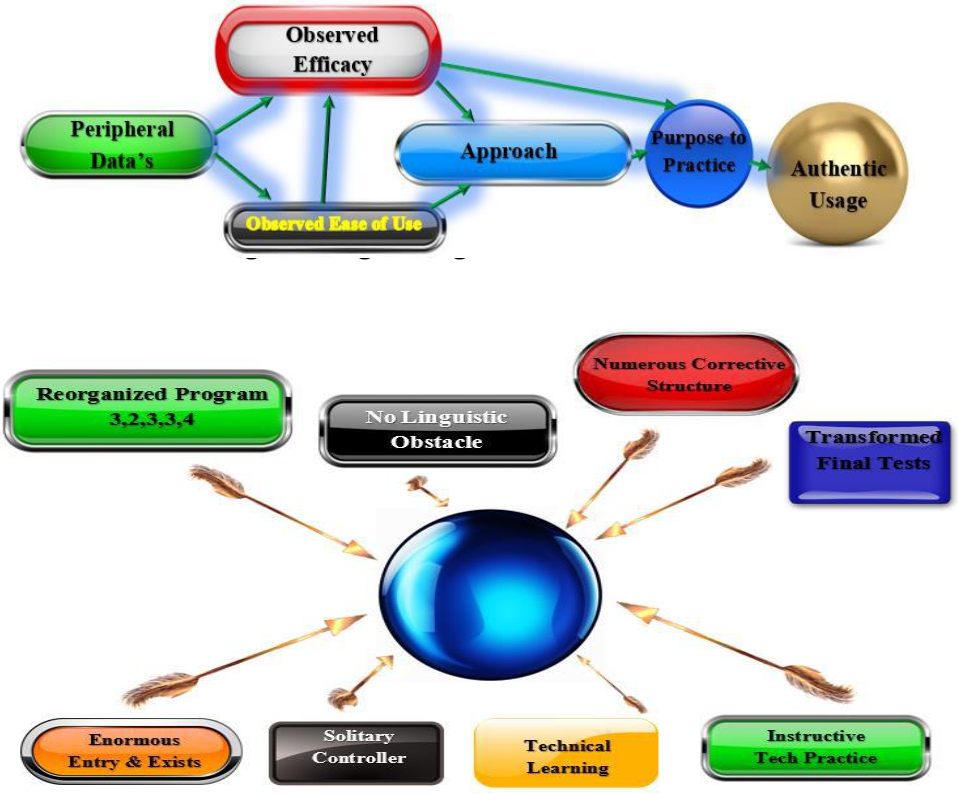

Figure 5: Knowledge Receiving Framework

Ifelong learning for everyone by 2030, "and it has contained the heritage of prior goals as well" (NEP, 2020). The NEP2020 policy paper has 68 pages in total. The significant enlightening changes from the former guidelines have emerged after reading the entire strategy paper, as shown in Fig. 6.

5. METHODOLOGY:

Research Objectives

Given the significance of the 3 components, organizational, and sentient acceptance and integration of ET, this research focused on these crucial elements to evaluate and establish their position in the NEP 2020. Following this goal, the following three questions were formulated:

What tools are available to create technology-enhanced teaching methods?* *(RQI)***

** What requirements are emphasised to increase organisational acceptance of ET?* ***(RQ2)***

*HR professionals' skills in what areas are suggested for upgrading hr professionals' skills? **(RQ3)**

Research Design:

This research, which covered Pages 56–60 of NEP 2020, was essentially theoretical qualitative research. The core definition of content analysis is the detection of specific elements within selected qualitative research. According to Hsieh and Shannon (2005), content analysis is a technique used to find particular words, topics, or ideas in a particular collection of qualitative data (i.e., the chosen text for analysis). Elo et al. (2014) [7] classified this methodology into two categories: critical framework and relationship research. Critical framework refers to the presence and occurrence of certain ideas in a document, while structural research goes one step further by looking at the connections between the modules introduced in a document.

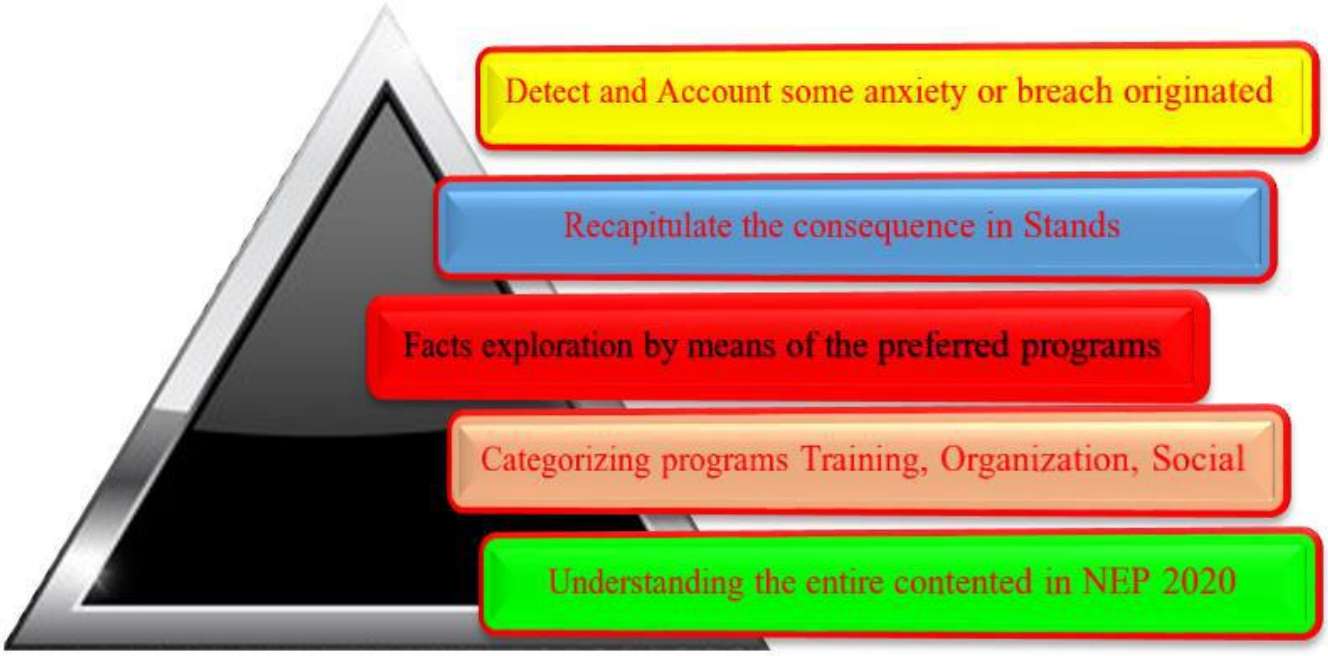

Figure 7: Stages trailed in contented exploration.

The study entails measuring and evaluating the idea's existence. Examining the frequency of chosen words in the dataset is the major goal. Conditions may either be express or implied. Specific words are simple to recognise. Programming indirect words is more difficult since you have to choose the amount of connotation and make subjective decisions (issue for reliability and validity). In order to code implicit words, either one or both of the situational framework that takes and a vocabulary are used. In this work, the selected material has been evaluated using the procedures shown in Fig. 7 above.

5. RESULTS:

Findings on Main provisions for ET adoption:

Following a thorough review of the education policy text, Fig. 8 presents the key ET acceptance requirements that have emerged. Improvements in opportunities for education for all, particularly for students with special needs

(SSN), improving efficiency in instructional management and administration, and other "technological advancements that are anticipated to transform how we live and, consequently, transform the way we educate children" are the certain regions that are selected for the use of ET (58). The suggestion to create the National Educational Technology Forum (NETF), an independent organisation to debate, plan, and oversee technology-led education at all levels, from elementary schools to universities, is yet another significant factor. If the participants have access to adequate digitalization, NEFT will produce e-courses in eight local languages at first (IE, 2020) and appropriate virtual laboratories to aid in the dissemination of e-learning across the whole nation. The development of digital infrastructure and the bolstering of already-existing equipment have received a lot of attention. The obligation to improve internet infrastructure for ET adoptive parents has been delegated to the Digital India Scheme, which was launched in 2015 with the goal of making this nation digitally savvy and capable. This includes the creation of online following methodology, simulated labs, digital repositories, online evaluation tools, and high-quality online downloads.

Thematic analysis of the Findings:

Figure 8: The most important requirements for ET acceptance in NEP 2020

The outcomes are shown in the figures in Fig. 9. The outcomes of the research outlined above should be put into practise using the three main functional characteristics that were chosen and developed from the material at hand Observations about the educational elements of the implementation of ET are mostly focused on DIKSHA & SWAYAM, who were charged with improving instructors' pedagogical skills, and NEFT, who invented emerging technology incorporation techniques and approaches. However, there are restrictions on the use of ET integrative pedagogy at the classroom level. Until it becomes experientially responsive, pedagogy is likely to be less successful. Therefore, some of the training courses have wider implications for enhancing the efficiency and effectiveness of instruction. The Digital India Scheme has been charged with the responsibility of providing universities with suitable

e-learning resources and electronic gear as part of organisational upgrading. Even though there was a severe scarcity of e-devices among millions of students during the CORONA epidemic, no firm guidelines for giving learners with smartphones or e-devices emerged in this area. The main focus now is on fortifying the social components.

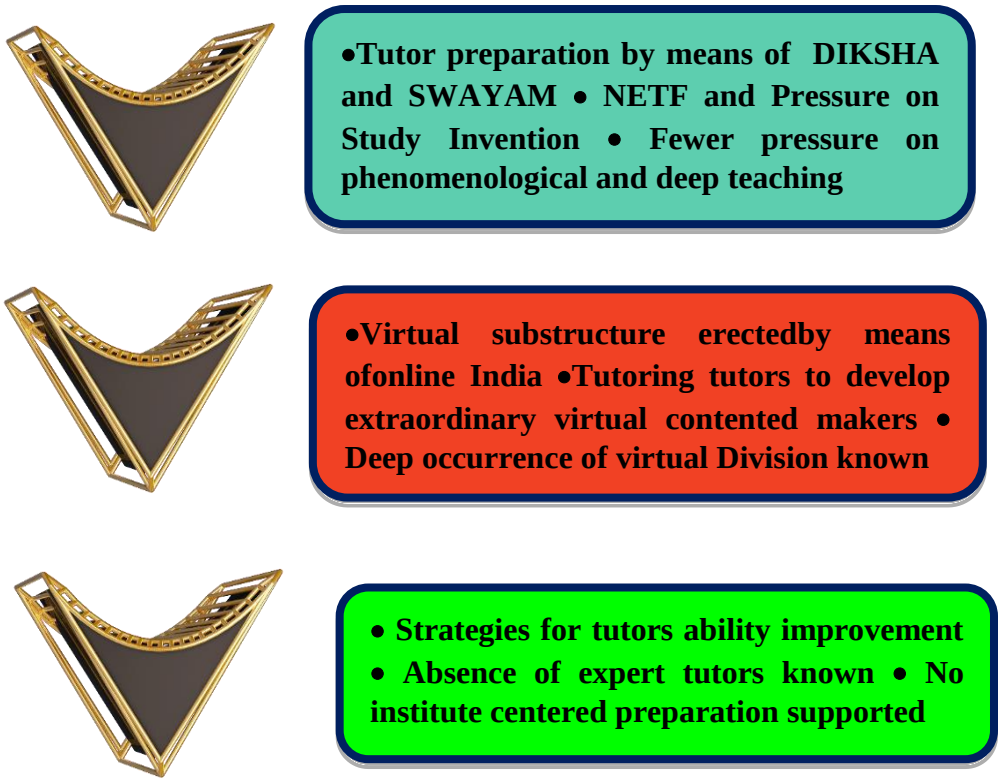

Figure 9: Thematic analysis of the ET adoption provisions

6. DISCUSSION:

RQ1 consultation It was discovered that various arrangements have been established to create innovative pedagogical methods, particularly via DIKSHA & SWAYAM e-portals. In response to the initial study question, "Which arrangements are available to build innovative teaching methods?" To offer "instructional e-contents prepared by all provinces in all local languages, as well as by the NCERT, CIET, CBSE, NIOS, and other bodies/institutions, and would be published in the DIKSHA portal," the DIKSHA site was created. With e-content, this platform may also be used for instructors' career development (p.57). Another significant move is the creation of the National Educational Technology Forum (NETF), which has been charged with the responsibility of conducting research, developing techno-pedagogy, and interacting with educators via internet forums. According to its mission statement, NETF "will provide a forum for the open exchange of thoughts on the use of information to better education, evaluation, management, governance, and other related processes for both secondary and higher education" (NEP. 2020). Additionally, it is said that NEFT will organise several local and regional conferences, seminars, and other events to gather feedback from both domestic and international educational technology academics, innovators, and operators. As shown by the knowledge that has been given in the TPACK framework, these actions to improve and equip instructors with proper pedagogy will undoubtedly be beneficial and successful. However, all of these ideas are only hypothetical and won't work without a solid execution strategy if the legislation is discovered to provide a little window of opportunity.

There aren't many opportunities left for school-based ET to be adopted, used, and spread. Additionally, no initiatives to create e-content at the primary level have been suggested since schools are better suited to designing education for their pupils, taking into account their requirements and abilities. According to Schoone (2020), [8] "where a fluid interaction between the material being taught and the personal experiences of learners was produced," this kind of social education might be more successful at fostering an innovation-based educational environment. RQ2 consultation The outcomes of the second study question, "What preparations are made to improve organisations for ET deployment?" showed that the policy statement acknowledges the widening development gaps and severe lack of e-equipment in institutions throughout the nation, which creates inequity in the accessibility to ET. Since "the

advantages of virtual classrooms can indeed be harnessed until the technological gap is overcome by coordinated initiatives like Virtual India and the availability of cheap computer equipment," the subject is given a lot of focus.

RQ3 consultation It demonstrated that, as the TAM suggested, social communication is a crucial aspect of ET acceptance. In order to further explore this idea, the third study inquiry, "What possibilities exist for developing skills in human resource management?" was developed. The results revealed that the policy paper concentrated on the training and retraining and capacity building of the workforce while accepting the shortage of trained labour in the implementation of ET. Such attempts don't seem to be enough to address the many expectations and psycho-social differences between instructors and pupils. In terms of their attitudes, consciousness, ideas, identity, and social temperaments, they differ. Even though people are multiple-body living things and not simply understood configurations. The full maturation of a person's capacity entails that person's ability being fully realised. Here, the issue of how effectively centralised programmes could set general human components in accordance with their uniqueness arises.

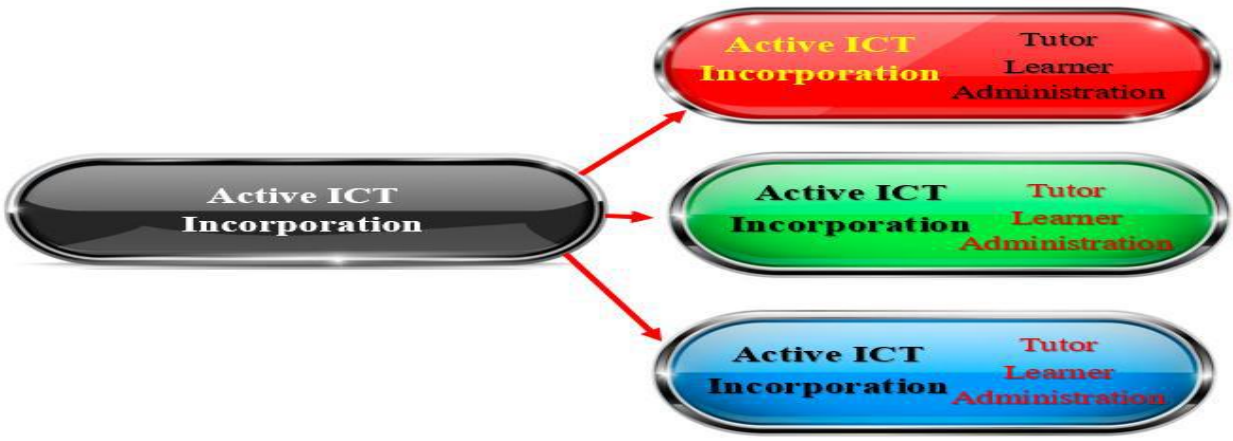

Figure 10: 3E Typical for ET incorporation in pedagogics

Because these human components are directly under the supervision of the relevant agencies, effective organisation design may contribute to increased effectiveness, productivity, and engagement. The 3E-Model (in Fig. 10) and the actions to be taken for its execution may be evaluated here under the general supervision of the Working School Governing Body. In this regard, institutional and legislative strategic plans might courteously address this problem pertaining to ET assimilation. In our setting, argues that just copying Western knowledge would not be effective; instead, local culture and ethics require greater consideration if a level of educational attainment is to be ensured.

6. CONCLUSION:

John Dewey is credited with saying, "If we educate today's modern pupils what we educated yesterday's students, we deprive them of the future." This commitment to continuous change is still relevant in the academic environment of today, regardless of regional borders. In response to this innovative idea, Prof. Mukhopadhyay, a well-known name in the development and administration of instructional technology, has championed this move, stating that instructors should engage in self-study prior to requesting pupils to do so. In the NEP 2020, this idea of ongoing pedagogical development has been accurately reflected. It has made a lot greater progress than its predecessor, the National Policy of Education (NPE) (1986), and has successfully moved beyond its early reluctant stance about the destructive impact of technology on learning. It has been correctly emphasised that protecting e-resources, digitization, designing digital capabilities, and trying to promote the position of ET in the enhancement of educational outcomes and processes is important in light of the 21st century skills demands of the tech-savvy creation and possibilities of ET. It considers the idea of power transfer, collaboration between various industrial players and academic facilities, as well as the participation of school management bodies. Through ongoing study and innovation, NETF is allowed to acquire and incorporate sector best practises for universities. A few worries surrounding the digital gap, organisational engagement, and re-skilling human aspects emerged throughout the process of this investigation, since the success of any programme relies on its methods and methods of execution.

According to a recent survey done in Jan 2021, online adoption in our country stood at 45.3%, 78.0% of the overall population utilisation of smart phones, and 4.6% of households have a desktop, but this statistical data cutbacks poor optimising the rural regions. The research concluded that the focus on reconciling the pervasive deep digital gap across the same enormous nation is not adequate and time-bound. Innovation in education requires internet

infrastructure, so it is essential to address the digital gap quickly and within a certain timespan. This was demonstrated by the CORONA-driven simulated educational intervention, which has made educational opportunities for the majority of our students practically impossible. The same is the case in the majority of developing nations around the world, with the negligible social and economic families feeling the effects most acutely. Any education policy's effectiveness depends on the development of a little more and support system, as has previously been covered in the research. Empowerment of institutions is required for both of these issues. Universities must be self-sufficient in terms of creating and delivering e-content and e-resources, including trained teachers. However, the data shows that this crucial feature of ET deployment has not received enough consideration.

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