

# Education Technology Professional Development Trainers (EDTPD) for Blooms Digital Assessment Taxonomy (BDT) Assessment Model

Ms. Farhat Najam Husain

IB Examiner,

Education and Assessment Consultant / Evaluator / Workshop Trainer

doi: <https://doi.org/10.37745/ijmt.2013/vol11n16890>

Published May 14, 2024

---

**Citation:** Husain F.N. (2024) Education Technology Professional Development Trainers (EDTPD) for Blooms Digital Assessment Taxonomy (BDT) Assessment Model, *International Journal of Management Technology*, Vol.11, No 1, pp.68-90

---

**ABSTRACT:** *In today's fast-paced technological environment, we are on the verge of a technological revolution that will modify and unfold several professions in the realm of education. This study presents research in the emerging field of professional development for educators in higher education as Educational Technology Professional Development (ETPD) Trainers. The necessity for the educators to be trained in the Blooms Digital Assessment methodology is highlighted in this article. To raise the quality of educator as a professional development trainer in educational technology, this study has developed a proposed model of Digital assessment using Blooms Digital Taxonomy to motivate the educators and raise their self-confidence using Knowle's Adult Learning theory. The application of mixed method research planned to set in a university, with the intention of preparing and training Educational Technology professional development trainers in today's fast growing educational environment. An intervention plan will be set out for the university educators. The goal of this study's proposed model is to provide a comprehensive understanding of this emerging field in higher education research, as well as to know how to train others as professional development educators and to understand the capabilities of various technologies as they relate to teaching, learning, and assessment of Blooms Taxonomy. The effects on educators' motivation to get trained and become professional development trainers have been addressed in this article, offering up new chances for the educators to succeed in today's fierce competitive environment.*

**KEYWORDS:** professional development, education technology professional development, blooms digital taxonomy, adult learning theory, higher education

---

## INTRODUCTION

The quality of education is determined by the quality of educators, who must maintain their professional knowledge in this competitive atmosphere. In today's pandemic times, the livelihood

of the educators has been quite affected, their morale and motivation has dropped, mainly for those who are unequipped with the ICT skills (UNESCO, 2020a). With changes to the working life occurring on a daily basis, whether due to economic shifts, legislative changes, or technological advancements, it is critical to continue to enhance the skill set in order to be effective at one's job (CMktr, 2015).

Due to the pandemic, most educators in higher education took their initial steps into virtual education in the online teaching and learning environment. However, much to the dismay of many professors, remote teaching, which is being given to their students for the first time, is nothing more than video-conferenced lectures complemented by emailed or Learning Management System (LMS) uploaded activities/assessments (Lederman, 2020). Even though there are numerous training professional education programs available, most educational professionals agree that current PD programs do not fit educators' learning preferences or there are specific learning technology integrated concerns, which leads the educators to be less motivated, low confidence and suffer low self-esteem (Zhang et al., 2021).

Activities that help instructors enhance their talents, knowledge, experience, and other attributes are called Professional Development (Creating Effective Teaching and Learning Environments, 2009). The Continued Professional Development (CPD)'s goal is to put a lot of effort into developing educators' capacity and skills in practice (Stalnaker, 2018). Professional development, continuing professional development refers to improving one's current work by fully understanding what and how well do could one perform. It entails honing the abilities needed to perform as efficiently as possible, and it's something to be continued for the rest of one's career in the competitive environment (Inamorato et al., 2019). Therefore, effective professional growth entails maintaining the greatest degree of knowledge and comprehension in one's field of competence throughout one's career. It is the learning or re-learning of skills and information for the purpose of advancing one's profession, but it also involves personal growth as part of personal development (CMktr, 2015).

Horace Mann, an American education reformer, began lecturing and publishing educational materials for public school teachers in 1837, as he considered teacher training academies, also known as normal schools, as a solution to public school training (Frontline Education, 2021). He established "normal schools," which were one-of-a-kind teacher-training institutes (Lach, Jr., 2000).

The need for online professional development has increased due to strong competition, and it seems that the epidemic has provided the time and opportunity for skill improvement. Even though lockdowns have restricted access to workplaces and raised job instability, competition is still fierce (Garivaldis & Kneebone, 2021).

Higher-educational institutions include not just universities and colleges, but also a variety of

professional schools that offer training in disciplines such as law, medicine, business, music, and the arts, among others (Britannica, 2016). Educators from these institutions need assistance to improve their profession and help their students thrive. Higher education can provide free professional development classes in person or online, depending on the requirements of the training needs of the instructors. Courses now exist in many forms and sizes, with varying levels of involvement and instructor participation, but all needs dedication such as Coursera, Microlearning modules, a combination of blended learning environment, gamified learning integrated with the artificial Intelligence concept (Dameron, 2019).

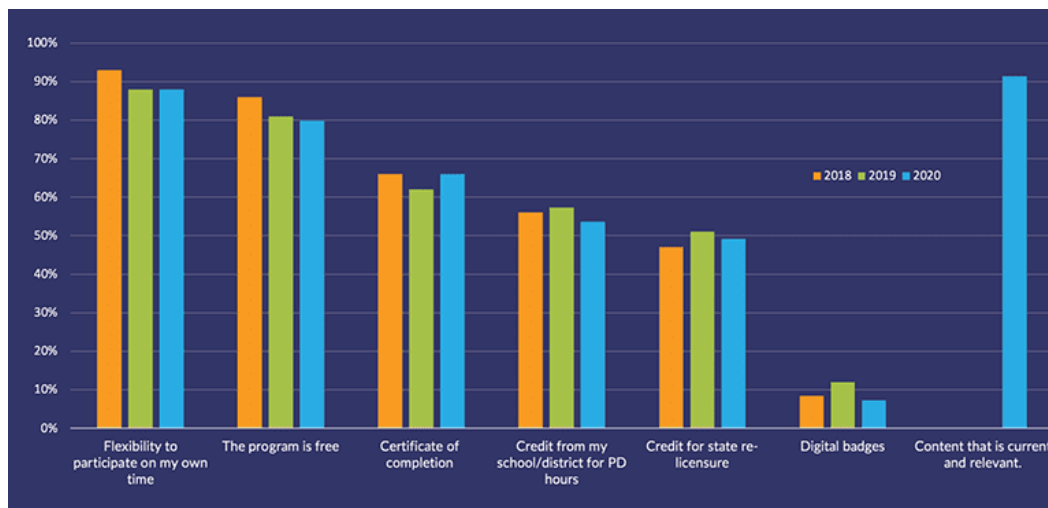


Figure 1: Three years' survey responses to professional development  
Source: (edWeb,2020)

Lisa Schmucki, the founder and CEO of edWeb.net, one of the professional development providers in education, has commented on their accomplishments with schools, as they deliver technology-integrated education to instructors. According to a three-year 2020 teacher professional development survey, 50% of respondents said webinars are helpful in professional learning, 25% agreed with the education courses for teachers, and 25% indicated that the respondents agreed with online professional learning networks as part of IT integrated professional development courses. 89% of the respondents agreed and gave the reasons on the effectiveness of professional development to enhance teaching, acquire new ideas and methods (83%), and increase student learning also indicated 83 % (edWeb,2020).

According to a study, the European Commission's Higher Education Committee in 2017 made a case that competent university educators are critical for high-quality higher education (HE). No doubt about it, as it does, however, has also claimed that most higher education educators have had little or no ongoing professional development (Inamorato et al., 2019), which can be alarming for the institution, students and the educators in long run.

Today's digital native generation are comfortable with engaging in technology, but they still rely on professors for online teaching and learning to educate them using digital means as part of appropriate course delivery and coverage of the lesson outcomes/objectives as part of online assessments (Hyndman, 2018). With the massive technological advancement, little professional development has a detrimental impact on educators' motivation, confidence and students' achievement because educators feel disengaged, helpless, and distrusted and hence act as a barrier towards personal and professional growth as an educator in the competitive environment (Karlberg & Bezzina, 2020). Especially during these times of covid-19, throughout the educational spectrum, educators and students have struggled with emergency remote instruction and the resulting disruptions in their lives. They've complained about a few problems with internet services, a lack of motivation, loneliness, and a decline in mental health (Johnson, 2021). Educators have been observed to be uninterested in participating in professional development courses for a variety of reasons, including schedule conflicts that act as a barrier to participation, workshops that are not appropriate for the educators' needs, family responsibilities, costly, unsupportive management, and so on.

In today's competitive world, it is critical for educators from the higher education level to participate in continuous professional development, either on a continuing basis provided by the educational institution or taking up on a personal level as both contribute to the development that can help educators maintain and improve the quality of their teaching, learning, and assessments (Essel et al., 2009).

According to some studies, new technologies open the door to learning not only in the physical world but also in the virtual teaching and learning environment. Educators that are ready to learn and use technology have demonstrated positive effects in improving student motivation and the respect for their freedom. The use of virtual integration of technological interfaces facilitates the online teaching-learning process and contributes to a gradual increase in motivation, confidence level, self-determination, achievement, as well as the promotion of student-teacher interaction and the maintenance of good relationships (Raposo et al., 2020).

Publication of the European Centre for Research Training and Development -UK

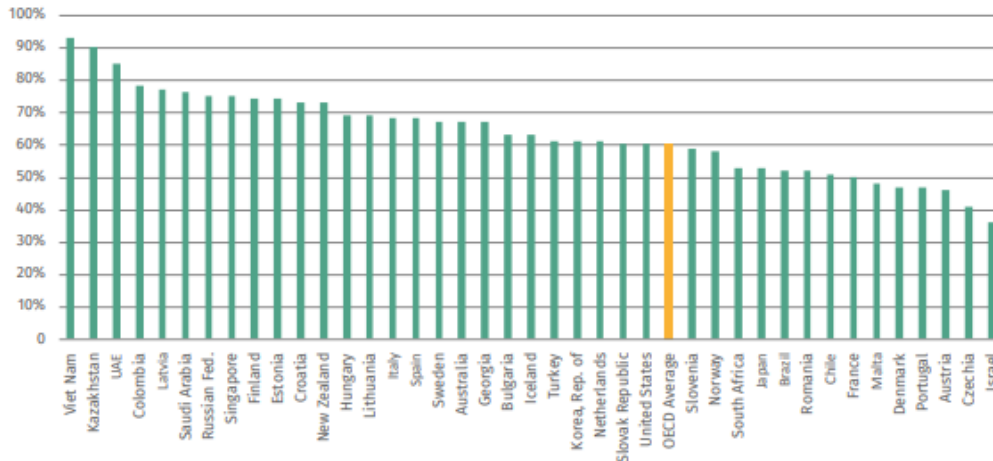


Figure 2: Percentage of teachers for whom use of ICT for teaching has been part of recent professional development activities, 2018.

Source: OECD, 2019. TALIS 2018 Results Teachers and School Leaders as Lifelong Learners.

According to the 2019 UNESCO study, it shows that educators in more than 60% of OECD member nations have employed ICT skills throughout their professional development training and have also used the practice in their classrooms. However, ICT skills practice has only been part of training and has not been implemented professionally for almost less than 50% of OECD member nations educators since 2017(UNESCO, 2020b).

**Research Question**

**How does digital assessment training impact educators' transition to professional development trainers in higher education?**

According to a recent study conducted, which examined and discovered the relevance of educators' digital assessment knowledge and abilities, and their desire to train as professional development educators. The findings revealed that, although having more experience and a higher level of education, some instructors were not educated in assessment literacy and lacked technology-integrated expertise, and few who were online technology literate in education, showed a particular interest in getting trained as professional development trainers (Husain,2021a). An online teaching, learning, and assessment approach is presented using Bloom's taxonomy and Bloom's Digital taxonomy. Adult learning theory will be used to train interested future professional development educators as a suggested approach. Because of the pandemic problems, the suggested model will be useful to higher education educators. This would also allow educators to pursue their passions, gain confidence, and, most importantly, assist others who are suffering from a psychological condition of work-related stress and are unable to fulfill the demands of today's competitiveness (Ayers,2017). Higher education can benefit from the incorporation of technology

in teaching, learning, and assessments, as it will improve students-teacher interaction and relationship along with the educators' performance, boost motivation, confidence, and self-esteem (Parris,2020).

### **Professional development affecting educator's confidence and motivation**

Even the finest teachers will fall behind if they do not continue to strive for greatness (Communication, 2019). It is true that educational technology is advancing, and instructors must continue to train and improve to equip themselves and adapt smoothly to the 21st century student (Anonymous, n.d). Professional development is an important component of the teaching and learning process. Teachers are constantly trained throughout their careers, from college certification coursework through student teaching to continued professional development (PD).

Confidence is a state in one's capacity to meet life's obstacles, as evidenced by one's ability to achieve and prosper (Psychology, n.d). The advantages can help teachers gain confidence and work together to create a sense of support, empathy, and serenity (Kelly, 2019).

Motivation is a driving force that is linked to one's emotional and social well-being and allows one to act and pursue a goal to succeed in today's competitive environment (Cherry, 2020). Some studies have found that in higher education, educators' psychological difficulties with not being able to offer adequate Information and Communication Technologies (ICT) integrated teaching, learning, and assessment have resulted in disturbed emotional well-being, poor self-esteem and low confidence in the educators' personal and psychological traits dragging down their motivational level to compete in today's world of education (Raposo,2020).

Working from home using (ICT) has been reported to cause emotions of strain, worry, tiredness, and lower job satisfaction in several prior research, and in times of a pandemic, these were the only tools accessible to the educators (Ozamiz-Etxebarria et al., 2021). These concerns may have harmed educators' health, leading in increasing occurrences of sick leave, absenteeism, and poor job performance, hurting teacher-student interactions and therefore reducing students' performance, which is one of the elements that educational institution performance may depreciate (Hancock, 1997). Through improved and effective professional development schools can retain staff members, by educating the teachers, which can improve the quality of their teaching. Nonetheless, the newly acquired skills by the educators applied in their classrooms create an effective teaching environment which can also improve students' learning performances (Team, 2019).

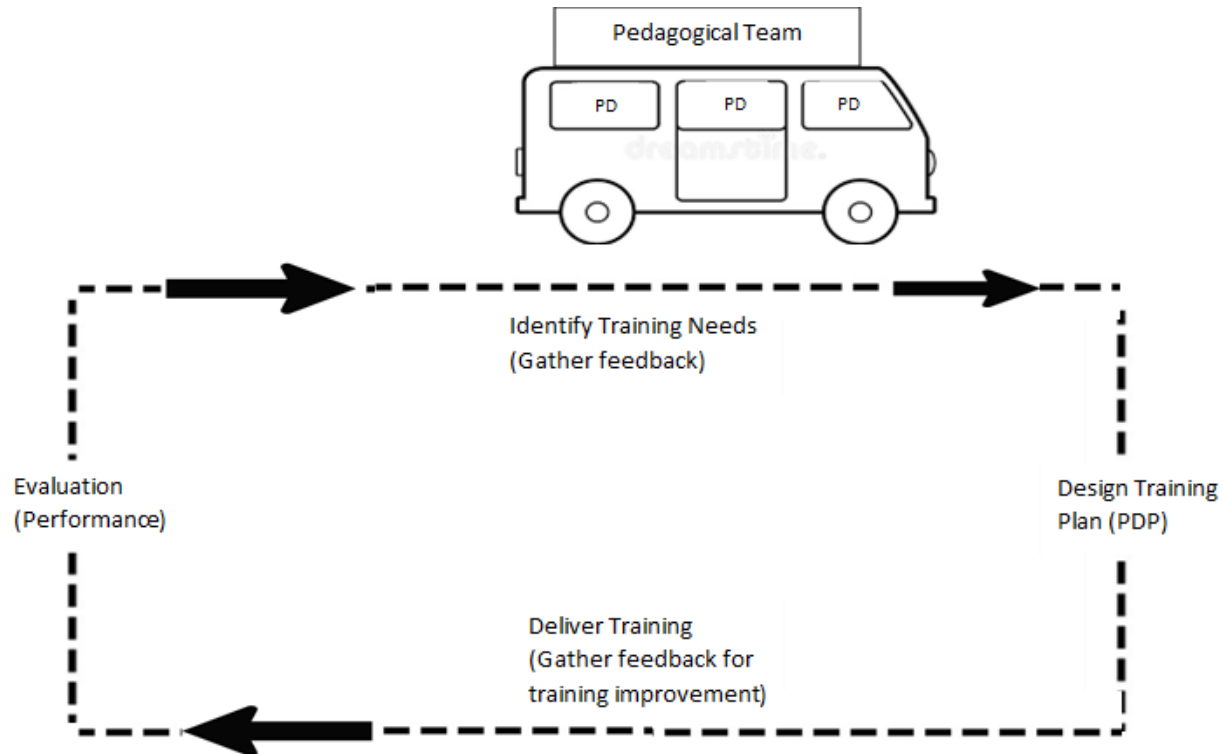


Source: ( McLeod 2020)

Personal development is a lifelong endeavor. It is a method for people to evaluate their abilities and traits, think about their life objectives, and maximize their potential personally and professionally. Abraham Maslow's process of self-actualization is one of several concepts about personal growth that focuses on a person's emotional and social well-being.

Consider the Maslow Hierarchy to better understand the needs. Motivation impacts development in satisfying several levels of requirements to increase self-esteem and finally achieve self-actualization or the desire to leave a legacy, according to Abraham Maslow, a humanist. As a result of the educators' performance on COVID-19, a paradigm changes in online teaching and learning occurred since stakeholders had no option but to obey the educational institute's directions (Bender,2020)

Employees must continually grow and develop in today's world of change, when technology is through so much change for development, innovation, and creativity, for the company and department to accomplish the goals. It is difficult to fight change, to evolve, and to go forward. Pedagogical leadership team (PLT) members are accountable for their employees' and team's productivity. They must prepare for employee development to achieve the organization's goals and objectives. Involving team members in the training development process is critical. This aids in determining individual and group requirements, assessing strengths and weaknesses, and identifying challenges that must be addressed. This may have a detrimental influence on instructors' and students' social and emotional well-being. Starting with recognizing training requirements, a structured approach to professional growth allows an individual to take control of their professional development and work-related objectives. This may lead to a rise in confidence and, as a result, abilities, all of which could lead to an increase in capacity for their workplace.



Source: sample created by the researcher

Identifying and assessing requirements is the first stage in designing a training program. Training requirements for educators may already be specified as part of development plans. However, if there is with no predefined goals, the Pedagogical Team Members need to figure out which areas to concentrate on. Training requirements are identified, and the gaps are thoroughly examined. Facilitating a teacher-led process of needs identification through self-evaluation as part of a professional development plan, where educators may freely confess their lack of competency (Harris, 2000).

Through these training programs, the major objective is to close the gap between educators' present and expected performance. The training program's level and the participants' learning styles must be considered. Management might create a Professional Development Plan (PDP) or a Continued Development Plan (CDP) to strengthen the educator's competencies in order to accomplish professional development goals (Guzder, 2021). Therefore, a pilot test plan might aid in gathering input so that modifications can be made before the training program is sent out to the entire school. Next comes the implementation phase, where the training program comes to life. During this period, staff participation in training activities and progress will be tracked to assess the training program's efficacy and meet the training objectives.



In the present pandemic scenario, self-evaluation for individual teacher needs assessments is taken into mind as part of the research by sending out a piloted questionnaire to educators, which will measure the current training requirement for online Assessment literacy As part of the professional development plan, a strategy will be developed to meet the training needs that educators may have regarding the digital Bloom's taxonomy deployment, as determined by the individual assessment evaluation.

### **Purpose of study**

This article's goal is to prepare trainers to be assessment-literate educators. Considering the current circumstances, the use of digital integration in the construction of trustworthy online assessment preparation might be beneficial to schools and management as part of in-service training plans. As a result of this research, educators may choose to become more successfully educated as evaluation literate educators to encourage themselves and their students to achieve higher order thinking abilities (Churches, 2008).

This study will explore the educators' need to be trained as online assessment literate educators. A survey research approach was employed for the study as part of the investigation. Questionnaires were given to school administrators and instructors from various schools. Before being administered, the researchers created a questionnaire that was verified by two specialists.

External factors such as educators' and students' emotional well-being are related to the independent variables in this study, which may move in a positive or negative direction depending on whether educators obtain appropriate professional development in assessment literacy abilities. This research focuses on educators interested in obtaining assessment literacy training and the demands of trainees in online assessments literacy based on the digital Blooms taxonomy. Also, whether the educators who have been educated are willing to instruct trainees in the future.

A vast variety of abilities and skills that educators must learn during their professional lives characterizes every educator's success whether acquiring a new skill or polishing an old methodology. Furthermore, to ensure the students' growth, educators must adapt to the new constant changes that today's society endures (Puertas Molero et al., 2019). As a result, professional development could suffice the fulfilment of the training needs for the educators setting a good standard for an increased educational quality. The annual planned curriculum could be successfully developed for schools; nevertheless, correct integration of assessments increases learning standards (Fletcher & Shaw, 2012). Assessment and evaluation skills proficiency might improve the quality of teaching and learning skills (Volante & Fazio, 2012), and as a result accurate assessments enable testing to be successful in determining students' achievement in meeting the learning objectives.

The educators' confidence in their ability to use the information and skills highlighted in the program in a face-to-face or online classroom setting for teaching, learning, and assessment is one

of the training program's objectives. Knowledge of assessments literacy may be geared toward teaching and learning and could enhance students' assessment literacy knowledge that could help them to learn more effectively (Chandler-Grevatt, 2021).

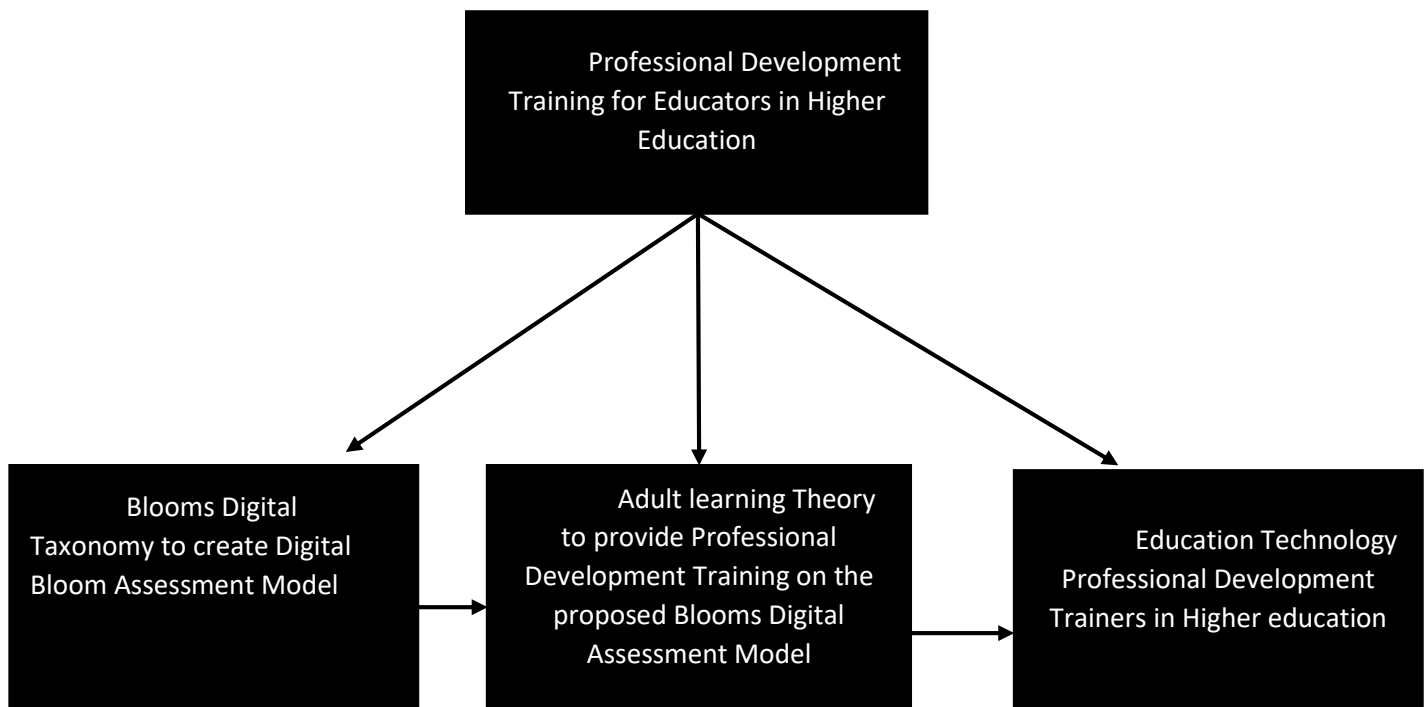
### ***Beneficiaries of Research***

This study may be useful to the University's administration and instructors since it will provide training on online assessment education with the integration of information technology resources. This research might be beneficial to Assessment literate trainers, who may wish to support school educators by providing further training, the Head of Curriculum and Assessments, and others as this can aid in new curriculum development (Wedlock M.S. & Grove Ed.D, 2017).

## **LITERATURE REVIEW**

From early education throughout higher education via open online courses, or MOOCs, to the widespread usage of mobile devices that enable a variety of "blended learning" models, technology is altering education system and bringing new challenges as well as possibilities around the world (Kim, n.d). While embracing different types of online learning, the deployment of technology in higher education institutions, colleges, and universities is also searching for ways to enhance student-teacher interaction and assess performance. In Southern New Hampshire University, specialists are exploring new concepts that will influence the future of a college education, ranging from computer simulations to artificial intelligence, or A.I and in today's competitive world, its application would help instructors and students become better problem solvers (Marcus, 2020).

Digital technology is a game-changing potential in education, which is always evolving due to technological advancements. For educators, technology opens up new avenues for enriching and stimulating young brains. Educational technological tools aid in the communication and sharing of knowledge (Lathan, 2021).



### **Educational Technology Professional Development (ETPD) in Teaching Learning and Assessments (TLA)**

The term "Educational Technology Professional Development" (ETPD) refers to a focus on teachers' professional development that stresses the importance of information technology in ensuring pedagogically sound technology use in the classroom (Lidolf & Pasco, 2020). Learning is now taking place both remotely and onsite at all levels of education, from teaching to training, through blended learning programs that combine online and face-to-face interaction, such as the flipped classroom model, in which students or trainees access content online outside of the classroom as homework and then apply this new knowledge face to face through active learning practices like discussion or group work (Kim,n.d).

Educators at all levels of school will benefit from ETPD in the teaching, learning, and assessments (TLA). According to a study, several western nations have attempted to incorporate digital technology into teaching and learning for more than 30 years. As a result, international organizations such as the European Union, the OECD, and UNESCO have driven policies for IT integration in schools, recognizing the importance of such integration for teaching and learning as part of cognitive development and the skills needed to live in a digital society (Raposo et al., 2020). However, some institutions are trying to cope with the technology integration, as according to a

study conducted by a firm that supports schools with technology, more than 600 K-12 teachers claimed inadequate support while utilizing technology in the classroom (Willen, 2004).

### ***Need of Education Technology Professional Development Educators***

The epidemic is already imprinting itself on the education of future professional development educators in education. As adjustments and in setting new policies, the standards and curriculum are developing slowly, several educator preparation programs in the United States are adding more about digital technologies, online education, and mental and emotional wellbeing into their courses to reflect insights from the epidemic (Franko, 2021).

According to a professor of educational administration, the professional status of teachers has deteriorated in certain nations, notably the United States, during the previous decade. Recent studies in the United Kingdom, Japan, and Hong Kong have revealed that teacher autonomy and public trust in teachers are eroding, leaving teachers feeling disempowered and discouraged (LeTendre, 2021).

According to one study, just a small percentage of higher education professors use technology in their classrooms, who are confident which makes them roles models in the community. However, a main reason provided by those who are hesitant is a lack of technological integration training in teaching and learning, which makes educators less efficient and leaves them without the abilities to incorporate technology into their classroom (Lidolf & Pasco, 2020).

The hour is needed to impart fresh information and sharpen skill sets to empower professional development educators in their technology use. As teachers' education is a continuous process, training environment is needed in which instructors may integrate their new knowledge and to progress in the competitive educational environment the schools must invest dedicated resources and use a train-the-trainer / professional development educator to support others. (Kandhari, 2021).

### ***Online Teaching and Learning***

Online learning and teaching entail a wide range of technologies, resources, educational techniques, and different modes of interaction, monitoring, and support, with numerous integrated possibilities (Rapanta et al., 2020). In teaching, learning and assessments (TLA), differentiation is a method that helps educators to ensure that students get adequate classroom experiences by using diverse methods of instruction or thinking skills (lower to higher) to suit all students' needs and their abilities (Finley, 2017).

In online teaching and learning experience, some students are intrinsically motivated as the educators use innovative ways to integrate the right technology tool that encourages higher-order thinking skills (Sneed, 2016). But most educators, according to the Creative Educators, focus mostly on higher order thinking, even if it begins with the lower order of remembering and recalling. It's crucial to note, however, that students can't move right to producing complicated

products and ideas (the highest level) until they've mastered certain lower-level abilities like remembering and understanding (Cochran Ed.D, 2021).

The Learning Center at the University of North Carolina reports on problems that university students have with exams that are primarily dependent on higher order thinking abilities. Classes may be more demanding (though they appear less organized), students may have a greater reading burden, and instructors may be less approachable. And as a result, students who are used to high school techniques may find that they are no longer effective (UNC,2020).

Historically, it has been observed that the teachers and other professionals in the past have had lower expectations of disabled children, which has resulted in more low-order thinking objectives imposed by drill and repetition exercises, but if a good chance provided with the right the support and an appropriate method with the application of higher order thinking skills, these students can become problem solvers. However, the supporters on the other hand, feel that without a foundation in fundamental principles, students would be unable to master the skills that they will need to succeed in the workplace (Watson, 2019).

Today's teachers are using technology to replace old models of standardized, rote learning and create more personalized, self-directed experiences for their students, with more multi-device software synchronization that supports multiuser collaboration and more support for virtual conversations, both within and beyond the classroom (Kim,n.d). Students would build a strong base of material and skills, as well as the analytical and evaluative tools to apply them, by combining lower and higher-level experiences with ICT tools and a blended learning approach (Cochran Ed.D, 2021).

By moving the focus from instructors to students, bloom's digital taxonomy (BDT) has made it easier for the educators to develop student-centered activities. In today's tech-savvy society, most students and teachers are familiar with and proficient in the use of digital technologies to improve academic performance. A distinct aspect of digital understanding is addressed by 21st century literacy abilities. Technology literacy provides educators and students with the foundational knowledge they need to comprehend, which devices perform which duties and why (Stauffer, 2020).

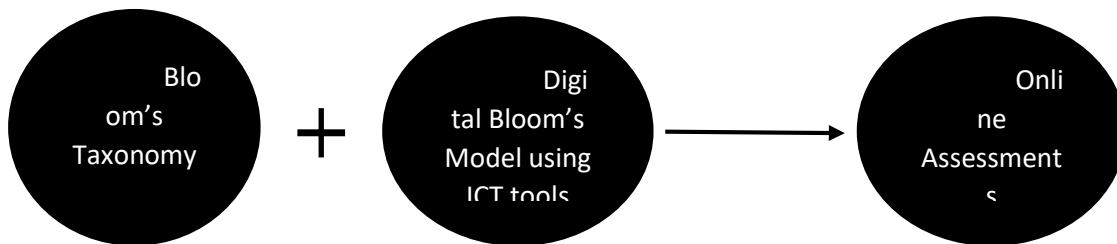
### **Blooms Taxonomy and Bloom Digital Taxonomy**

In 1956, Benjamin Bloom and collaborators Max Englehart, Edward Furst, Walter Hill, and David Krathwohl developed Bloom's Taxonomy, a framework for establishing educational goals that has been used by generations from K-12 teachers up to Higher Education instructors. Anderson and Krathwohl proposed a new version of Bloom's taxonomy in 2001, which uses verbs to designate groups and subcategories (rather than the nouns of the original taxonomy). These "action verbs" explain the cognitive processes through which intellectuals encounter and engage with information. (Armstrong, 2010). Andrew Churches integrated Bloom's method with technology in

2008 to aid educators in supporting learning via the use of digital tools connected to each level of Bloom's paradigm as part of 21<sup>st</sup> Century skill to facilitate higher order thinking and learning (Churches,2008).

### ***Online/ digital assessments***

The transition to electronic form and the absence of the need for conventional style, online exams do not require a pencil-paper alternative, allowing for easier online access (Vipin, 2019). Assessment literacy is the ability to assess students by testing their knowledge and interpreting the assessment results to provide feedback (Evans, 2013). The Assessment (Formative and Summative) process serves in measuring the efficiency of the educator's teaching abilities and students' performance (Khan et al., 2019; Fabry,2016). Online assessment integrated with ICT approaches could be taught to the educators who wish to become innovative assessment literate educators and might like to take up a challenge as a professional development educator to aid other beginner educators and to step up in the competitive higher education environment. (Husain, 2021a).



Source: (Husain,2021a)

Blooms Digital Taxonomy, integrating information and communication technology tools, helps improve online assessments in facilitating Lower order thinking skills (LOTs) and higher order thinking skills (HOTs). Influenced by the 21st century skills and employing action verbs from the revised Bloom's taxonomy has a positive impact on students and educators. Educators may utilize this approach to build a variety of possibilities ICT integrated online exams, such as using social networking or an online mind mapping tool to help students recall and identify specific material during tests or quizzes (Husain, 2021b). This model of Digital Assessment, is presented as a suggested paradigm based on Benjamin Bloom's Taxonomy (Clark, 2015) and (Churches, 2008), may be beneficial to educators Therefore, this method may also be used as in a professional development training for the creation of reliable online assessment as a guide for higher education educators to construct legitimate online exams/assessments and evaluate students' skills and different abilities (Husain, 2021b).

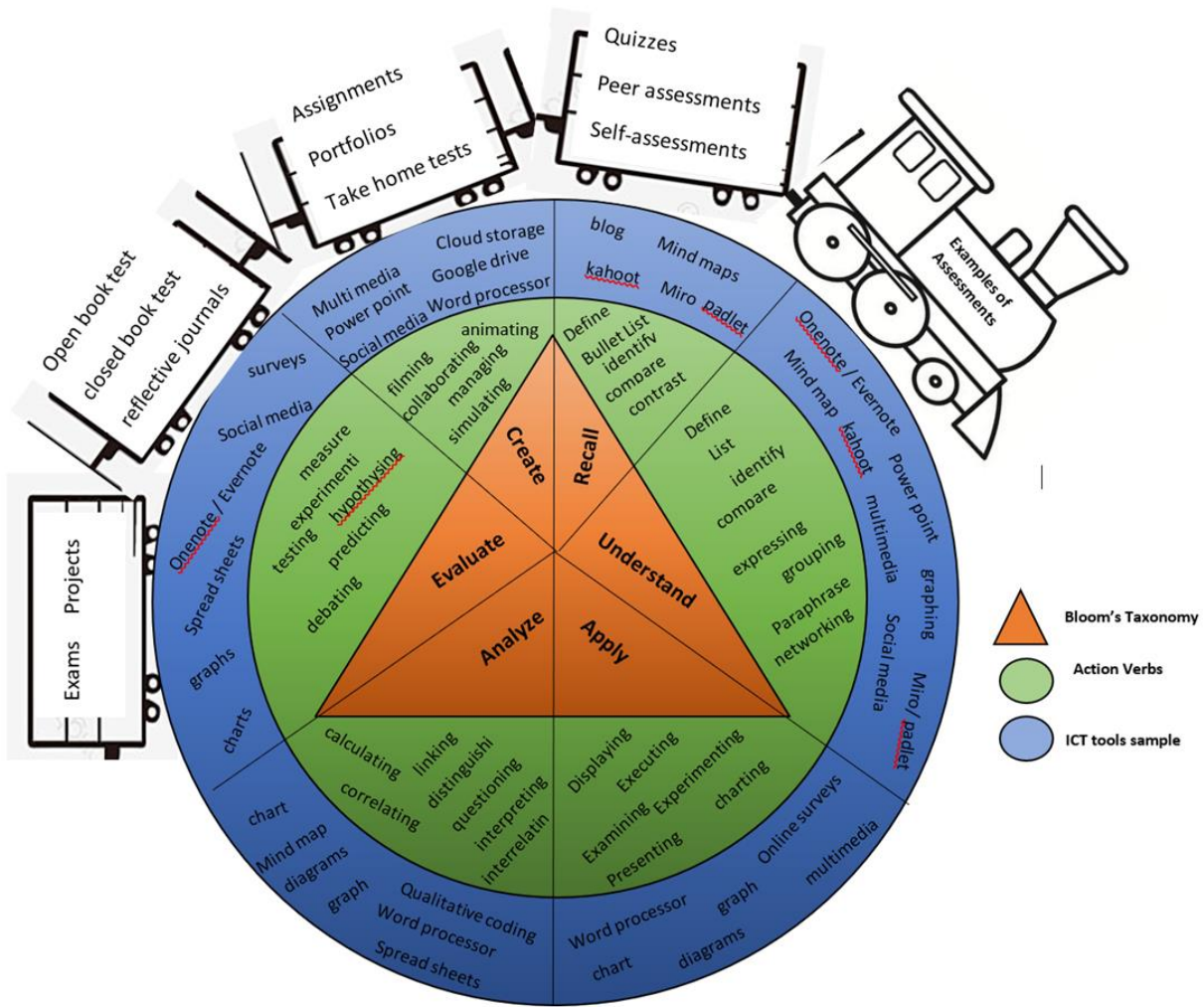


Figure 3: Proposed Blooms Digital Assessment Model  
Source: sample created by the researcher

For the development of trustworthy online activities and assessments, assessment literate educators employ the 6 tiers from Bloom's updated model and apply digital technology integration to "Remembering," "Understanding," "Applying," "Analyzing," "Evaluating," and "Creating." Higher-order thinking skills (HOTS) are a notion that separates critical thinking skills from lower-order thinking skills (LOTS) like rote memorization (Watson,2019). These techniques are further explained with a set of sample assessments for the Business and Management subject.

**Sample Question 1:** Big Box is today a profitable company, although it suffered in the beginning: "poor cash flow made the early years financially difficult." Outline two issues that Benjamin's new business venture may have encountered.

**Sample Question 2:** Create a fully labeled Ansoff matrix that depicts Big-Box's potential expansion plans.

**Sample Question 3:** Evaluate if a cost-based pricing approach for Big-Box's is acceptable.

**Table 1:** *Sample application of Blooms Digital Assessment Techniques business exam paper*  
**Technology Tool Integration Level I, II, III, V and VI: Remember, Evaluate and Create**  
**(possible sample choices)** **Outline/ Evaluate/Create (Lower & Higher Order Thinking skills)**

Word processing/ Kahoot /flashcards	Outline two issues that Benjamin's new business venture may have encountered.
Multimedia presentation/Podcasting/Video creation software	Create a fully labeled Ansoff matrix
Word processing/ survey/ Mind mapping/ Flowcharting software	Evaluate if a cost-based pricing approach

Source: Researchers source

Education is a continuous process. It doesn't end when you get your degree and start working. Professional development educators will always be in demand since educational technology keeps on changing. The government educational policies and curriculum is updated on regular basis, which makes it difficult for the educators to keep up with the industry's trends and best practices (QU,2020).The effectivity of this proposed model for this study is to provide a comprehensive understanding of this emerging field in higher education research, as well as to understand the capabilities of various technologies as they connect to teaching, learning, and assessment, and to know how to train others as professional development educators, allowing them to position themselves for success and growth in today's competitive environment (Lidolf & Pasco, 2020). To obtain recognition, instructors can hire professionally qualified trainers who will adhere to the state's or government's unique laws and regulations. This course may be part of a government-approved and licensed curriculum of training courses. This certificate course is created for graduate-level professional development, where higher education instructors may acquire the most up-to-date technology integration techniques for classroom teaching and assessment, giving them



a wonderful chance to flourish in their field. It allows you to engage with students by knowing and delivering activities and prepare assessments that are appropriate for their level (Staff, 2021).

### Adult Learning Theory

The term "adult learning" was used in 1833 by a German grammar teacher called Alexander Kapp to characterize the Greek philosopher Plato's educational notion of adults engaging in ongoing education (Ingalls, 1976). Adult Learning Theory, or andragogy, was created by Malcolm Shepherd Knowles, an American educator, in 1968 as a term for adult education. Andragogy is a relatively recent idea, having been developed just a few hundred years ago (Kurt, 2020). Andragogy is stated as the art and science of adult learning, according to Malcolm Knowles, therefore it can refer to any type of adult learning. Knowles' andragogy theory is an attempt to create a theory that is particular to adult learning (Loeng, 2017).

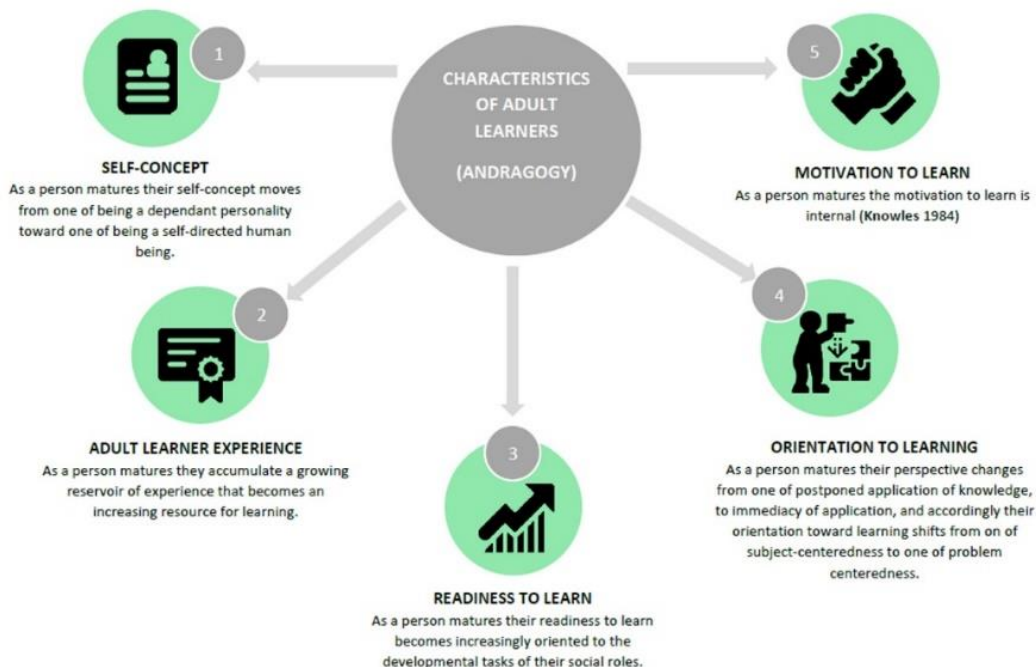


Figure 4: Malcolm Shepherd Knowles Adults Learning Theory

Source: (Thrush, 2019)

Knowle outlines five assumptions connected with our study of preparing professional educators as part of adult learning environment. In "Self-concept", educators from higher education are assumed to be independent learners who are willing to take the initiative to learn by setting a standard to succeed in the competitive environment, "Readiness to learn". These educators bring in their background experience and skills and share with their fellow members as part of the "Experience" phase and are ready to solve problem as a matured learner as problem solvers to take

the initiative to get trained as professional development trainers as part of the "Orientation to learning" phase. Adult learners need to feel involved and motivated to learn "Motivation to learn" (Thrush, 2019) to sharpen their skills to survive in today's competing world.

### ***Intervention Plan***

Because the training requirements have been identified and the educators' abilities, knowledge, and experience have been assessed, a training plan focusing on the Digital assessment literacy training goals will be developed. The gap between what the learner understands and what they need to learn more about is identified as part of our research, evaluation, and analysis, which includes educators' feedback. This training will clearly explain the objectives for delivering the Digital Bloom application in evaluations while also comprehending the ideas of education technology integration. This will teach the educators how to use Blooms Digital integration of ICT tools to grasp the cognitive idea of moving from lower to higher order thinking skills, which will aid educators in creating accurate online assessments.

## **METHOD**

The learning information could be organized in logical phases during the session. This training will equip the learner to create methods to demonstrate what they've learned as part of the intervention. Small group discussion with debriefing, case studies, hands-on practice, and Q&A sessions are just a few examples of activities. PowerPoint presentations, a handout guide, and video access to various web programs could be part of the strategy. Participants could be asked for feedback about the training as part of the evaluation process following the delivery of the training, including any issues they would like to address regarding the achievement of course objectives, relevance of topic to learner needs, satisfaction with the trainer, and satisfaction with the facilities.

**Table 2 : Proposed Intervention 2 weeks Plan**

<b>Action</b>	<b>Led by</b>	<b>Date and Venue</b>	<b>Resources</b>	<b>Progress follow up</b>
<b>Phase 1 training</b>	<b>LOT</b> Assessment Literate Educators	TBD managements approval	ICT tools, Commination apps, hand out, flip charts, workstations etc	
<b>Phase 2 training</b>	<b>HOT</b> Assessment Literate Educators	TBD managements approval	ICT tools, Commination apps, hand out, flip charts, workstations etc	

Utilizing the Digital Bloom's Model to integrate information communication technology resources, this research could indicate the importance educators in higher education and their professional development in online assessments to survive in today's competing and fast growing technological integrated environment. The Model could be beneficial in the education professional development to provide the analysis such as confidence, motivation to the educators While the

experienced teachers and administrators understand the Bloom's framework, some educators lack the application process in online assessment strategies, and there is a chance to improve as they have expressed interest in the online Assessment literacy training.

## CONCLUSION

Most students who are digital natives, as well as some educators who have spent their entire lives in a technological environment surrounded by computers, the Internet, social networks, and so on, it is empirical that students are more interested in learning using new innovative ideas in education technology as part of their 21st century collaboration skill of technology (Stauffer, 2020). The educators' willingness to participate in professional learning activities might enhance their confidence to present themselves as professional trainers in educational technology with competence in dealing complex digital assessments, which could have a personal and professional impact. Educators' willingness to study and become professional development trainers will increase their confidence, opening up new opportunities in the educational field to thrive in a competitive atmosphere.

## Recommendation

As Digital Bloom's Taxonomy is a classification system that caters to various requirements while also taking critical thinking abilities into account., professional development curriculum implementation may be improved further as this study could be added in Teacher's graduation curriculum course (Wedlock M.S. & Growe Ed.D, 2017). Therefore, the curriculum researchers might work with a variety of government and commercial organizations to execute the training. Professional development certified institutions could use this model as part of their training and development for future educators and trainers to certify with a license (Staff, 2021). Furthermore, educators must be properly trained in the concept of digital pedagogy and techniques for integrating BDT into all stages of their teaching–learning and assessment. Researchers might also take the initiative to develop a new model that considers the coherence of the usage of integrated educational technology in most Digital Bloom Level evaluations, where educators regard the technology integration to be easy to use.

## REFERENCES

- Anonymous. (n.d.). *Importance of teacher training: Education blog*. EDPOSTS. Retrieved October 11, 2021, from <https://www.edposts.com/article/importance-of-teacher-training>.
- Armstrong, P. (2010). Bloom's Taxonomy. Vanderbilt University Center for Teaching. from <https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>. Retrieved September 16, 2021, from <https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>.
- Ayers, R. (2017, November 17). 6 Benefits of Ongoing Employee Development. Retrieved October 11, 2021, from <https://innovationmanagement.se/2017/11/17/6-benefits-of-ongoing-employee-development/>.

- Britannica, T. Editors of Encyclopaedia (2016, March 3). *Higher education*. *Encyclopedia Britannica*. Retrieved October 8, 2021 from <https://www.britannica.com/topic/higher-education>
- Chandler-Grevatt, A. (2021, February 8). The 6 elements of assessment literacy Andy Chandler-Grevatt. Retrieved September 20, 2021, from <https://edu.rsc.org/feature/6-ways-to-develop-your-assessment-skills/4013078.article>.
- Clark, D. (2015, January 12). Bloom's Taxonomy: The affective domain: Big dog & little dog. Retrieved from Clark, D. (2015, January 12). *Bloom's Taxonomy: The affective domain: Big dog & little dog*. - AOL Search Results
- CMktr, R. M. (2015, March 30). The Difference Between Personal and Professional Development. Retrieved October 8, 2021, from <https://www.linkedin.com/pulse/difference-between-personal-professional-development-rachel-matthews>.
- Cochran Ed.D, D. (2021). Develop higher-order thinking skills and engage students with technology tools. Retrieved October 10, 2021, from [https://creativeeducator.tech4learning.com/v02/articles/The\\_New\\_Blooms](https://creativeeducator.tech4learning.com/v02/articles/The_New_Blooms).
- Communication. (2019, June 27). *Why teacher training is a key factor in educational excellence: CAE*. CAE Computer Aided E-learning. Retrieved October 11, 2021, from <https://www.cae.net/why-teacher-training-is-a-key-factor-in-educational-excellence/>.
- Dameron, E. (2019, February 5). 9 Online Learning Platforms for Quality Professional Development. Retrieved October 9, 2021, from <https://zapier.com/blog/online-professional-development/>.
- Cherry, K. (2020, April 27). *The psychology of what motivates us*. Verywell Mind. Retrieved October 11, 2021, from <https://www.verywellmind.com/what-is-motivation-2795378>.
- Churches, A. (2008). Bloom's digital taxonomy. Bloom's revised digital taxonomy. Retrieved from (PDF) Andrew Churches - *Bloom's Digital Taxonomy.pdf* | Ferry Hidayat - *Academia.edu*
- edWeb. (2020, March 2). edWeb Releases 2020 Teacher Professional Learning Survey Results. Retrieved October 11, 2021, from <https://home.edweb.net/2020-teacher-professional-learning-survey-results/>.
- Essel, R., Badu, E., Owusu-Boateng, W., & Saah, A. A. (2009). In-Service Training: An Essential Element in the Professional Development of Teachers. *Malaysian Journal of Distance Education*, 11(2), 55–64.
- Evans, C. (2013). Making Sense of Assessment Feedback in Higher Education. *Review of Educational Research*, 83(1), 70–120. doi.org/10.3102/0034654312474350
- Fabry, D. (2016, September 20). Why we need assessment literacy as part of teacher preparation. Assessment Basics. Teach.Learn.Grow.The Education Blog-*nwea.org*
- Franko, K. (2021, August 10). Pandemic prompts changes in how future teachers are trained. Retrieved October 10, 2021, from <https://apnews.com/article/technology-health-education-pandemics-coronavirus-pandemic-f2dabfbf25ac4a074360ec80671971f56>.
- Finley, T. (2017, April 13). Teaching a Class With Big Ability Differences. Retrieved October 11, 2021, from <https://www.edutopia.org/article/teaching-class-big-ability-differences-todd-finley>.

- Garivaldis, F., & Kneebone, S. (2021, June 30). 3 things we need to get right to ensure online professional development works. Retrieved October 9, 2021, from <https://theconversation.com/3-things-we-need-to-get-right-to-ensure-online-professional-development-works-164785>.
- Hancock, R. (1997). Why are class teachers reluctant to become researchers? *Journal of In-Service Education*, 23(1), 85–99. <https://doi.org/10.1080/13674589700200009>
- Husain, F. N. (2021a). Digital assessment literacy: The need of online assessment literacy and online assessment literate educators. *International Education Studies*, 14(10), 65. <https://doi.org/10.5539/ies.v14n10p65>
- Husain, F.N. (2021b). Use of DIGITAL ASSESSMENTS how to utilize Digital bloom to Accommodate online learning and Assessments? *Asian Journal of Education and Training*, 7(1), 30–35. <https://doi.org/10.20448/journal.522.2021.71.30.35>
- Hyndman, B. (2018, August 14). Ten reasons teachers can struggle to use technology in the classroom. Retrieved October 9, 2021, from <https://theconversation.com/ten-reasons-teachers-can-struggle-to-use-technology-in-the-classroom-101114>.
- Inamorato, A., Gaušas, S., Mackevičiūtė, R., Jotautytė, A., & Martinaitis, Ž. (2019). *Innovating Professional Development in Higher Education: Case Studies* (Ser. 1831-9424 ). Publications Office of the European Union, Luxembourg
- Ingalls, J. D. (1976). *Human energy: The crit. factor for individuals and organizations*. Increasing Energy for Learning. In *A theory of Adult Learning* (1st ed., Ser. 0-201-03202-3, pp. 139–160). essay, Addison-Wesley publishing company.
- Johnson, E. (2021, July 14). Digital learning is real-world learning. That’s why blended on-campus and online study is best. Retrieved October 9, 2021, from <https://theconversation.com/digital-learning-is-real-world-learning-thats-why-blended-on-campus-and-online-study-is-best-163002>.
- Kandhari, M. M. (2021, August 6). Train the trainer. Retrieved October 10, 2021, from <https://www.thehindu.com/education/why-teacher-reskilling-is-becoming-increasingly-important/article35766765.ece>.
- Karlberg, M., & Bezzina, C. (2020). The professional development needs of beginning and experienced teachers in four municipalities in Sweden. *Professional Development in Education*, 1–18. <https://doi.org/10.1080/19415257.2020.1712451>
- Kelly, M. (2019, June 23). Importance of Effective Teacher Training. Retrieved October 11, 2021, from <https://www.thoughtco.com/importance-of-effective-teacher-training-8306>.
- Kim, A. (n.d.). How Technology Is Changing Education. Retrieved October 9, 2021, from <https://www.steelcase.com/research/articles/topics/technology/how-technology-is-changing-education/>.
- Khan, N. F., Hussain, S., & Imad, M. (2019). Classroom assessment, literacy and practice of teachers educators in Pakistan: Global Social Sciences Review (GSSR).Research Gate. V IV.1-10.0.31703/gssr.2019(IV-IV).07
- Kurt, S. (2020, July 11). Andragogy Theory – Malcolm Knowles. Retrieved October 11, 2021, from <https://educationaltechnology.net/andragogy-theory-malcolm-knowles/>.

- Lach, Jr., E. L. (2000). Mann, Horace (1796-1859), educator and social reformer. *American National Biography Online*. <https://doi.org/10.1093/anb/9780198606697.article.0900466>
- Lathan, J. (2021, May 6). *What is Educational Technology? [Definition, Examples & Impact]*. University of San Diego. <https://onlinedegrees.sandiego.edu/what-is-educational-technology-definition-examples-impact/>.
- Lederman, D. (2020, March 18). Will Shift to Remote Teaching Be Boon or Bane for Online Learning? Retrieved October 9, 2021, from <https://www.insidehighered.com/digital-learning/article/2020/03/18/most-teaching-going-remote-will-help-or-hurt-online-learning>.
- LeTendre, G. K. (2021, October 5). How education reforms can support teachers around the world instead of undermining them. *The Conversation*. Retrieved October 10, 2021, from <https://theconversation.com/how-education-reforms-can-support-teachers-around-the-world-instead-of-undermining-them-166528>.
- Lidolf, S., & Pasco, D. (2020). Educational Technology Professional Development in higher education: A systematic literature review of empirical research. *Frontiers in Education*, 5. <https://doi.org/10.3389/educ.2020.00035>
- Loeng, S. (2017). Alexander Kapp – the first known user of the andragogy concept. *International Journal of Lifelong Education*, 36(6), 629–643. [doi.org/10.1080/02601370.2017.1363826](https://doi.org/10.1080/02601370.2017.1363826)
- Marcus, J. (2020, February 20). How Technology Is Changing the Future of Higher Education. *The New York Times*. Retrieved October 10, 2021, from <https://www.nytimes.com/2020/02/20/education/learning/education-technology.html>.
- McLeod, S. (2018). *Questionnaire: Definition, examples, design and types*. Questionnaire: : Definition, Examples, Design and Types | Simply Psychology. Retrieved October 12, 2021, from [www.simplypsychology.org](http://www.simplypsychology.org).
- Ozamiz-Etxebarria, N., Berasategi Santxo, N., Idoiaga Mondragon, N., & Dosil Santamaría, M. (2021). The psychological state of teachers during the COVID-19 crisis: The challenge of returning to face-to-face teaching. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.620718>
- Psychology. (n.d.). *Confidence*. Psychology Today. Retrieved October 11, 2021, from <https://www.psychologytoday.com/us/basics/confidence>.
- QU. (2020, December 11). *Importance of Prof Development for educators: Queens Online*. qnstux. Retrieved October 11, 2021, from <https://online.queens.edu/resources/article/professional-development-for-educators/>.
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online University teaching during and after the COVID-19 CRISIS: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, 2(3), 923–945. <https://doi.org/10.1007/s42438-020-00155-y>
- Raposo, A., Durão, A., Estradas, A., & Ribeiro, I. (2020). Technology as a tool to enhance motivation and learning. *E3S Web of Conferences*, 171, 01011. <https://doi.org/10.1051/e3sconf/202017101011>
- Sneed, O. (2016, May 9). Integrating Technology with Bloom's Taxonomy. Retrieved October 11, 2021, from <https://teachonline.asu.edu/2016/05/integrating-technology-blooms-taxonomy/>.

- Staff, F. P. U. (2021, February 5). *Benefits of a professional development certificate*. Fresno Pacific University. Retrieved October 12, 2021, from <https://ce.fresno.edu/news/why-should-teachers-earn-a-professional-development-certificate>.
- Stalnaker, R. (2018). The Professional Development Plan Process in an Educational Setting: The Need for Revision. *Arts and Social Sciences Journal*, 09(06). <https://doi.org/10.4172/2151-6200.1000424>
- Stauffer, B. (2020, May 19). on March 19th, 2020 What Are 21st Century Skills? Retrieved from <https://www.aeseducation.com/blog/what-are-21st-century-skills>.
- Team, C. P. D. N. (2019, July 23). *CPD for Primary and Secondary School Teachers - News: The CPD Certification Service*. News | The CPD Certification Service. <https://cpduk.co.uk/news/cpd-for-primary-secondary-teachers>.
- Thrush, N. (2019, March 1). The Adult Learning Theory – Andragogy. Retrieved October 11, 2021, from <https://learnbydesign.co.za/the-adult-learning-theory-andragogy/>.
- Watson, S. (2019, February 26). Higher-Order Thinking Skills (HOTS) in Education. Retrieved October 10, 2021, from <https://www.thoughtco.com/higher-order-thinking-skills-hots-education-3111297>.
- Wedlock M.S., B. C., & Growe Ed.D., R. (2017). The Technology Driven Student: How to Apply Bloom’s Revised Taxonomy to the Digital Generations. *Journal of Education & Social Policy*, 7(1), 25–34.
- Willen, L. (2004, March 14). What do teachers want even more than new technology? Training on how to use it. Retrieved October 10, 2021, from <https://hechingerreport.org/teachers-want-even-new-technology-training-use/>.
- UNC. (2020, March 16). *Higher order thinking: Bloom's taxonomy*. Learning Center. Retrieved October 9, 2021, from <https://learningcenter.unc.edu/tips-and-tools/higher-order-thinking/>.
- UNESCO. (2020a, April 1). Alternative solution to school closure in Arab countries to ensure that learning never stops. Retrieved from Alternative Solutions to School Closure in Arab Countries to Ensuring that Learning Never Stops (unesco.org)
- UNESCO. (2020b). World Teachers’ Day 2020 Fact Sheet. [http://uis.unesco.org/sites/default/files/documents/world\\_teachers\\_day\\_fact\\_sheet\\_2020.pdf](http://uis.unesco.org/sites/default/files/documents/world_teachers_day_fact_sheet_2020.pdf)
- Vipin, S. (April 12,2019). The impact of online assessments on the educational sector. Educational Technology. elearning Industry(elearningindustry.com)
- Zhang, X., Admiraal, W., & Saab, N. (2021). Teachers’ motivation to participate in continuous professional development: Relationship with factors at the personal and school level. *Journal of Education for Teaching*, 1–18. <https://doi.org/10.1080/02607476.2021.1942804>