TDMPITAS: Framework for Successful E-Learning Environment

(Type, Design, Methodology, Portal, Instructional design, Technology, Assessment, Social and Cultural Impact)

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Abstract— E-learning is rapidly replacing traditional learning in classrooms to distance learning at convenience with a similar but virtual experience, particularly for working professionals, mature learners, parents, and students. Technology brings e-learning to fulfill the dreams of many who could not go through traditional learning. E-learning is very effective and meets the needs of generations at their convenience, without one-place learning restrictions. It opens the world to share and communicate their different experiences as social and cultural and brainstorm virtually to innovate new ideas, methods, and technology for a better future. This paper aims to introduce a framework for a successful e-learning environment.

Keywords—E-Learning, Tools, Strategies, Objectives, Assembly, Visualization.

I. INTRODUCTION

A learning environment is an educational approach, physical setting, and cultural context in which learning and teaching occur. E-learning (EL) is a virtual learning environment using technology or web-based technology with collaborative interactions to acquire knowledge [8][9]. EL is a more innovative, thoughtful, smarter, productive, and savvier way of learning experience. It saves time, reduces cost, and reproduces learning material without additional cost. It is an extensive array of learning resources and tools where instructors can create content plans, and learners can perform and accomplish assigned tasks using various options.

Creating and choosing the right learning environment can be challenging and complex for institutions to succeed in long-term economic growth. This paper proposes a new framework for creating a successful EL environment: Type, Design, methodology, Portal, Instructional design, Technology, Assessment, and Social and Cultural Impact (TDMPITAS). This framework will help all levels of institutions and organizations to choose the right path in creating an EL environment. The initial phase, Type, will explain the best Type to adapt in e-learning to target specific audiences or learners to achieve the institution or organization and learners' goals and objectives. EL Design will elaborate on objective, material visualization, assembly, development, and extraction to improve the learning experience. It will help the organizations and institutions why and how to develop systems, processes, and procedures for a successful EL environment. EL methodology focuses on learning and content management systems to determine the best-fit system to achieve organizational, institutional, and learner needs. EL portal helps identify the online web-based solution for delivering courses, training, or material conveniently and securely with parametric directions [16].
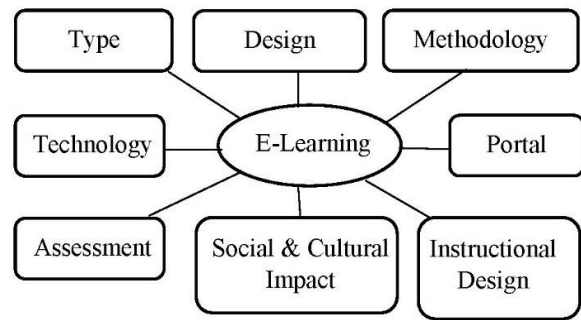

Fig. 1. TDPITAS framework for e-learning environment

Instructional design, investigating the industry, market, knowledge, and engagement to design qualitative material for desired outcomes and qualitative material for analysis to improve the learners' skill and knowledge level [12]. Social and cultural impact measures how the EL environment will impact the social norms and cultures worldwide or in targeted regions [3][14]. Technology plays a critical role in the success of any industry of the current era. In EL, Technology helps to continuously improve systems, processes, and procedures to be successful in the current and long run to keep organizations competitive in the challenging market.

II. TYPES OF E-LEARNING

E-learning is educational formalized teaching using electronic resources. Primarily e-learning can be computer-based e-learning (CBE) or online-based e-learning (OBE). CBE is learning with interactive computer applications and software elements, and OBE is web-based learning through digital resources and tools.
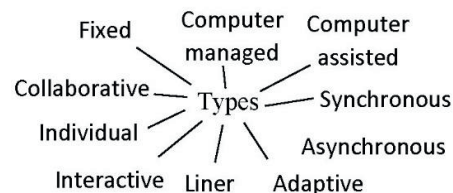

Fig. 2. Types of E-learning

EL can be fixed, computer-managed, computer-assisted instruction, synchronous online learning, asynchronous online learning, adaptive, liner, interactive online learning, individual online learning, and collaborative online learning [1][4][12]. Fixed learning provides similar instruction to all learners with the same skills and schedule without updating contents after formation. Computer-managed learning involves examining learning procedures by conducting tests, maintaining records, and assessing learners' progress. Institutions and organizations use computer-managed systems to store and retrieve valuable information for management. Computer-assisted learning combines conventional and multimedia approaches to improve the knowledge and skills of the learners. Synchronous online learning is interactive learning through the web between mentors and learners in real time in a virtual environment [25]. Asynchronous online learning provides facilities for learners to learn at any time by attending online web-based learning at their convenience and without interacting with the mentors [25]. Adaptive learning focuses on making the learners addicted to the learning objective as per their attitude or characteristics. Linear EL provides materials to the learners with specific parameters and does not require feedback or track the learner's progress [1]. Interactive online learning allows instructors and learners to communicate and control to change learning processes based on interactions. Individual online learning provides a learning environment where learners study learning materials themselves without interaction or dependence on mentors or peers [4][26]. The collaborative online learning approach builds communication, teamwork, and critical thinking, where learners study learning materials in groups to achieve learning goals and objectives.

III. E-LEARNING DESIGN

E-learning design (ELD) develops structures, reviews, designs, and continuously improves online programs for learning or education purposes. It creates virtual learning programs for mentors, researchers, scholars, academicians, practitioners, and students. ELD leverages the mentors' and learners' knowledge and experience wherever possible to create customized online teaching and learning [29].
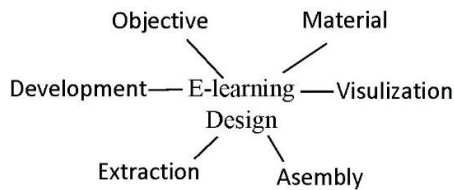

Fig. 3. E-Learning Design

A. Objective

ELD objectives must be specific, measurable, and focused. It must improve effectiveness, efficiency, user-accessibility, and time flexibility to engage mentors and learners. The objective will specify whether ELD is synchronous or asynchronous, or both. Synchronous learning means the learner must participate online at a specific time within a specific period. Asynchronous online learning provides instructions to learners at their convenience in a specific period. Evaluation, actionable, micro-learning levels, and assessment strategies training criteria are the essential tools for measuring ELD.

B. Material

E-learning material is any information, data, or material created by the institutions or on behalf of institutions in digital form. It includes quizzes, videos, podcasts, dialogue simulations, slides, e-books, etc. E-learning material must define why it is created based on the focused audience and what and how they will learn. The material must be current, relevant, and downright addictive. Content needs to be simple and gradually increase to a challenging level for the skill and knowledge development of the learner. The contents must be visual, auditory, and kinesthetic. E-learning materials involve everyone in the learning process. Active learning material inclusion in e-learning will help learners engage in problem-solving, critical thinking, and practice consumed knowledge. The material must be simple, short, and qualitative. It must have relatable and understandable language. A unique material with quality knowledge and skill development can help to create successful e-learning material.

C. Extraction

Extraction is a process or method to search relevant and authenticated information from large databases. Universities have vast amounts of educational data and add new data every day. Extractors, analyzers, and aggregators are three tools to produce qualitative, relevant information to the learner's interest. The extractor fetches all the information and the first level of learner research relevant to the topic of the given keywords. Analyzers filter researched information based on linguistic relevance, topic relevancy, and subsumption. The aggregator then fetches all the qualitative information for the topic or course taken by the learner.

D. Visualization

Visualization helps to understand complex information quickly and easily. It enhances the e-learning experience and speeds up the learning process. It helps the learner to remember the information for a longer time with accuracy if presented in a visual format. Visualization includes videos, images, infographics, scatter plots, maps, etc. It helps to convey more accurate information to the learner because text format only creates the image in the learner's mind as they think or understand. It motivates learners and makes them more collaborative in developing critical thinking and skills. It makes a better understanding of the topics, easily shares the information, and provides accurate analysis and required outcomes from learning.

E. Development

The development of educational material can be time-consuming and costly. The material must be high quality, current, and productive. It must include rich learning activities, provides practical situations of activities in an interesting

manner, meaningful opportunities, reflection, criticism, compatibility with current and advanced technologies, etc. The developers of the material must have an understanding of education, technology, and resource publications. Including activities, feedback, scenarios, context, delivery, and impact in the material helps to develop successful qualitative and quantitative information related to the topics or courses to encourage learning. Activities have tasks for learners to provide experience to provide new learning. Experience is knowledge through reflection that enhances fair criticism through feedback [1]. Scenarios provide meaningful motivations for learning through considered and memorable values. The institute must develop material considering the e-learning program's objectives, the mentors' role and skills, efficiency, effectiveness, the longevity of resources, and cultural sensitivities. Good educational material's impact depends on efficiently delivering material to the learner [8].

F. Assembly

Assembly includes gathering all information, material, resources, and instruction in one place. Leaders, Subject matter experts (SME), Instructional designers (ID), Graphics designers (GD), Narrators, e-learner developers, and Electronic Learning management system (ELMS) administrators are an integral part of ELD. Leaders keep track of tasks to achieve the institutes' vision, mission, and value. SMEs have expertise on the topics or subjects and responsibilities in a particular learning area. They have qualifications and experience in education, training, and experience on a particular system, subject, or topic. ID is a structural and systematical model that e-learning adopts to deliver learning material and experience to learners. GD are the visual content creators for e-learning. They are responsible for designing and producing all graphics, illustrations, and chats in e-learning design. Narrators in e-learning direct, explain and guide the content to the learner and mentors. They are the voice-over and record their voice to deliver material to the learners effectively and efficiently. ELMS is an electronic medium to create, design, and deliver the course or topic material to the learner.

IV. E-LEARNING METHODOLOGIES

Methodologies provide various methods to provide material to its end-user and effectively retrieve information whenever required [20]. Choosing an ELMS can play a vital role in the success of organizations or institutions.
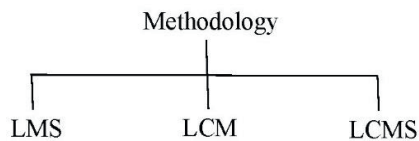

Fig. 4. Methodologies of E-learning

Learning Management System (LMS) is a software program application that plans access and implements the learning process. It creates a centralized learning environment to ensure everyone has a single content source, instructions, and

quizzes. LMS provides the opportunity to track the quality of content and personalized learning resources. LMS can be cloud-based, on-premises, open-source, and custom-built based on the e-learning environment. Cloud-based LMS is known as SaaS LMS. Third-party vendors provide Saas LMS to institutions for simple plug-and-play platforms. Institutions only need to create content and upload them on that platform. On-premises LMS hosts the institution's contents on servers and gives more control to host contents. It can be a third-party vendor-provided service or institution that can build custom LMS in-house. Open-source LMS uses coding or programs to align institutions' values of freedom, knowledge sharing, and peer review. It needs developers and programmers and may include hidden costs like hosting, support, and training. Large institutions use custom-based LMS designed according to that institution's needs. It meets the specific needs of creative interactive eLearning content, custom course building, native integration, custom reports and dashboards, gamification, etc.

Learning content management (LCM) is a system that creates a framework to display and store content on an online repository such as a web application, website, or help center. Contents can be files, electronic documents, audio or video files, images, etc. Contents can be tagged using metadata to search quickly and efficiently [19]. It primarily focuses on storing and managing the contents.

LCMS is an e-learning platform designed for instructors to create content such as courses, tracks, and programs. The primary goal of LCMS is to develop digital learning contents, track content effectiveness, and host course libraries [18]. It is a single system for content creation and delivery.

V. E-LEARNING PORTALS

E-learning portals are online web-based services that offer collaboration and learner interaction for e-learning content, such as presentations, courses, podcasts, quizzes, tests, and content management for instructors and institutions. The primary goals of the e-learning portals are to provide services like learning content management, delivery, analytics, reporting, communication, social learning, and security [16]. It includes structured storage and course creation tools to perform content searches and those contents to learners, trainers, and managers. Analytical and reporting integrate technology such as artificial intelligence to make recommendations, analyze learning history and progress, content usage, time spent, portal usage, etc. Communication and social learning in e-portal help with discussion boards, chats, forums, and interaction via shares, likes, and comments [7]. E-portals provide role-based access to material and competence records such as assignments, courses, exams, marks, certification, and attendance [14][19].

VI. INSTRUCTIONAL DESIGN

Instructional design is a systematic, structured process to create, deliver, analyze, and provide experiences to learners. The instructional design creates effective, efficient,

trustworthy, knowledgeable, and memorable learning experiences [11][13]. E-learning uses different tools, strategies, creativity, and programming for instructional design, from vision to realistic Implementation. It ensures learners learn efficiently with high-quality material that improves their skills, knowledge, and acumen.
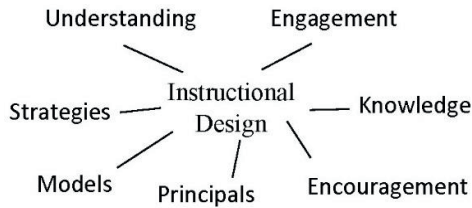

Fig. 5. Instructional Design

A. Understanding

The instructional design process starts with the understanding of diverse learning behaviors. It begins with the belief that learners have different skills and knowledge to understand. This process analyzes the learners' backgrounds [11], knowledge, availability, demographics, goals, and objectives. Based on the understanding and analysis of learners, instructions for learning are created, and the identification of different strategies and tools to deliver instructions is researched for engagement and effectiveness.

B. Engagement

Engagement is the willingness of the learner to learn and interact with the learning material consistently. A learner's willingness is related to their curiosity, values, interest, and reward. It is an activity, not a passive process. Learners can be engaged with storytelling, gamification, multimedia, scenario-based, freedom to roam, interpersonal-based, and personal [4]. The primary components of e-learning engagement are attention, meaningfulness, contextualization, and optimism. Attention articulates goals and objectives by conveying relevance with enthusiasm in meaningful involvement. Contextualization is a framework of context and its response to context. It utilizes observations, problems, analysis, and experiments. It develops Role plays, decision-making trees, simulations, boundaries, and protocols and links them to previous learning or backgrounds. Meaningfulness elaborates on what will be the new learning and what the learning will be beneficial for. Optimism is the learner's intention that learning is important, worthful, and purposeful. Optimistically, the learner believes they will learn new skills and knowledge.

C. Knowledge

Knowledge identifies the learner's acumen gap and fills some of it by improving it to the next level. Knowledge in e-learning can be empirical, conceptual, rational, conventional, skill-based, narrative, affective, and psychometric. Empirical knowledge is the knowledge that is gained from experience and sense in the surrounding physical environment. Conceptual knowledge is a combination of patterns and coherent sets [16]. Rational knowledge is logical, coherent knowledge and creates

a proportional relationship between things. Conventional knowledge is a human imagination from social induction. Skill-based knowledge is a cognitive level process to understand a particular type of action. Narrative knowledge relates to the conditions the learner applies to their life. Affective knowledge is intuitive knowledge with visual dimensions and emotions. Psychometrics knowledge helps improve the learners' work performance, ethics, reasoning, and potential in successful new learning.

D. Encouragement

Encouragement is a motivation to learn to interact with an e-learning environment. It motivates the reason or desire of the learner to learn. Creating a learning environment must have a good reason and qualitative and quantitative material. The learning material must be good enough to improve the learner's skills, knowledge, and interest [13]. It will encourage them to participate and motivate. Encouragement of the learner can be improved by grabbing their attention, relations, confidence, satisfaction, and interactions. The E-learning environment must grab the learner's attention to get interested by creating exciting qualitative material. A learner-centered approach or strategy can enhance learner encouragement by relating to the learning cause. Good learning material encourages and creates confidence in learners to achieve specific goals. Rewarding or recognizing the efforts of the learner can provide satisfaction and encourage them to learn in the e-learning environment. Learners can be encouraged with social learning strategies by creating online discussions, social media interactions, etc. [19]

E. Principals

Principals are the foundations of any learning environment. In the e-learning environment, principles are the guidance, directions, or rules of conduct to make effective decisions. The primary principles in an e-learning environment are multimedia, contiguity, modality, redundancy, coherence, and personalization. Combining multiple media types in ID with text can be effective [12]. Contiguity principles ensure that all the relevant media or graphics are near each other. Modality simplifies complex learning with different delivery modes to improve learners' skills and knowledge. Avoid redundancy in the material to avoid interference or hindrance in facilitating learners. Coherence provides relevant information to learners that support their goals and objectives. Personalization chunks the learning material into smaller ones, enabling learners to absorb information effectively.

F. Models

Models in e-learning elaborate the activities to guide the development, delivery, and effectiveness of learning. It creates effective frameworks and streamlines the learning environment [13]. The most effective e-learning instructional design models are ADDIE, SAM, DCSAM, RID, and RP. ADDIE (analyze, design, development, Implementation, and evaluation) uses clear and effective methods to create and design effective learning programs for learners. The successive approximation model (SAM) uses a recursive process to evaluate, design and develop the learning environment. Dick

and Carey's system approach model (SAM) designs the learning programs in nine steps: goals and objectives, analysis, identification of traits, specific criteria, preferences and needs, strategy, activities and resources, improvement, and outcome. Rapid instructional design (RID) creates programs fast learning environment in four phases: prepare, present, practice, and perform. It helps the learners to assess and evaluate comprehension and proficiency. Rapid prototyping (RP) is a spiral model that defines the core concept and develops a learning framework. It then refines the core concept with learner evaluation and implements changes based on those evaluations.

G. Strategies

ID strategies define how the topics or programs will be taught in e-learning. Scenarios-based learning strategies deliver content in a contextual form to develop skills such as social interaction, decision-making, situational awareness, and critical thinking. Infographic strategies collect and organize material in easy-to-understand visual form and eliminate unnecessary details to relate concepts [19]. Guided learning uses virtual instructors such as artificial intelligence (AI) technology to guide learners on every step in the learning environment. Self-directed learning allows the learners to monitor, regulate and create learning goals. Simulation learning is learning through virtual scenarios to develop problem-solving skills and knowledge [29].

VII. TECHNOLOGY ROLE IN E-LEARNING

Technology provided a new face to traditional and distance learning effectively and efficiently as e-learning [14][17]. It flourishes continuously, advancing learning experience and innovation. It increases learners' engagement, collaboration, creativity, and automation. Artificial intelligence (AI) is the machine's ability to perform tasks similar to humans' abilities. AI in e-learning customizes the learning experience and improves retention based on the personalized experience of the learners' different learning styles [24]. AI mirrors human intelligence through natural language processing and deep learning to improve and facilitate the learning experience. Augmented reality (AR) provides virtual three-dimensional rendering for real-life environment experiences. Virtual reality (VR) is a technology-generated simulation to visually immerse learners into another environment.
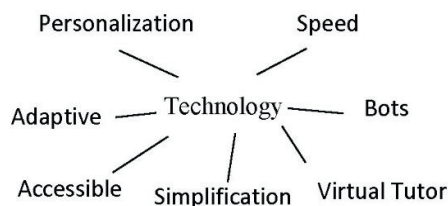

Fig. 6. Artificial intelligence role in E-learning

A. Personalization

In e-learning, AI creates personalized programs and courses with different learning styles of learners. It is also

called adaptive learning (AL). AL implements AI in three phases: adaptive content, sequence, and assessment [17]. Adaptive contents provide feedback to the learners by reviewing relevant material and further scaffolding without changing the sequence of learning skills [1]. Adaptive sequence analyzes and collects learners' information and decides what the learner will see next. Adaptive assessment increases or decreases the questions' complexity based on the previous questions' responses from the learner.

B. Speed

Technology can speed up the content creation process by using programming techniques such as language modeling and training algorithms. Training algorithms are input or feed called programming used to command AI tools to operate [7][23]. The rules determine the tool's action to generate learning data in content creation and label data of different types. These techniques tell machines how to write like humans. AI can generate videos, images, analyze data, and make recommendations based on the learner's current and past experience. It can help streamline the social media or advertising strategy to increase engagement with larger audiences within desired parameters. Technology saves time, increases efficiency, increases productivity, enhances content quality, and improves performance. However, technology still needs human input at the beginning [28]. It also needs editing and proofreading by humans to ensure the contents are qualitative and relevant to the learning objectives.

C. Bots

Bots are the virtual conversation tools that AI uses to understand learners' or users' needs and help them to meet their needs in conversational interaction in the form of voice or text. They reinforce the learning experience with relevant information at certain levels in response to defined triggers. Bots can answer repetitive queries to guide learners, provide valuable information, save humans or mentors time, and let them focus on other things. AI bots can assist, monitor, and manage the needs of learners globally and remotely at their convenience and remove the worldwide time zone challenge for learners [22]. Bots in the simulated learning environment guide and interact with the learners with instructions during learning programs. AI can embed bots to enable simulation like humans, such as learning ability, content understanding, coherent responses, etc.

D. Virtual tutor

Virtual tutoring is conducted online through the virtual platform. It provides convenience to the learner with additional help and guides them without meeting the tutor or mentor in person [29]. Technology provides one-on-one tutoring where tutors are not available. It provides confidence and encourages learners to ask questions and search for answers without embarrassment and judging [18]. It is also instrumental in translating the learning content into the learners' local language for their better understanding. It examines information and data from learner interactions and evaluations to enable personalized

or customized learning experiences to meet their abilities and needs.

E. Simplification

Technology can translate lessons, data, and information into different languages, text-to-speech, and speech-to-text, simplifying the learning process. AI refines the algorithms and ensures that providing information to learners is relative to their needs for desired outcomes and qualitative. It searches the specific algorithm to resolve the specific task with human interaction in quick ways with an alternative solution or directions and saves time [10]. Technology helps to produce digital content, information visualization and provide content updates in one online place in a single search [27]. It also saves time and simplifies the administration tasks such as grading, assessments, applications, replying, and reporting to learners. AI virtual tutoring is an excellent tool for saving time for mentors and learners with more personalized and customized intelligent learning experiences.

F. Accessible

Technology improves the accessibility of e-learning for learners with special needs or disabilities. It improves the learning experience of neurodivergent learners and those with learning difficulties. It removes the learning barriers with different solutions such as image or facial recognition, lip reading, text summarization, etc. It also improves the accessibility of education in e-learning by tailoring material bases on learners' needs, enhancing distance learning, supporting feedback, and automatic grading. For adults, parents, and working professionals who have no time to go to classrooms or training rooms, technology provides them accessibility without leaving their spaces [1][21]. Technology-powered translation tools or apps translate data or information into the learner's native language for better accessibility and understanding.

G. Adaptive

Adaptive learning provides efficient, customized, and effective learning using data-driven approaches to meet education needs according to learners' preferred paces, skills, and knowledge. Technology makes learning adaptive by identifying knowledge gaps, providing mentoring and recommendations, and boosting learning experiences by assessing learners' strengths and weaknesses to keep track of the learning experience relative [31]. AI adaptive learning helps save training resources to minimize budget, enhance knowledge retention to improve learners' skills, increase learner engagement to create a continuous learning culture, and analyze efficiency and performance.

VIII. SOCIAL AND CULTURAL IMPACT

E-learning is convenient and flexible, allowing learners to achieve their goals on their own schedule. For some learners, e-learning can be socially impoverished and lonely without social interaction [3]. On the other hand, learning is to enhance the knowledge and skill level of learners to the next level to innovate, improve, and manage challenges we face in our work or life to create a better lifestyle and world [5]. E-learning improves the performance of individuals, societies, and businesses. It promotes future-ready communications, technology, education, and collaboration skills. It uses podcasts, discussion boards, file sharing, and social media and helps to encourage generating relevant ideas. E-learning helps the learner to make better use of their downtime to learn new skills and knowledge. It will excel in time management and foster a society of productive citizens that significantly improves our society. In the diverse and global world, e-learning helps to brainstorm with diverse intellectual minds, innovate new ideas, and understand diverse communities and their beliefs [5]. It opens the mind to the worldview from different aspects that positively impact our skills, knowledge, and critical thinking.

In a diverse world, culture means practicing different ideas, thoughts, regions, and beliefs of different customs, intuitions, nations, peoples, and social groups. Prioritizing diversity and inclusion in e-learning is critical. The material created for the learner must be standard and reasonable for understanding different aspects. Otherwise, it can result in disengagement or lack of understanding from the learner's perspective. Different cultural norms can impact e-learning participation. For a successful e-learning environment, cultures must be considered before developing curriculums for positive impact and successful growth of the institution and learners. Recent technology, such as artificial intelligence, can play a vital role in removing language and time zone barriers, better understanding cultural norms, and providing visual cues [6][9].

IX. ASSESSMENT METHODOLOGIES

Assessment is a process or method to identify what the learners know based on their skills, knowledge, education, and experience [17][20]. It identifies the improvement area and ensures the learning program meets learners' needs. The primary goal of assessment is to evaluate and improve learners. The assessment method can be formative or summative.
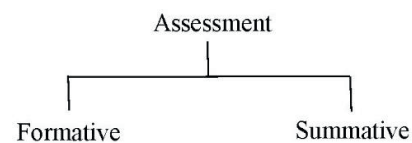

Fig. 7. Assessment

Formative assessments (FA) monitor the learners on an ongoing basis, provide feedback, and identify the areas that need improvement in the learner. It helps to identify the strengths, weaknesses, and opportunities areas that need to improve [2]. This type of assessment creates clear learning goals, and criteria for success, builds opportunities for self-assess, criteria for actionable feedback, and opportunities to overcome weaknesses. It helps to set goals and check learning progress. FA has eight primary elements gap, feedback, involvement, progressions, domain knowledge, and pedagogical knowledge [32]. Gap identifies the gap between

the learner's current knowledge and skills toward desired knowledge and skills. Feedback is a loop process to provide clear, criteria-based, descriptive information indicating the learning progress of the learner [1]. Involvement is a metacognitive process that enables the collaboration of mentors and learners in developing a shared understanding of learners' current learning status and where improvements are needed. Learning progression is a set of sub-goals that achieve the ultimate goal of learning objectives. Domain knowledge is a mentor's knowledge that needs to be taught a particular topic, concept, or subject. Pedagogical knowledge is the cognitive knowledge of a mentor. To provide effective feedback and directions to the learners, the mentors must be familiar with multiple mentoring models in the specific domain of the subject or matter.

Summative assessment (SA) evaluates the learners' knowledge, success, skills, and proficiency at the end of the learning process. It can be in the form of mid-term, final, paper, or senior rectal evaluation. To ensure that SA is adequate and equitable, it has three critical components validity, manageability, and reliability. The alignment of learning objectives is measured with a validity component [2]. Manageability assessment measures the workload on mentors and learners. The reliability component measures the accuracy and consistency of the assessment. SA needs to be aligned with the goals and objectives of the learning by using the rubrics, clear effective questions, assess comprehensiveness, clear parameters, and blind grading.

X. POLICY ISSUES

Various factors can impact E-learning education policy, including current trends, governmental laws, and ethical issues [27][30]. AI personalized learning, virtual reality, augmented reality, gamification, nano-learning, and well-being are the major current trends in e-learning [29]. With the technology change, the e-learning education policy must also be updated to be current technology for learning engagement [15]. New laws by the government can also impact the future of the e-learning industry. It can create copyright, ownership, harassment, and defamation issues.
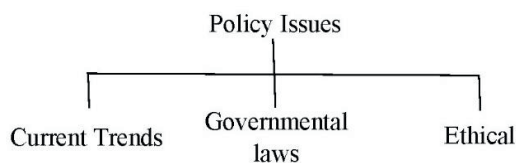

Fig. 8: Policy issues

Governmental laws enact new laws to protect the intellectual and individual rights of all learners, instructors, and institutions. Ethical issues are also the primary challenge in online e-learning. The learner may not connect with the learning material's intent, which can create misunderstanding because of the wrong narrative. Missing deadlines, proctored and unproctored exams, resource limitations, and digital

inequalities are the major ethical issues in designing and implementing e-learning education policies. All policy issues must consider aligning with current trends, government laws, and ethical issues in designing, developing, implementing, and evaluating the education policy in e-learning.

XI. CONCLUSION

The E-learning environment provides a platform for working professionals, parents, and learners to achieve their dreams, educational goals and help them to improve their knowledge and skills to the next level at their convenience effectively and efficiently. TDMPITAS is a generic framework to create a valuable e-learning environment for institutions and organizations. It considers the essential elements: Type, Design, Methodology, Portal, Instructional design, Technology, Assessment, Social and Cultural Impact to make the institutions successful in the competitive global market. It helps to achieve the vision, mission, and value of the organization or institutes and the learners' objectives in an interactive learning environment. It guides to draft policies and compliant institutes with various ethical, governmental, and social levels to achieve the highest possible educational objectives. This framework continuously improves institutes' and organizations' systems, processes, procedures, and learners' knowledge and skills.

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