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TESTING THE RELATIONSHIP BETWEEN E-LEARNING AND LEARNERS' MOTIVATION IN TEACHERS' TRAINING PROGRAMS IN DEVELOPING COUNTRIES

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ABSTRACT
This study examines the influence of E-learning on learners' motivation in a teacher induction program in the developing context of Pakistan. The study focused on three measurable objectives: (1) to determine the correlation between E-learning and learners' motivation, (2) to measure the effect size of E-learning on motivation, and (3) to assess learners' motivational levels using a structured Likert-scale survey. Quantitative data were collected from newly hired male teachers (N = 800) trained through a blended learning model, from which a sample of 260 participants was determined using Krejcie and Morgan's table. Data were analyzed using SPSS-27. The findings revealed that E-learning positively contributes to learners' motivation and that there is a high, significant correlation and substantial effect size of E-learning on motivation. Based on these results, the study recommends strengthening instructional processes by providing adequate digital facilities and trained personnel to enhance the effective use of E-learning in the teaching-learning process.

Keywords: E-learning, Blended learning, induction program, learners' motivation, professional development

1 INTRODUCTION

The explosion of Information Technology (IT) increased the use of digital instruments for various goals in formal and non-formal education in 21st century [1]. Quality education is a basic part of the "United Nation's Sustainable Development (UNSD) 2030 agenda". It is aimed to provide quality education worldwide without discrimination. This is possible only through digital technologies. Due to the impact of digital technologies, the entire education system has experienced a significant transformation. In this digital era, instead of pen and paper, chalk and duster, and heavy books, a learner uses e-books and websites to reach the knowledge sources, different software and tools to create presentations, projects, and communicate [2]. Due to the exponential growth of information and internet technology, educational institutions globally integrate e-learning within their traditional educational system so as to improve the learners' learning experiences and to enhance teachers' professional skills [3]. E-learning is the use of digital technologies and media to enable education, training, and knowledge sharing over the internet [1]. Increasing technology integration in the current era has brought key variations in the education system, thereby forcing educational institutions to change their behavior and mindset to achieve educational goals. In today's technological era, ICT will enable teachers to develop professionally and replace traditional methods of teaching with technology-based teaching [4].

Globally, it has been recognized that learners' motivation in the teaching-learning process is a major issue for educational administrators. The causes of this issue in academic activities are often linked to social and emotional factors. To overcome these challenges, the teacher's role is crucial. Teachers' attitudes, behaviors, and teaching styles significantly influence learners' motivation levels. Teachers are required to create effective learning environments, design interesting and goal-oriented activities, apply engaging practices, and provide rewards and timely feedback that enhance both intrinsic and extrinsic motivation in the instructional process [5]. In this regard, E-learning has reshaped outdated educational systems into more flexible and efficient learning environments, irrespective of boundaries of time and geography. Equipping learners with technological skills during their education has become increasingly important, as these skills are essential for their professional development in the workplace [6].

In 2017, the Elementary and Secondary Education Department (E&SED) in Khyber Pakhtunkhwa introduced the first-ever Induction Program for newly hired teachers with the following objectives:

- To enhance teachers' content knowledge in the fundamental subjects (English, Mathematics, Islamiat, Science).

- To equip teachers with pedagogical skills through foundation subjects (Educational Psychology, Curriculum and Instruction, School Organization, Use of ICT).

Although extensive research exists on E-learning in higher education and general academic settings, very few studies have examined its role within teacher induction programs, especially in developing countries such as Pakistan. Prior research has mainly focused on university students, online course delivery, or barriers to technology adoption, but has not explored how E-learning influences the motivation of newly recruited teachers undergoing structured professional training. Moreover, the blended learning model implemented in the Khyber Pakhtunkhwa Induction Program—featuring pre-loaded tablets, LMS-based learning, asynchronous self-study, and scheduled face-to-face sessions—has not been empirically investigated in previous literature. This creates a significant research gap, as understanding the motivational outcomes of such a large-scale government-led initiative is essential for improving teacher preparation and professional development.

Therefore, this current empirical study extends the literature to an underexplored population in the developing country of Pakistan. It examines the relationship and effect of Blended Learning (BL) on Learners' Motivation (LM) in the teachers' training Induction Program (IP) for newly recruited teachers through various testing agencies in Khyber Pakhtunkhwa.

1.3 Research proposal and questions

The classroom environment in this digital age is ever-evolving. The advancements in technology have created a divide between what teachers do in the classroom and how society is progressing. Traditional classroom instruction imparts knowledge in a teacher-centered manner that is frequently dull and fails to pique students' interests. However, education in the twenty-first century is student-centered. In order to develop student centered classroom environment teachers needs professional development (TPD), specifically to optimize the use of technology to improve learning [7]. Additionally, in today's technological era, conventional methods of teaching are not sufficient to fulfill the needs of learners or prepare them for the development of disruptive innovations in the workplace influenced by the 5th Industrial Revolution. The exponential use of technology as an instructional tool has changed the learning paradigm due to the gaps created between traditional teaching and learning methods. To overcome these, E-learning is more effective, because it provides flexibility in time, schedule, and location, continuous learning opportunities, and makes the classroom environment more engaging and interesting. It enables learners to develop their problem-solving skills, critical thinking, analytical skills, and responsibility in learning. E-learning [8].

This study aimed to empirically analyze the relationship between and the impacts of E-learning on learners' motivation in a teachers' training induction program (IP) for newly recruited teachers using a BL model and recruited participants from the population of testing agencies, namely National Testing Services (NTS), Allied Testing Services (ATS), and Educational Testing Evaluation Agency (ETEA) in Khyber Pakhtunkhwa. Therefore, in order to achieve the aim of the study the following research questions has been formulated.

RQ1. Is there a significant relationship between E-learning and learners' motivation?
RQ2. Does E-learning affects learners' motivation?

2 LITERATURE REVIEW

E-learning is the using of digital technologies and media platforms to enable education, training, and knowledge sharing over the internet [1]. Electronic learning (EL) is a technology-mediating education system without the restriction of time or space [9]. This system aggregates various technologies such as writing, communicating, visualizing, and storing for effective teaching-learning process [10]. It has been urged by [11] that there are six different types of e-learning that exist.

i. E-learning with physical existence and in nonappearance of E-communication (face-to-face)
ii. E-learning without existence and exclusive of E-communication (Self-learning)
iii. E-learning without physical existence and with E-communication (Asynchronous)
iv. E-learning with virtually existence and with E-communication (Synchronous)
v. E-learning with infrequent existence and with E-communication (Blended/hybrid-asynchronous)
vi. E-learning with physical existence and with E-communication (Blended/hybrid-synchronous)

2.2 Impacts of Integrating E-Learning in the Teaching Learning Process

In our time, technology has made the life so relaxed and easier. It has cleared that internet technology is used as a medium of instruction in many fields especially in academic learning. Globally, E-learning has given much devotion in the last few years , with an assessed 5-7 million students now are registering in at least one online course each year [12].The dawn of E-learning provides an unlimited source of knowledge to all of us. Their integration in teaching and learning process enables us that how to improve, capture, organize and deliver large amount of knowledge globally anytime [13]. In the current era the advancement of technology plays vital role in teaching learning process especially in methodologies that have adapted by institutions. One of the famous methods that was adapted and developed by the instructors is the traditional instructor-centered method. in against to this method, there are so many methods that are used by learners in their learning process in order to gain theirs desired goals and objectives. In education, E-learning enables the learners to improve self-motivation, communication and make them able to think logically and solve the problems collectively and critically[14].

To adopt e-learning, educational institutions need best strategies and plans to improve efficient, effective and productive means of teaching and promote better communication[15]. It is now the need of all educational institutes to strengthen their ways of learning functions through E-learning. However the execution of E-leaning is not just uploading instructional information, but much and more possible to change the model of understanding process. This model shift of the teaching-learning process depends on E-learning readiness (ELR), which means the intellectual and physical readiness of an institution for E-leaning in teaching-learning process. For the adaptation of E-learning educational institutions requires an effective strategy and large resources[16].Integrating-learning into teacher training programs is a crucial step toward enhancing educators' digital literacy and equipping them with the required techniques to leverage technology effectively in the classroom. Integrating e-learning into teacher training programs is essential step toward enhancing educators' digital literacy and equipping them with the necessary skills to leverage technology effectively within the learning space [17].

Periodic interaction and repetition are essential for any learning skill. In the traditional instructional process, due to more human involvement, interaction and repetition are the least common. In E-learning, due to large involvement of technology and simulation, more repetition is possible, either exactly in the same way or in different scenario, to advance the level of the instruction procedure [18]. Additionally, the practice of numerical tools for E-learning in teaching-learning process will refine the learning capability of learners and the effectiveness of instructional process [19].

2.3 Role of digital instructional technologies in COVID-19 and post COVID-19 period

COVID-19 started in Wuhan, China, and spread around the globe in a very limited time. World Health Organization (WHO), officially announced COVID-19 a pandemic on March 11, 2020. To control the spreading of this pandemic, educational institutions have been provisionally locked by most of the countries around the world [20].This pandemic produced a major disturbance in an instructional process in the history of human beings; around 1.6 billion students across over 200 countries were affected. This lockdown of educational institutes affected more than 94% of learners around the world.

According to the United Nations' Sustainable Development (UNSD) 2030 agenda basic and quality education is the essential right for every citizen of the world. In accomplishing this goal, digital technologies play a prominent role. The latest COVID-19 pandemic has additional necessitated the role of these digital technologies in the schooling system. Nowadays, these technologies during teaching and learning are not just an information supplier, but are used to create learning resources, a supporter, and an evaluator [2]. Digital technologies will provide inclusive learning environment for all learners with diverse learning capacities to acquire knowledge at the same location. Computer-generated classrooms, audiovisual tools, robots, and other technological instruments make the classroom stimulating that foster cooperation and interest [21]. With the support of these digital technologies in the instructional process, numerous learning management systems (LMS) have been developed. These LMS are used in computer-generated classrooms where an instructor cooperate with students in actual time, share his assets, carry his lecture, evaluate learners' learning, gather opinions, and answer to their questions [22]. Definitely! During the COVID-19 pandemic, guaranteeing firmness in instructional process has been a serious challenge for educational stakeholders. The best solution for this challenge is the implementation of distance learning in the instructional process. But how to implement distance learning in instructional process, it need best instructional tools and strategies. In this regard, Google Classroom instrument as a education app, WhatsApp group for transmitting messages, and Zoom as a video conference media for distance learning is the best combination of tool and strategy [23].

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All major accidents that occurs in the world always produce disruptions in the two way learning process. The occurrence of this harmful disease in the world compels the educational stakeholders to lockdown the educational institutions and to minimize the spread of this viral disease. This pandemic made the educational stakeholders think of alternate approaches to teaching during this lockdown. E-learning is the best teaching method to continue educational activities. In e-learning, the instructors and learners are virtually connected, and thus e-learning will provide a flexible and operative situation for teaching and learning process [24]. Additionally, the occurrence of COVID-19 pandemic resulted in a vital modification from front to front teaching and learning to a computer-generated approach to continuing educational activities [25]. An effective, applicable strategy is essential for the execution of E-learning in the instructional methodology. In this regard [26] develop an online strategy "Determine, Study, Exercise, Cooperate and Evaluate (DLPCA)" for the implementation of E-learning. In this strategy, the asynchronous component of the teaching and learning process was done through the broadcasting of pre-recorded lecture and videos on social media platforms. The synchronous part of the teaching-learning process was conducted using video conferencing platforms such as Zoom and Google Meet. In the COVID-19, E-learning gained key importance in the two way process of learning because of its various mode of content delivery through digital technologies, such as computer-generated classrooms, communicating whiteboards, and different LMS in the TLP. These learning modes of content delivery ensure anti-COVID-19 measures in educational process [27].

2.4 Motivation

"The word motivation formulates from the Latin word root *moveo*, which means "to move." According to Merriam-Webster dictionary motivation is the process of encouraging someone to do something. Motivation is a stimulus that motivate a person to convert PE into KE [28]. Motivation is a motivating power that encourages the interest of learners' in learning process, and pushes a learner towards the learning [29]. Additionally, motivation is a process which activates motives for action to achieve certain goals [30].

2.5 Significance of motivation in teaching-learning process (TLP)

In whatever we do, motivation is essential. The driving force behind people's actions and inaction is their motivation. Efficient, focused, and long-lasting behavior is driven by motivation. The cultivation and arousal of students' interest in the learning tasks are secrets to motivation. Whether or not students are motivated to learn determines the usefulness of the teaching and learning process. Sufficient motivation encourages introspection, focus, enthusiasm, and effort from the students, all of which support learning [31]. Humans' motivation is related to their behavior and feelings. In educational psychology, motivation is used to theoretically explain human behavior. It is the motivation that offers the motive for the human beings to respond and achieve their needs. Motivation and the learning process have a strong link. Learning is forever process; that enables the learner to seek continuously; a great level of incentive is needed. Motivation is an agent that boosts the learner to deal all the hard and challenging situations and achieve their goals [32].

Motivation is an indispensable component of a productive teaching-learning process, it stimulates both learners and instructors behavior. It not only enhances learner performance but also contributes to their holistic growth and success in education [33]. Motivated learners are more likely to achieve their potential and to reach their goals. Because motivation yields additional confidence, well-being, power of exploration and investigation, it therefore leads the learner to learn new knowledge and skills. Motivated learners attempt to become independent learners, taking responsibility of their own learning. In this regard, the role of instructor is very important. Instructors are the facilitators of new learning strategies. Therefore, it is the responsibility of instructor to develop motivating techniques and strategies for learners to become self-learner [5].

2.6 Kinds of motivation

The Self-determination Theory (SDT) says that the two potential sources of motivation for learners are: internal and external. Thus, intrinsic and extrinsic motivation are the two main categories of motivation [31].

2.6.1 Intrinsic motivation (IM)

Intrinsic motivation is that motivation in which the stimulus is inner driving force that motivates an individual for a task. The stimulus may be biological, emotional, spiritual, or social. Internally motivated individuals do a task due to interest, love, fun, challenge, self-pleasure and satisfaction [29]. Intrinsically motivated person perform a task or activity due to the presence of internal stimuli, so they remain motivated for a long time actively. Intrinsic motivation plays a key role in the instructional process. Intrinsically motivated person perform an activity because they find it inherently exciting, satisfying, and enjoying for them. Intrinsically motivated learners are deeply part of learning and

goes beyond the surface level of understanding. Intrinsic motivation inspires learners to discover new areas of interest by increasing their limits [34].

Examples of intrinsic motivation (IM)

Some examples of IM described by Drew, (2023) are:

- Pleasure in sport activity
- Search for knowledge
- Volunteering for a cause
- Testing yourself
- Reaching fulfillment
- Working towards self –mastery
- Passionate pursuit of hobbies
- Feeding the curiosity
- Being among the people with similar interests
- Creative expression
- Seeking sensory pleasures
- Satisfaction from helping others
- Tackling new puzzles or problems
- Reading or engaging in stories for pleasure

2.6.2 Extrinsic motivation (EM)

Extrinsic motivation (EM) is the type of motivation in which the stimulus is external driving force that motivates an individual to attain an outcome. The outcome may be in the form of rewards, Payment, social appreciation, winning a competition for trophies, customer loyalty discounts [29]. Some common example of extrinsic motivation highlighted by [35] are given below.

- **Financial rewards:** It includes scholarships and workplace bonuses.
- **Competitions:** It includes sports and science fairs to get medals, trophies, prizes, and appreciations.
- **Recognition:** from teachers, public and parents.
- **Nomination of best student:** Student of week or month from school administration.
- **Self-recognition:** Social approval and peer pressure.
- **Tangible rewards:** It includes gifts cards and donations.

2.7 Factors influencing learners' motivation

The relation between learners' motivation and the learning environment is very close. In the classroom environment, some factors positively motivate learners in the teaching and learning process, while some factors have adverse effects on motivation. In the following lines, such factors have been identified.

2.7.1 Factors that positively influence learners' motivation

It has been identified by [36] that eight factors that influence learners' motivation positively in teaching and learning process.

- **Class and curriculum Structure**: It has a great influence on learners' motivation. Interactive classroom structure and student-centered curriculum positively learners in the process of teaching and learning. For effective teaching, teachers should prepare good lesson plan, activities, and assignments.
- **Teacher behavior and personality:** There is a vital part of teacher in the instructional process. When an instructor has genuine interest in their teaching, the learners are motivated by the instructional process.
- **Teaching methods:** The way the teachers teach, affects learners' motivation. Students centered methodologies, engaging, and interactive techniques positively motivate learners in teaching and learning process.
- **Parental habits and involvement:** Parents have great influence on children. Their involvement in the learning process affects motivation. It is the dut of elders to encourage offspring to do homework, helps them in the preparation of examination, and attend the parents meeting in the schools.
- **Family issues and instability:** Students home environment affects their motivation in an instructional process. Providing them with a sympathetic atmosphere for learning, supporting them in different activities, understanding their problems, and finding solutions to them effectively motivate learners to learn.
- **Peers relationships:** Students learn best from their peers. Positive peer communication, cooperation and group work improves motivation.

- **Learning environment:** For effective teaching, the learning process's physical and emotional environment greatly influences the learners' motivation. Creating physically safe and interesting environment and the use of audiovisual aids stimulate learners' motivation.
- **Assessment and feedback:** Proper assessment, positive feedback, and appreciation motivate learners in the mutual learning process.

2.7.2 Factors that negatively influence learners' motivation

According to [37] the following factors negatively influence learners' motivation in teaching and learning process.

- **Teachers' bad behavior:** It is the teacher who stimulates and controls the teaching and learning process. Teachers' ineffective teaching, fear, use of insulting language lowers learners' motivation.
- **Discipline issues:** For effective instructional process, a safe and enjoyable classroom environment in mandatory. Disruptive classroom environment lowers the learners' motivation.
- **Lack of funding and resources:** Insufficient financial and physical resources badly effects learners' motivation.
- **Over expectation:** Excessive expectation and pressure disturb instructional process and demotivate learners.
- **Poor attendance:** Irregular attendance interrupts continuity in learning, which leads to learners' demotivation.
- **Poor parental support:** Poor contribution of parents in the learning process of youngsters negatively affects learners' motivation.
- **Poverty:** Lack of socioeconomic facilities produce stress and hinders the concentration of learner in instructional process, which lowers its motivation.

2.4 Relation between E-learning and learners' motivation

Motivation is a driving force/motivator that enables individuals to increase their energy and maintain their active state of learning. In this regard learning motivation is all the struggles of an individual, which motivate the learner to take part in the learning activities actively. To boost the learner's motivation, a research study conducted on two groups of learners, the experimental group using digital technologies and the governor group using old-style method of learning. The findings reveals that the learners in the digital technologies were highly motivated in the teaching learning procedure[38]. Motivating learners in an E-learning environment is essential for engagement and successful learning outcomes. By setting clear learning objectives, interactive contents, gasification, proper feedback and recognition, social learning, real-world application, autonomy, rewards, and regular challenges motivate learners in teaching-learning process [39].

Adopting motivational teaching practices, a motivational classroom environment is required. A motivational teaching practice may be established in two phases. (1) Generation of initial motivation (2) Maintaining and protecting motivation. Safe classroom climate, cohesiveness, good learner-learner and learner-teacher relationship and starting the class with interesting brainstorming will generate motivation. To maintain motivation in the class the following practices should be applied during teaching. (1) By creating students friendly environment for TLP (2) By presenting different activities in a motivating style (3) Making SMART (specific, measurable, attainable, reliable and time-based) learning objectives. (4) Promoting self-possession and interest of the learner (5) Generating self-sufficiency in the students (6) Providing opportunities of motivation and interest in the TLP [40]. In order to motivate learners, teachers should take multiple approaches to devotion, significance, self-confidence, and contentment in order to encourage students in the context of an online learning environment. Animation could be used to draw attention, and relevance and confidence might be attained by carefully arranging the course materials across the length of time required to complete it, including quizzes and explanations of the significance of the subject. Surety could be attained through electronic documentation or acknowledgment in the course collaboratively by professors and students via an online learning environment [41].

2.5 Theoretical Framework

This study is grounded in Self-Determination Theory (SDT), which emphasizes the role of intrinsic and extrinsic motivation in learning. According to SDT, learners are more likely to engage actively and achieve better outcomes when their basic psychological needs—autonomy, competence, and relatedness—are fulfilled.

In the context of this research, E-learning (EL) provides opportunities to satisfy these needs:

- **Autonomy:** Learners control the pace and sequence of their learning through online modules and LMS materials.

- **Competence:** Interactive content, self-assessments, and feedback help learners build confidence and mastery of the subject.
- **Relatedness:** Discussion forums, collaborative tasks, and peer interactions enhance learners' sense of connection.

By addressing these needs, EL is expected to enhance learners' motivation (LM), promoting active participation, engagement, and improved learning outcomes. This theoretical lens guided the design of the study, the development of research instruments, and the interpretation of the relationship between EL and LM in the teacher induction program.

3 RESEARCH METHODS

Research design requires making decisions about research objectives, selection of samples, data gathering procedures, and data investigation techniques [42]. The research design of this current study was empirical survey research, collecting participants' self-reported perceptions about their experiences in the BL model Induction Program of the Khyber Pakhtunkhwa Government for newly hired teachers, designed by the Directorate of Professional Development (DPD). This included collaboration and financial assistance from non-governmental organizations (NGO), the Department for International Development (DfID) and Adam Smith International. The teacher induction training program delivered instruction partially face-to-face, partially through videos and online support, and included control systems. Every trainer and trainee teacher was given a tablet containing content-based videos and related articles with built-in assessment exercises and assignments, which were watched/read by trainers and trainees asynchronously at home (self-learning). In addition, several high and higher secondary schools and Regional Professional Development Centers (RPDC), with IT labs and IT experts, were used as training centers for fortnightly (14 days) face-to-face sessions. The sessions were provided by lead master trainers and master trainers (subject-experts) for teacher trainers and trainees support and facilitation. An ICT computer skills course was also comprised in the professional development of trainee teachers. The training was performed during the period from November 2, 2019 to November 19, 2019, and the survey data were collected from the respondents from March 5, 2023, to May 27, 2023. Participant data was collected via a survey research design, which was warranted to collect self-ratings of participants' perceptions of their motivation in the context of a BL model intervention. Survey data collection provides a numeric explanation of the attitudes, thoughts, and styles of the population. In survey design, the data is taken from a specific group of the population, and with a clear demographic description of the participants and a sufficient sample size, compared to the population from which it was drawn, the findings may generalize to the entire population [43]. The data analysis method was quantitative to define if a statistically important change occurred between the ICT variables and the outcome variables, learner motivation.

3.1 Research Process

The problem was recognized on the topic from a relevant of literature review, and subsequently, the research questions were formulated in light of this problem. To collect data, a Google survey form was used, and researchers collected data from the targeted population. Finally, researchers evaluated the composed data using SPSS-27 IBM, (2020).

3.2 Population and Sample

The population for this study comprised all 800 newly hired male teachers participating in the Khyber Pakhtunkhwa induction program in Dir Upper. Due to cultural and administrative restrictions which restricted the researcher to collect data from female teachers and could not be included as they were trained at separate centers.

A purposive sampling technique was employed to select a sample of 260 male teachers from the population. This approach ensured accessibility and feasibility for data collection while allowing a focused investigation of the impact of E-learning on learners' motivation. While the findings provide valuable insights into male teachers' experiences, the results may not be generalizable to female teachers or to the entire population of newly hired teachers in the province.

3.2.1 Sample Size Determination

The sample size (n = 260) was determined using the table provided by [44]. Table 1 presents a summary of the demographic characteristics of the selected sample, including age, designation, academic qualification, and professional qualification.

Table1. Demographic profile

Demographic characteristic		Frequency	Percentage
Gender	Male	206	100.0
Age	20-25	1	0.50
	26-30	89	43.20
	31-35	92	44.66
	36-40	20	9.70
	above 40	4	1.94
Designation	Primary	81	39.32
	Elementary	55	26.70
	Secondary	70	33.98
Academic Qualification	Bachelor	24	11.70
	Master	117	56.80
	MS/M.Phil	59	28.60
	PHD	6	2.90
Professional Qualification	ADE	10	4.86
	B.ed	81	39.32
	M.ed	65	31.55
	No Professional Qualification	50	24.27

Table 1 show the demographic profile of the 206 newly hired teachers as follows: Gender (male, 100%); Age (20 to 25 years, n = 1 or 0.50%; 26 to 30 years, n = 89 or 43.20%; 31 to 35 years, n = 92 or 44.66%; 36 to 40 years, n = 20 or 9.70%; and above 40 year, n = 4 or 1.94%); Designation (primary school teachers, n = 81 or 39.32%; elementary teachers, n = 55 or 26.70%; and secondary school teachers, n = 70 or 33.98%). Academic Qualifications (bachelor degree, n = 24 or 11.7%; master's degree, n = 117 or 56.80%; MS/M.Phil degree, n = 59 or 28.60%; and PhD, n = 6 or 2.90%); Professional Qualifications (ADE n = 10 of 4.86%; bachelors in science n = 81 or 39.32%; master in education, n = 65 or 31.55%; no professional qualification, n = 50 or 24.27%).

3.4 Data collection instrument

The study author constructed a Google survey form for the collection of data. This survey form included three sections. Part-A collected the demographic characteristics of the respondents, including gender, age, designation, and qualification (professional and academic). Part-B collected data on the integration of ICT in teaching-learning process. Part-C collected data about the learners' level of motivation in the training program. The ICT section has ten items that were adapted from the study of [45] with permission. The section learners' motivation in the training program includes ten items, which were adopted from the study [46] with permission. Students rated their perceptions and responses to the items using a five-point Likert-type scale: 1=strongly disagree, 2 =disagree, 3 = neutral, 4=agree, and 5 = strongly agree.

3.5 Data Collection Procedure

To collect data from the respondents, a link of the Google survey form was sent to the respondents through their WhatsApp account numbers. Researchers followed up by contacting the respondents through voice messages and phone calls.

4 RESULTS

RQ1: Is there important connection between ICT and learners' motivation?

In order to answer this question, a Pearson co-relation test was performed. The correlation represents the relationship between the variables. For interrelated variables, change in the size of one variable is related with a change in the size of another variable. The relation may be positive or negative. The range of correlation is ±1. In this range, 0 means no correlation, and a value near to 0 indicates weak correlation, while value close to 1 indicates solid correlation. Positive value reveals correlation in the same direction, while negative value reveals correlation in the opposite direction.

Positive correlation refers to the incensement or decreasement of one variable will also increase or decrease the other variable, while negative correlation means increase in one variable will decrease the other variable and vice versa [47].

Likewise according to [48]the value of correlation display the power of relation among the variables. The result of Pearson correlation is between ± 1.The interpretation table 2 shows the interpretation of r value as a strength of correlation (power) is given below.

TABLE 2. Interpretation of the Strength of correlation

r value	**Interpretation**
R = 0	No linear correlation
r = ± 1	Perfect positive/negative linear correlation
r = ±.01 to ± 0.29	Low positive/negative linear correlation
r = ±0.30 to ±.49	Moderate positive/negative linear correlation
r = ±0.50 to ±1.00	High positive/negative linear correlation

*Source (Muhammad, 2015).

The relationship between EL and learners' motivation is analyzed by Pearson Correlation. The following table depict the analysis results.

Table 3. Correlations between variables

		EL	LM
ICT	Pearson Correlation	1	.580**
LM	Pearson Correlation	.580**	1
**. Correlation is significant at the 0.01 level (2-tailed).			

As indicated in table 3, there is a high and significant correlation between EL and learners' motivation (r=.580**, n=206, p=0.01).This show that increasing the use ICT tools will increase the learners' motivation.

RQ2: What are the impacts of ICT on learners' motivation?
To examine the effect of independent variable (BL) on dependent variable (LM), linear regression has been used. In regression analysis R-squired is a statistical measure that determines the percentage of variance in the dependent variable that can be explained by the independent variable. For example, an r-squared of .60, for example, shows that the regression model accounts for 60% of the variability seen in the target variable[49].Findings of the study are portrayed below.

Table 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.580[a]	.336	.333	.41055
a. Predictors: (Constant), EL				

Table 4 displays that R^2 value is .336, showing that E-learning (EL) produce 33.6% changes in the learners' motivation (LM).
Analysis of Variance (ANOVA) highlights the significance of relationship between the variables. When the value of sig. is less than 0.05 then there is a important relation among the variables[50]. ANOVA value for this study is given below.

Table 5. ANOVA[a] for Significant correlation

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.410	1	17.410	103.288	<.001[b]
	Residual	34.385	204	.169		
	Total	51.794	205			
a. Dependent Variable: LM						
b. Predictors: (Constant), EL						

As indicated in the Table no 5, Sig. value is <0.001, so there is a significant relationship between E-learning (EL) and learners' motivation (LM).

One technique to gauge the way and strength of a link between variables is to use standardized coefficients (beta coefficients). Its value show that the outcome variable varies by β standard deviations for every unit increase in the predictor variable. Positive value of standardized coefficients indicate that the relationship is in the same direction while negative value indicate that the relationship is in the opposite direction[51]. Standardized coefficient vale of the current study is shown in the table below.

Table 6. Coefficients[a] for the effect of EL on LM

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.460	.244		5.990	<.001
	ICT	.601	.059	.580	10.163	<.001

a. Dependent Variable: LM

Table 6, illustrate that Beta value is .580, which display that the change in EL by 1 unit produce change in learner' motivation (LM) by .580 units. Positive value of beta show that the relation is in the same direction. Which means that when the use of E-learning (EL) increases learners' motivation also increases and vice versa.

5 DISCUSSION AND CONCLUSION

In light of this current research study, the results of the Pearson correlation test displayed a high and important correlation between EL and LM (r =.580**, n = 206, p =0.01). Tables 5 and 6 showed a high and significant impact of BL on learners' motivation (β=.580, p =.001). In line of this study results, according to [52], learners using E-learning facilities achieved well than those who did not. Therefore, E-learning has positive impacts on learners' motivation and achievements. Additionally, E-learning and learner motivation are significantly correlated. Thus, using E-learning is likely to increase student motivation. Students that are more driven to learn are also more equal to be involved, and when students are involved and engaged well, they are more likely to meet the learning goals[39].With the explosion of internet tools, the E-learning has developed an important method and new principle that is extensively used and employed by scholastic institutions crosswise the world. Due to their attractive and interactive features, E-learning has important result on learners' satisfaction and learning outcomes [53].

Motivation is the most important component of learning, which affects the speed, intensity and direction of human behavior. It is motivation that decides what, how, and when an individual learn. A motivated learner takes active part in activates, enjoy these activities, and display higher performance, continuity and creativity. The results reflect that electronic learning (EL) significantly enhance learner's motivation[54]. Electronic learning (EL) aggregates various technologies such as writing, communicating, visualizing, and storing for effective teaching and learning process [10]. Therefore an effective electronic learning (EL) enable the learners to learn in an collaborative and supportive atmosphere[55].

5.3 CONCLUSION

Students motivation are very important factor that contribute in developing the quality of education. The aim of the present study was to evaluate the relationship and impacts of EL on learners' motivation in a strategically designed teachers' training induction program. The findings of the current study disclose that there is a High and important correlation and impact of EL on learners' motivation.

6 IMPLICATIONS

The findings of the current study elaborated on a positive significant relationship between EL and LM in the context of a teacher preparation program in the developing country of Pakistan. Therefore, this study provides a guideline for policymakers, administrators, teachers, and parents, to introduce EL in educational institutions in developing countries, to achieve the skills, abilities, and expertise required for the 21st century. Educational institutions seeking to implement a quality education in the 21st Century can consider the following implications before starting the process including: obtaining administrator buy-in and preparation to understand the financial implications, development requirements, number and qualifications for expert personnel required to support the infrastructure, hiring of a sufficient number of qualified instructional designers to ensure relevant content in context is provided to trainees; accessible online LMS course delivery and design; integration of up-to-date El; establishing and implementing of system of checks and balances to identify areas of needs and continuous improvement especially in the area of trainee testing; and providing convenient access to professional improvement for teachers, facilitators, trainees, and administrators in the use of current applications necessary for a successful engagement of the course content using IT.

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