International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Reimagining Curriculum Transaction Through Digital Pedagogy: Opportunities and Challenges

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Abstract

"Education must reconcile the teacher–student contradiction so that both are simultaneously teachers and students." — Paulo Freire

The advent of digital technology has significantly transformed educational practices. During the COVID-19 pandemic, the sudden transitions of online learning environment urged educators to reimaging the curriculum practices, making a paradigm shift from behaviorism to constructivism. This secondary data based systematic review paper tries to define different perspectives of Digital Pedagogy, its opportunities, and also the challenges. Digital pedagogy refers to the art and science of teaching with technology in the curriculum transactions to enhance engagement and learning outcomes. The findings will suggest that re-imagining curriculum transaction through digital pedagogy requires technological readiness, pedagogical innovation, and teacher competency. In the view of Freire's dialogic and transformative education, this paper argues that digital pedagogy can serve as a liberating force--empowering learners and educators alike to co-construct meaningful knowledge and reshape the curriculum to meet the evolving needs of learners in the digital age.

Keywords: Curriculum Transaction, Digital Pedagogy, and Transformative Education.

Introduction

Education and digital technology may have distinct trajectories, marked by their own priorities, methodologies, and dynamics (Loveless, 2011; Ornellas and Sancho, 2015), yet they are increasingly intersecting. This intersection is expanding the frontiers of education and educability through the power of digitization. In the 21st century, technology is intertwined into the fabric of our everyday existence; it drastically changes the human life, education has also embraced digital transformation. Digital technology has significantly transformed education, particularly in the wake of the COVID-19 pandemic, accelerating the shift towards online and blended learning. The advent and rapid growth of digital technologies has allowed for different entry points to education, and supports self-regulated learning (Mhlongo et al., 2023). It includes rhetorical questions about the nature and classification of 'digital' values and about what kinds of technological platforms, tools, and resources have value and continue to hold value in today's digital world. After the COVID 19 panacea the need of technology in the conventional classroom was arise to meet the evolving needs of learners and time. Over the past ten years, the K–12 educational system has been completely redesigned with the use of cutting-edge technology (Dutta S & Dr. Singh A). In the age of digital transformation, education is at a historic crossroads. The integration of digital technologies into education represents a significant evolution in the

pedagogical landscape, with the potential to enhance flexibility, accessibility, engagement, and personalization in learning. During the sudden shifting of technology into the classroom learning, the general philosophy of pedagogy was replaced by digital pedagogy. The term pedagogy was derived from two Greek words "paidos and agogos," which translate as "leader of child." (Holmes & Abington-Cooper, 2000). Paulo Freire the Brazilian philosopher and educator promoted the idea of critical pedagogy. In the late 19th century and early 20th century the concept of digital pedagogy was emerged through the lenses of distance learning. And gradually the philosophy of digital pedagogy emerged as a central roller coaster in the educational circumstances.

In the vast changes of digitalization in education, digital pedagogy is not merely a trend or an auxiliary tool but a necessity for better improving the teaching- learning engagement and outcome. In this article digital pedagogy or techno- pedagogy or digitalization of learning environment doesn't mean placing computers in the classroom. Instead there is a structured incorporation of ICT into every facet of learning sphere. Digital pedagogy is a branch of pedagogy that comprises the component of technologies in the field of education. It comprises multimedia resources, cloud computing, tools and technologies for redesigning the learning environment from banking concept to problem–posing education system. In general, digital pedagogy consist two term digital +pedagogy, which means incorporating and integrating technologies with the teaching method for presenting the content in an effective way. This can be anything from the simple use of PowerPoint in the classroom, to the Khan Academy's exhortation to "flip the classroom," and the growth of Massive Open Online Courses (MOOCs) such as Udemy, Coursera etc. offering free, accessible, and quality education to all (B. Prakash, 2014).

In the transformation of digitalization in educational practices, teachers must needed to effectively transact the content with excellent. For effective implementation of the content teachers need to adapt various technological tools and techniques that align with the content. **Curriculum Transaction:** In this digital era where artificial intelligence, virtual reality, augmented reality take place in human intelligence so that its need to revolutionized or restructuring the curriculum to meet the demand of the present times. Curriculum is nothing but the total experiences of the student that occur in the classroom or outside the classroom. It is pre- defined and well structured in prescribed format of the whole content that to be taught in the classroom to achieve a learning outcome. The word curriculum is derived from the Latin word "currere", which means "to run", or "a running course" (wiki.org). So in educational context it signifies a specific path of learning to reach a defined objective. When curriculum is the whole syllabus or the content to be taught in a specific time period, teachers need a effective teaching method (pedagogy) to present the content in such a way so that learner can participate effectively rather listening passively. In this situation aligning with the needs of learner, teachers can adapt techno-pedagogy to cater the diversification of learner's interest.

Curriculum transactions means the process of effective planning, preparing, organizing, implementing, assessing, and evaluating the curriculum content based on the pre defined objectives. If the content, and the pedagogy do not match than there is no effectiveness. That's why, it is most important to know about what to teach, how to teach, whom and why to teach. When teacher knows it then s/he will adapt various strategies to ensure its relevancy. For effective curriculum transactions teachers need to moving from knowledge giver to guide and facilitator where the pedagogy is not limited to the lecturer method rather included a wide array of technologies which facilitate flexible, engaging, and collaborative learning environment. To incorporating and integrating technology into pedagogy, teachers need to develop digital pedagogical skills. Digital pedagogical skill comprises six aspects

attitude, knowledge, ability, adapting to the situation, perseverance, and continuous development (Apelgren and Giertz (2010).Digital pedagogy will help to shifting the banking concept of education to co-construction and problem-posing education (Paulo Friere, 1970).

In short, it is important to integrate digital technology in education, but it is also important to know what and how. This is where pedagogy comes in, both as a discipline and as an attitude (Cristóbal S G et, al, 2024) in order to understand the role, the limits and the possibilities of digital technology in education. In this sense, this paper tried to give an overview of digital pedagogy, how curriculum would transact effectively through digital pedagogy, what will be the strategies need to restructuring the curriculum and challenges may occur regarding implementing the curriculum in this digital age.

Concept of Digital Pedagogy

It is crucial to grasping the essential of pedagogy to understanding the increasingly complex relationship between education and digital technology. But what is digital pedagogy? When we refer to digital pedagogy, we have in mind a wide array of concepts, is digital pedagogy only for online learning environment? Is it distinct from the general pedagogy? If so, what it is? What are the aims and objectives? Which domains are included? How it emerged? How it can be applied in the educational context. There are a lot of concepts happening in our mind. Like the confusion in our mind it is quiet difficult to find a proper definition regarding digital pedagogy. There are different perspectives on digital pedagogy. And sometimes it is interchangeably used in computer learning. But the common point is that

- Digital pedagogy is nothing but the use and application of digital components in the field of education for the purposes of teaching, learning, or educational management.
- It is the art and science of teaching with technology for effective delivery of the content.
- It is not only used in online learning environment but also integrated in offline, hybrid/blended learning sphere.
- It deals with the field of education or adding the component of technologies in the concrete teaching learning environment.
- It is not a science, it is a part of pedagogy, it is 'why and how phenomena' regarding the content delivery to cater the diverse needs of learners.

When we discuss the term digital pedagogy in this way there may question arise? In 2011, Paul Fyfe asked a question is there a digital pedagogy without computers? In any case, we cannot limit the understanding of digital pedagogy to the tools we use (Fyfe, 2011) or, we would add, the way we use digital tools today (Istrate O. 2022). In general, digital pedagogy has been defined and conceptualized in accordance with the open pedagogy or open education. Open education "successfully fits into the new paradigm defined by fluidity of roles, learner centeredness, distributed resources, virtual facilities, and asynchronous lessons"(Istrate O. 2022). Thus, digital pedagogy becomes “a method of empowerment” (Waddell & Clariza, 2018), by which learners are stimulated to take on the responsibility on their self paced learning.

Digital pedagogy is crucial as it actually bringing back pedagogy back on track, making a paradigm shift in a dynamic and relevant, in the present times (Istrate O. 2022). In the eve of global disruption, the emergence of technology needs to incorporate in the theoretical and practical progress of the field of education, to which it gives a particular meaning and legitimacy.

In the educational context, general pedagogy and digital pedagogy, an area where all theories, rules, principles, recourses are recrystallized taking into account the influences of new context, different possibilities for re-conceptualizing interaction between teacher(s)-students and the content of learning. According to Joint Information Systems Committee (JISC), digital pedagogy is "the study of how digital technologies can be optimally used in teaching and learning". "In simple terms, a digital pedagogy is the study of how to teach using digital technologies" (Howell, 2013). Digital pedagogy is redefining the pedagogical definition from behaviorism to constructivism. It revolutionized the educational practices and making a paradigm shift from teacher centered to learner centered and both simultaneously co-constructed knowledge. Digital pedagogy, the term emerged from the juxtaposition of technical skills, pedagogical practices and understanding of curriculum design approach, which are appropriate for learners. According to smart classrooms (2008), "Digital Pedagogy enhances opportunity for authentic, contextualized assessment that supports learning in a digital context. The Digital Pedagogy encompasses modern teaching and learning strategies. It features personalized approaches, intellectual rigour and engagement, globalized education, supportive environments and a clear alignment of curriculum, assessment and reporting to improve outcomes for students." Istrate (2022) positions digital pedagogy as "the cutting edge of pedagogical innovation" because it drives significant changes in educational practices rather than simply applying existing methods through digital media (p. 6). This innovation appears when "digital educational situations can no longer be transposed (back) into the analogue environment" without losing their essential pedagogical character (p. 7).

The general philosophy of pedagogy is transformed by the digital era is often indicated: "*if you're using the same pedagogy with a stick and sand as you are using with a high-speed computer network, you really don't understand teaching and learning*" (Downes, 2011).

Digital pedagogy brings a new perspective of what, how, why and whom to teach and learn , benefiting from more effective ways of re- defining, signifying, re- practicing and interpreting to adapt the new forms of learning path.

Digital pedagogy or techno-pedagogy consists of three areas of knowledge, i.e.: content, pedagogy, and technology (Badiger K. Prakash., Dutta S & Dr. Singh A, 2025, Dangwal L. K., and Srivastava S, 2016). Content (C) refers to a particular subject, what to be taught.

Technology (T) encompasses latest technologies such as computer, Internet, cloud computing, digital learning management system, Open educational resources, mobiles, digital video, e-books, and commonplace technologies including overhead projectors, blackboards, and books. Technology is the main path or medium to effectively delivering the less content but critical knowledge.

Pedagogy (P) describes the collected methods, practices, processes, strategies, procedures of teaching and learning or simply arts and science of teaching (Badiger K. Prakash). It denoted 'how' the content to be taught in an effective way. It also includes knowledge about the aims of instruction, assessment, and student learning (Khirwadkar 2007).

It is important to bearing in mind that teachers need to be understood the nature and scope of the content and the capacity of the learners and based on these h/she would integrate the techno-pedagogy for effective changes in the content delivery.

Dimensions of Digital Pedagogy

Digital pedagogy comprises three dimensions:

1. pedagogical orientation;

2. pedagogical practices; and
3. digital pedagogical competencies Udd (2010,. Law (2009), Tondeur et al.'s (2017)

1. **Pedagogical orientation:** it means the perceptions, belief or values of what the learning process should look like. How teacher uses technology as a medium or headache. Mainly it is the philosophy of the planning phase how the pedagogical activities begins.
2. **Pedagogical practices:** after the planning phases, pedagogical practices refer to the practical implementation of the method. It simply means what are the different methods teacher should used to cater the diverse learning need. It can be defined how curriculum is transacted.
3. **Digital pedagogical competencies:** Digital pedagogy does not imply only placing computer in the lassroom. It requires competencies like- ability, attitude, aptitude, confidence, and last but not the least technological knowledge for effectively design and implement the curriculum. These competencies are the core of the digital pedagogy.

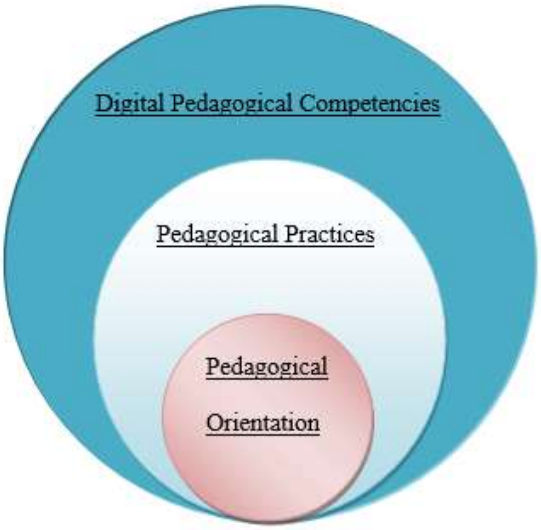

Figure: 1- Dimensions of Digital Pedagogy

Fundamental elements of Digital pedagogy

Digital pedagogy is about leveraging the digital technologies to maximize the effectiveness of teaching-learning process from one-way lecturer format to co-constructivist way. *International Accrediting Commission for Digital Education* evaluates 5 pillars for how institutions should design and deliver digital learning experiences. These 5 pillars play most important role to restructuring the curriculum.

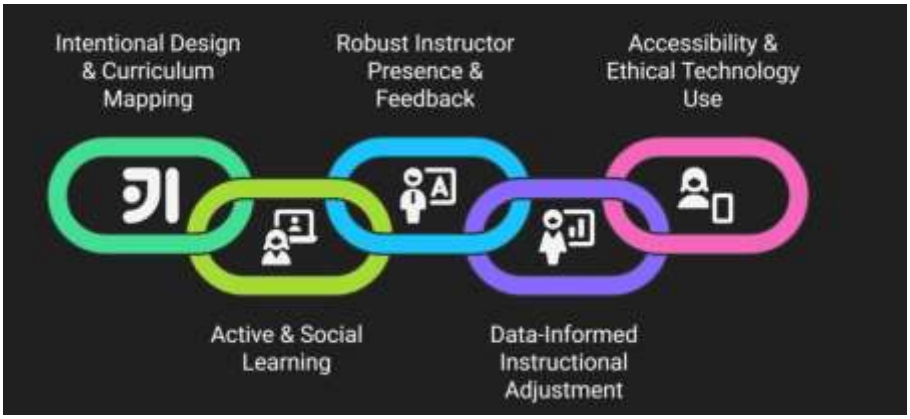

Figure 2: Five elements of Digital Pedagogy

Source: IACDE.org

Pillar1. Intentional design and Curriculum Alignment: to maximize the effectiveness of teaching-learning process, each element from a power-point slide or a single video to a major assignment- must be intentionally designed to achieve specific learning outcomes *(IACDE.org)*.

Pillar2. Active and Collaborative Learning: this pillar align with the philosophy of constructivist theory. Digital pedagogy emerged as that of concept learner should no longer passive listener; it emphasizes both teacher-student will be active and collaboratively construct meaningful knowledge. Passive consumption of content is the enemy of depth learning *(IACDE.org)*.

Pillar3. Instructor Presence and Meaningful Feedback: In a digital environment, "out of sight" cannot mean "out of mind" *(IACDE.org)*.The presence of instructor and meaningful feedback is the crucial factor to maintain the consistency in an educational environment and also reducing the dropout out rates *(IACDE.org)*.

Pillar4. Data- Informed Improvement and Responsiveness: The digital classroom is a rich source of data *(IACDE.org)*. Effective teachers use this data not for surveillance, but for insight (*IACDE.org)*.To meet the evolving needs of learners' teachers could refine their teaching methods in real time.

Pillar5. Accessibility and Ethical use of Technology: The core element of digital pedagogy is equity and accessibility. It should be accessible to all students, without discrimination. Due to arrival of modern technology, now a day's unethical practices may happen. So educators must aware of these practices.

These five pillars are interconnected framework and help to reshaping the curriculum transaction.

Theoretical Background

The foundation of digital pedagogy is laid by the constructivism theory (S. Dutta, 2025).Constructivism the word simply implies that creates or constructs knowledge through exploring the things rather it's accepted as it is. The concept of Constructivist learning theory has their historical roots in the work of Dewey (1929), Bruner (1961), Vygotsky (1962), and Piaget (1980). In education, the root of constructivism is epistemology, a theory of knowledge with the cognition of learning and its justification (Steffe, Leslie P. et al, 2012). Constructivism is an approach in learning process where teacher and student both simultaneously created knowledge instead of knowledge transmitting. This theory emphasizes that learning happens only through active participation, experiences, and reflecting those experiences. There is two notion of this theory in learning process (Phillips, 1995). The first is students construct new knowledge by using the previous knowledge (schema). The second notion is learning is active rather passive recipient (Phillips, 1995). Understanding new things through experiences help to develop consistency, logical reasoning and conceptual growth (Driscoll, 2000).

Constructivism is not a pedagogy but it philosophy embraced in learning process. This theory helps teachers to moving from solely knowledge transmitter to facilitator or guide. Using its philosophy teacher can create an effective learning environment, accepting that all students have different potentialities so that their learning ways is also different. And which helps teachers to adapt various strategies to making the changes of learning process. Here the concept of digital pedagogy aligns with this theory. Because digital pedagogy allows teachers to use different tools and technologies according to the content and need of learners, so that learning should no longer passive(Dr. Bada & Steve Olusegun, 2015). And this is the main concern of constructivist theory. It is noteworthy that to reforming the education system to meet the demand of 21st century the contribution of constructivism is enormous.

Theoretical Model

The approach of digital pedagogy comes out from the basic framework of TPCK model was developed by Punya Mishra & Matthew J. Koehler around 2006. Later it was changed to TPACK model, which became popular in early 2000s (wiki.org). It is an educational model consists of three types of knowledge (Koehler et,al.) which integrate technology into teaching.

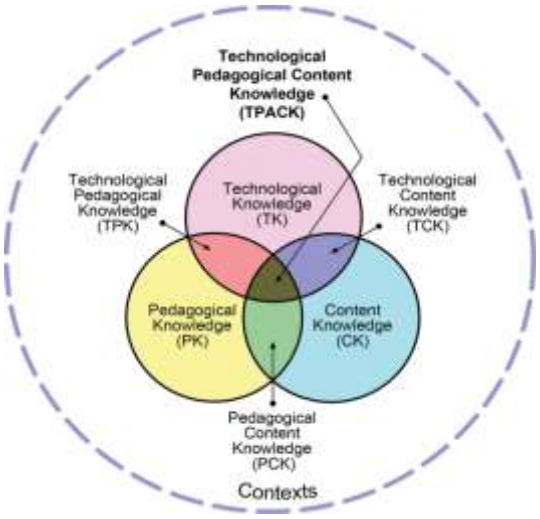

Figure 3: Visual representation of TPACK model
Source-Wikipedia.org

According to Mishra and Koehler, 2006 there are three main domains and also three sub-domains of this model.

Main domains are:

1. Technological Content Knowledge (TCK)
2. Pedagogical Content Knowledge (PCK)
3. Technological Pedagogical Knowledge (TPK)

Sub-domains are:

1. Technological knowledge (TK)
2. Pedagogical knowledge (PK)
3. Content knowledge (CK)

- Technological Knowledge (TK) means how teachers demonstrate professional knowledge of technology. It not only addresses knowledge about technology but also the skills needed to use for effective planning and implementing (Mishra, P., & Koehler, M. J. 2008). So, it simply means how technology can integrate into the content for effectiveness (Papert S. 1996) of the teaching- learning practices.
- Content Knowledge (CK) included the knowledge about a particular subject matter and how it is taught and learned (Koehler, M J., & Mishra, P, 2009).
- Pedagogical Knowledge (PK) refers to the specific knowledge about how to teach, what should be methods or practices to be used to cater and scaffolding diverse needs and interest of the learners (Koehler, M J., & Mishra, P, 2009). The effectiveness of teaching-learning process depends on the pedagogical knowledge.

Integrating these three types of knowledge and the domain into the teaching process helps to understand how to teach with technology to enhance students learning experiences, which is the major concern of

digital pedagogy. Integration of technology involves the understanding of the relationships among the three components. According to Mishra & Koheler (2005), "good teaching is not simply adding technology to the existing teaching and content domain; rather, the introduction of technology causes the representation of new concepts and requires developing sensitivity to the dynamic, transactional relationship between all three components suggested by the TPACK.

This framework emphasizes a sound technological pedagogical content knowledge so that teaching-learning should goes beyond traditional fixed knowledge sharing to modern thought provoking and problem-based content delivery.

SAMR model: Another model of digital pedagogy is SAMR model developed by Dr. Ruben Puentedura that comprises four levels of classroom technology integration (Dutta S & Dr. Singh A, 2025).

The letters "SAMR" stands for – S- Substitution, A- Augmentation, M- Modification, R-Redefinition. This model helps teachers to make the complex concept to easier with the integration of technology, which enhances personalized learning experiences. This framework became popular during the remote learning and online learning environment.

So these two models and the constructivist learning theory laid the foundation of digital pedagogy in the present digital education era.

Objectives of the Study

1. To define digital pedagogy from different perspective.
2. To study the role of digital pedagogy in curriculum transaction.
3. To study the challenges and opportunities of digital pedagogy in curriculum transaction.

Methodology

To achieve these objectives this paper tries to review the related literature in systematic way followed by PRISMA guideline (D. Moher, 2010). For achieving this aim, and bearing in mind that this paper review those literature which explicitly mentioned the term digital pedagogy. In order to identify the objectives, the researcher used various databases like Science Direct, Google scholar, Research ate and Scopus indexed journal. The researcher searched those terms which explicitly define the concept of education and technology in education. For this the researcher searched (Digital pedagogy, techno- pedagogy, online pedagogy, curriculum transaction through digital pedagogy), in Indian context. The researcher first searched in Science Direct, after searching aforementioned term, there is explicitly no paper in Indian context. After that, searching on Google scholar found a huge article regarding these terms, but in Indian context there is less. Also searching o research gate, found various paper but not related with the object of this paper. In this sense the researcher scrutinized the searching paper on Google scholar, selected only six paper for review in Indian context.

Exclusion/ Inclusion criteria: Exclusion and inclusion criteria were applied during the review phase due to the constraint of time. These are not only important for this study but also crucial to ensure reproducibility of the study (Gough et al., 2017). After filtering, 453 papers were excluded because they did not meet the criteria, e.g., they were international studies, conference papers, book chapter, published in other languages, or they only mentioned the 'digital pedagogy' in the keywords without further presence in the body of the paper. For the next steps only 25 papers left.

Exclusion Criteria	Concepts	Does not contain "digital pedagogy' as a core content
	Type of document	Books, book chapter, conferences
	Availability	Partial text, Abstract only
	Language	Other than English
	Indian/ International studies	International studies
Inclusion Criteria	Concepts	Contains 'Digital Pedagogy' as a core content
	Type of document	Paper in peer- reviewed journal
	ability	Open access to the full text only
	Type of study	Empirical or review paper
	Language	English
	Indian/ International studies	Only conducted in India

Table 1: Exclusion and Inclusion Criteria for this study

According to PRISMA guideline, the third phase is that Eligibility. In the previous phase, the eligibility was carried out with the 25 papers, but thorough in-depth analysis and following exclusion- inclusion criteria only six papers taken for this study. This study is based on those papers that did provide an explicit overview of digital pedagogy.

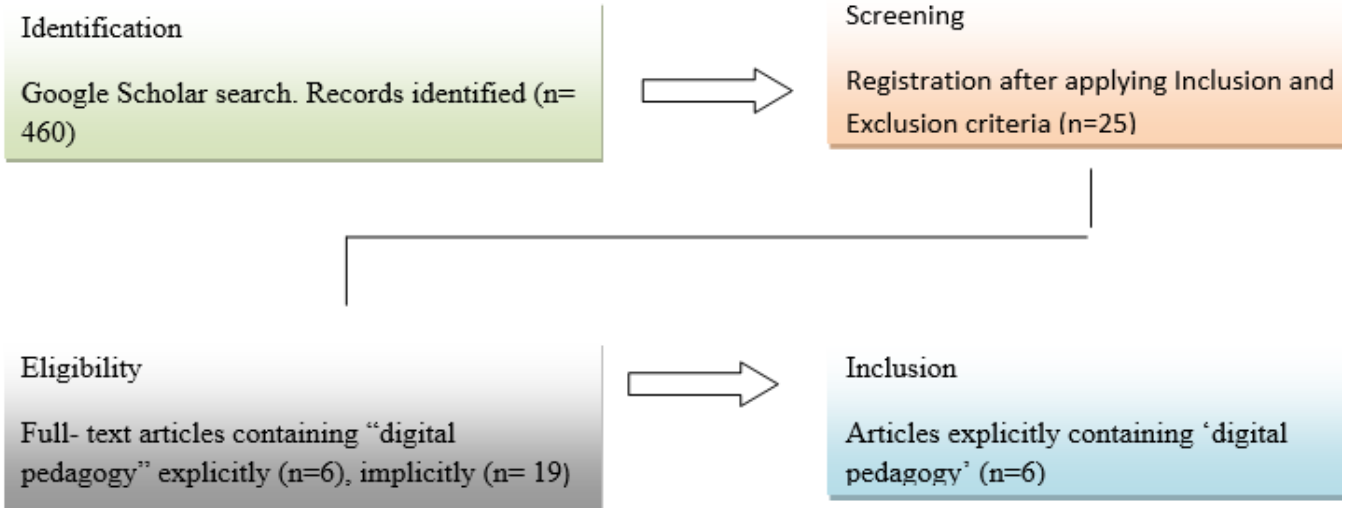

Figure 4: Flow chart of the final items according to PRISMA Model

Discussions

After the literature review it is seen that there is no a specific perspective of digital pedagogy and it critical to define. Regarding its definition and concept many authors seen it as from different perspective, e.g., it is an approach to TPACK model, it is integration of technology, it is distinct from general pedagogy, as teaching as technology, as a creative approach, as an integration in education, as a teaching competencies, as a redefine concept aligns with distance education.(Figure 5).

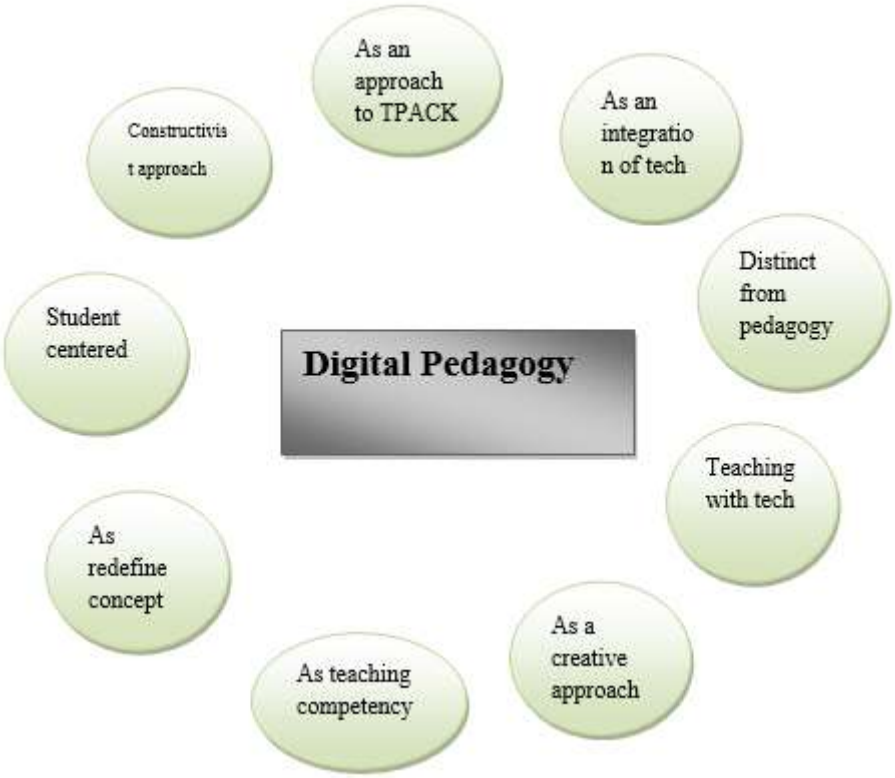

Figure 5: Different perspectives of Digital Pedagogy

to K.L. Dangwal & Shipra Srivastava (2016) "Digital Pedagogy is effective in supporting, enhancing, and personalized learning process and provides flexible learning environment based on constructivist approach through which learners dynamically construct their knowledge and apply learning in significant ways".

According to Badiger K. Prakash (2014)"Digital Pedagogy is about integration of technology in pedagogy, what to teach, how to teach, why it is matters, and how it should be effective and efficient for the societies".

According to Bed Prasad Dhakal (2023) "Digital pedagogy refers to the integration of digital media and technology into teaching and learning process to emphasize the role of technology in personalized learning. It is a creative approach which create a constructive learning environment to enhance students' engagement, thinking capacity, creativity, interactive and dynamic learning environment so that students learn in their own pace".

So through this discussion it is seen that digital pedagogy emerged as a catalyst to meet the need of 21st century, and it is complex to define in one line.

Role of Digital pedagogy in curriculum transactions

The integration of technology in education has fundamentally changed the teaching- learning process, how we teach and learn. To understand the role of digital pedagogy in curriculum transaction, we must know what both terms refer. Curriculum transaction refers to the effective implementation of specific content to achieve specific educational outcomes. Digital Pedagogy refers not merely use of the technologies in a classroom, it is the study and application of how, what, and why digital technologies (Dhakal, B. P. 2023). When digital pedagogy is effectively integrated, it shifts curriculum transaction from teacher centric, one- way approach to dynamic, interactive, and learner- centric process.

1. **Promoting Constructivist and Active learning**

The foundation of digital pedagogy is laid by the constructivism theory (S. Dutta, 2025). It moves curriculum transaction away from behaviorism to constructivist approach, from passive to active learning process. By effectively integrating digital media and technologies educators can create interactive environment where students engage deeply with the content rather than just listening it. According to Dhakal,B.P. 2023 for effective curriculum transaction digital tools are used strategically rather than superficially.

2. **Enabling Personalized and Learner- Autonomy Learning.**

In the 21st century, digital pedagogy is the catalyst to redefine the traditional "one-size-fits-all" curriculum transaction to flexible, personalized learning environment where educators can design their pedagogy according to the need of the learners. Also learners have the autonomy to learn at their own pace, which significantly increase learners self- determination and intrinsic motivation (Badiger K. Prakash, 2014).

3. **Shifting the role of educators**

Digital pedagogy plays a vital role to bridging the gap of teacher- student relationship by transforming the role of teacher, knowledge transmitter to co- constructor and facilitator. It helps the teachers being from “sage on the stage” to a “guide or the facilitator on the side” (Ahmed. R, 2025).

4. **Enhancing Continuous Assessment and Feedback Loops**

Digital pedagogy helps to assess the effectiveness of the curriculum transaction. Curriculum transaction is incomplete without assessment to see whether the learning objectives have been met or not. Through various leaning management systems it goes beyond summative to formative assessment process, which provides collaborative, personalized, and immediate feedback to both the learner and the instructor. This allows teachers to adjust their pedagogy for excellent delivery of the content (Dwivedi. S, 2025).

5. **Promoting Equity and Inclusivity**

In curriculum transaction digital pedagogy is pivot to bringing the equity and inclusivity in educational context. It helps teacher to rethink what, why, and how to teach to cater diverse learner needs. It is moving from “one size fit method” to distinct method for all without any discrimination (Dangwal L. K., and Srivastava S, 2016).

Opportunities of digital pedagogy in curriculum transaction

The intersection of education with digital technology has not only redefines the traditional teaching-learning process, but also expands the scope of education to be more flexible, personalized, inclusive, and future- oriented aligning with the philosophy of constructivism and the vision of National Education Policy (NEP) 2020. Moving from traditional teaching to global education system digital pedagogy has significantly transformed the educational practices. It helps educators to rethinking the curriculum

transaction from banking concept to problem-posing practices (Dhakal, B.P. 2023), passive participants to active engagement, rote memorization to critical thinking, just listening to exploring the things. The paradigm shifts of knowledge transmission to co-constructing knowledge digital pedagogy redefines the concept of classroom experiences why, and how. In this rapid advancement of technology it is most important to integrate the digital tools in the content delivery not only through power point presentation but also through various learning management system, online learning platforms, so that all learners can learn in their own pace.

Challenges of Digital Pedagogy in curriculum transaction

Although digital pedagogy is the catalyst to redefines the traditional teaching-learning processes, its implementation in curriculum transaction faces several issues and challenges that stem from lack of infrastructural, pedagogical resistance, socio- cultural, and psychological factors in the developing country like India. The availability of digital technology can not define the success of digital pedagogy, but also on technological readiness, pedagogical innovation, teachers' competency and learners' attention capacities (Badiger K. Prakash, 2014). The recent initiatives of National Education Policy (NEP), 2020 also emphasizes the integration of technologies into curriculum transaction but lack of infrastructure, teaching competencies, lack of positive attitude, lack of knowledge to using technology in curriculum transaction, poor network connection in remote area, etc are the obstacles to effective use of digital tools in pedagogy. So that, most of the rural areas are left to the concept of global village. Overcoming these barriers requires strategic planning from the grassroots level, investment in digital infrastructure, and a paradigm shift toward inclusive, learner- centered pedagogical mindsets. Digital pedagogy evolves not simply digitalizing textbooks or using projector, it is a mindset, holistic educational paradigm aligned with constructivist philosophy and the vision of NEP 2020 education for all.

Conclusion

This paper sought to explore the role, opportunities, and challenges of digital pedagogy in curriculum transaction. To restructuring the curriculum transaction through digital pedagogy needs teacher competencies, available digital infrastructure with positive mindset, effective implementation of the policy, and bridging the gap of banking concept to problem-posing education. To Globalized the education system not only needed the technology but also how, why, and what strategies. Then all potentiality of the digital pedagogy will be fulfilled.

In the nutshell, in this 21st century, digital pedagogy is not a trend but a comprehensive initiative to meet the goal of quality education for all.

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