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FACTORS AFFECTING TEACHERS' ENGAGEMENT AND MOTIVATION FOR THE INTEGRATION OF ICTs IN ELEMENTARY GRADES IN BALOCHISTAN CONTEXT:

Abstract

This work tested the influence of Teachers' anxiety level, Teachers' motivation, Teachers' attitudes, Teachers' beliefs, Teachers' usage of ICTs, Teachers' use of ICTs as a pedagogical tool, Technical support and peer interaction along with the teachers' engagement in the use of ICTs. Such as, it was previously a proved phenomenon through lots of research and empirical studies across the world that ICT is integrated into teaching in parliamentary procedure to make teaching and learning process easy. Since, there are certain elements which can affect teachers' engagement for learning in ICT classrooms so as the use of this survey is to find out the influence or relationship of the independent variables along the dependent variables. Then, as the researcher adapted a questionnaire of 50 items designed through Likert scale (1 to 5) and used the survey method for this study. Furthermore, the no of the respondents were 390 selected through nonrandom sampling and the respondents mostly belonged to district KECH Balochistan Pakistan. To conclude, it is observable that all the independent variables have effects on teachers' engagement, but in some cases it is either positive or negative. As, the results showed that

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teachers' use of ICTs as a pedagogical tool and teachers' beliefs have negative effects on teachers' engagement. Even though, the anxiety level of teachers in using ICTs, teachers' usage of ICTs, technical support and peer interaction in using ICTs and teacher's motivation using ICTs have positive effects on teachers' engagement in ICTs in elementary grades.

Key words: Teachers' engagement, Teachers' anxiety level, Teachers' motivation, Teachers' attitudes, Teachers' beliefs, Teachers' usage of ICTs, Teachers' use of ICTs as pedagogical tool, Technical support and peer interaction.

Introduction

1.0 Background of the study:

As it is witnessed, that the role of the ICTs is very crucial in the process of education and it is the demand of the era to reinforce teachers to adapt and integrate ICTs in education (Baş, Kubiatko & Sünbül, 2016). Moreover, ICTs effectiveness in education can be influenced by teachers' attitudes (Kusano et al, 2013). As the effects of the technology is found in the workplaces and everyday life, the intellectual society trying to reorganize the curricula and find the ways to integrate ICTs in education (Buabeng-Andoh, 2012). According to Ndibalema (2014) the African teachers do not use ICTs pedagogically since they have a weak association with ICTs; still their attitudes are positive in this regard.

As a matter of fact, most of the studies propose that technology has changed the role of teachers within the schoolroom from the outmoded approach of instruction in modern ways (Paraskeva, Bouta & Papagianni, 2008; Buabeng-Andoh, 2012). Correspondingly, technology integration becomes an important

matter of discussion, not even in established countries, but also in emerging nations (Agyei & Voogt, 2011; Ertmer & Ottenbreit-Leftwich, 2010; Sang, Valcke, van Braak Tondeur & Zhu, 2011; Somekh, 2008; Tondeur, Hermans, van Braak & Valcke, 2008).

By the same token, Albirini, (2006) recommends that the teachers' attitudes can get affected by the lack of computer competence. In that case, the policy makers should find the ways to prepare teachers to get associated with technology. Important to realize, that in this modern era where we can observe the importance of technology in every field of life, need more efforts to integrate ICTs in education.

Another equally significant aspect is, the teachers should actually be professionally developed and they need to know about the fluctuating methods of information communication technology usage. Those teachers who are professionally confident can easily collaborate ICTs in education and make the pupils satisfied (Ward & Parr, 2010).

Mainly, the aim of the research was to examine regarding the perceptions of elementary grade teachers in district KECH and trying to find out the effects of the factors taken from empirical studies. Notably, KECH is a district of Balochistan, the largest province by area comprising 43 or 44 percent of Pakistan. Undoubtedly, the main languages spoken in Balochistan are Balochi, Brahui, Pashto, Sindhi and Urdu, while in the district KECH Balochi language is frequently spoken (Education For All Plan Balochistan 2011- 2015.

Diffusion or integration of information communication technologies in whatever field of employment makes it trouble-free and relaxed while in education, technologies can provide a bulk of sources of information for teachers and apprentices (Baş, Kubiatko & Sünbül, 2016; Albirini, 2006; Majoka, Fazal & Khan, 2013).

Similarly, in the context of integration of information communication technology in the area of teaching, the teacher's

attitudes can be defined as teachers liking or disliking the use of technology in teaching in order to progress to learning effective (Hew & Brush, 2007). Hence, it's up to the teachers that what they believe about the role of ICTs i.e. positive or negative attitudes toward the role of ICTs so this can critically affect their involvement in teaching and learning process.

Accordingly, the survey chiefly concentrated on elementary level teachers that an elementary grade teacher is a person who is responsible to develop pupils from Kindergarten to eighth degree.

1.1 **Statement of the problem:**

Traditionally, our education system, including teaching, learning and assessment activities are lacking effectiveness since information communication technology is not integrated with it, whereas the international industry of education only promotes competitive learners and those who have that skill can easily penetrate into that system (Abass, Ahmed, Abbas & Baloch, 2015). Nevertheless, diffusion of ICTs in every area is contracted so as in the education sphere, but the teachers and students are not steady to use ICTs in education since it contradicts with their day-to-day drills and principles (Majoka, Fazal & Khan, 2013).

The present study mainly focused the elementary grade teacher in schools of district Kech of Balochistan to find out the effects of independent variables on teachers' engagement and motivation in using ICTs in schools of Kech district.

1.2 **Research objectives:**

The purpose of this work was to explore the teacher's perceptions about the role of information communication technologies in elementary grades in context of Balochistan.

1- To research the effects of anxiety on teacher's engagement in applying ICTs in elementary classes.

2- To check the effects of teachers' use of ICTs on teacher's engagement in applying ICTs in elementary classes.

3- To research on the effects of technical support and peer interaction on teachers' engagement in applying ICTs in elementary classes.

4- To study the effects of teacher's attitude towards use of ICTs on teacher's engagement in elementary classes.

5- To find out the impacts of teachers' use of ICTs as a pedagogical tool in elementary classes.

6- To find out the impacts of teacher's motivation using ICTs on teacher's engagement in elementary grades.

7- To find out the effects of teachers' beliefs using ICTs on teachers' engagement in elementary grades.

8- To search out that contextual variables differ among male and female gender wise.

1.3 **Research questions**:

The research questions of the study were as follows

1. How well can we predict teacher's engagement from a combination of variables, i.e. the anxiety level of teachers using ICTs, teachers' ICT usage, technical support and peer interaction in applying ICTs in elementary classes, teacher's motivation using ICTs, teacher's attitudes in using ICTs, teachers' beliefs and teachers' use of ICTs as a pedagogical tool?
2. Do their contextual variables differ among male and female gender wise?

1.4 **Research hypotheses**:

Therefore, as in many inquiries, it is noted that at that place where a set of elements which can act upon the teacher's participation in using information communication technology in

the study of instruction, then this survey put forward to prove the following null hypothesis:

Ho 1: There is no significant relationship between teacher's anxiety in using ICTs and teacher's engagement;

Ho 2: There is no significant relationship between teachers' use of ICTs and teacher's engagement;

Ho 3: There is no significant relationship between technical support and peer interaction in using ICTs and teacher's engagement;

Ho 4: There is no significant relationship between teacher's attitudes towards information communication technology and teacher's engagement;

Ho 5: There is no significant relationship between teachers' use of ICTs as pedagogical tool and teacher's engagement;

Ho 6: There is no significant relationship between teachers' motivation using ICTs and teacher's engagement;

Ho 7: There is no significant relationship between teachers' beliefs and teachers' engagement;

Ho 8: The contextual variables are same for male and female;

1.5 **Contribution of the study**:

As has been noted, that to a large extent researches found regarding the diffusion of ICTs in education in Pakistan context on the other hand, this study contributed to investigate regarding teacher's perception using ICTs in elementary grade level in the context of Balochistan.

1.6 **Significance of the Study:**

It is hoped that those teachers who are unskilled in internet can take a benefit of this study and can also help their colleagues and students.

However, the current study is most significant for the elementary teachers who can overcome the anxiety of the utilization of ICTs in their classrooms for their general subjects. Therefore, the

learners can get the benefit too in the sense that if teachers use ICTs in the classroom can help students get penetrated in the 21st century.

1.7 Limitation and Delimitation of the Study:

Most importantly, the current study was a Co-relational study so as the study was delimited to the survey design method in order to generalize the research on the large population of district Kech. The study also faced some limitations; some of them are as follows:

1: There were some no go areas in the district Kech so the researcher did not get access in those area schools.

2: Most of the teachers were totally unaware of the concept of integration of information communication technology so that they could not give satisfactory replies to the research items.

Literature review:

Introduction:

Since the follow up of the literature is done through theoretical and empirical perspectives whereas theories of innovations in education are included in theoretical background. At the same time as, the studies regarding teacher's engagement in ICTs and anxiety level, technical support and peer interaction, teachers' belief, teachers' usage of ICTs, teachers' motivation using ICTs, teacher's attitudes and teacher's use of ICTs as pedagogical tool are included in empirical perspectives.

2.1 Theoretical Background:

As Leu, Kinzer, Coiro, Cammack (2004) pointed out regarding the innovations in technology that change the definition of literacy that:

The new literacies of the Internet and other ICTs include the skills, strategies, and dispositions necessary to successfully use and adapt to the rapidly changing information and

communication technologies and contexts that continuously emerge in our world and influence all areas of our personal and professional lives. (p. 1571)

Nevertheless, Rogers (as cited in Michele, 2001) says that many studies investigate regarding use of ICTs in education that there are a bunch of factors affecting teachers motivation and engagement in teaching and learning process, whereas there is a big deal to work on those matters which can create hindrance to use information technologies in education. Innovations in technologies can be defined as that any idea or practice which is new to an individual and assist them to make their life easy. For example, integration of ICTs may be a new and innovative task for the fellowship that each and every soul in the community can claim a benefit of it. Whereas the factors as Andoh (2012) examine that there are three types of features such as personal, institutional, and technical factors can systematically belongings students' motivation and engagement for learning in ICT classrooms so these factors should be searched out and resolve since teachers and learners should be convinced to use technologies in the class.

Consequently, all the factors show a relationship with each other for example, teachers attitudes, approach, nervousness and in institutional level hold up, i.e., fiscal documentation, preparations and other workshops and teacher competences on using ICTs are serious very central factors can also induce an effect on learner training.

According to the National professional standards for teachers in Pakistan it is mentioned in the 7th standards that "Effective communication and proficient use of information communication technologies" should be a part of a teacher's professional development. Therefore, every teacher in Pakistan should have the ability to use the technological instruments in their field of education. This utilization of information communication technology reinforces the researcher to investigate about the

teacher's engagement in ICTs in the remote area of the Balochistan province.

Subsequently, the researcher's aim was to find out the impacts of the independent variables on the engagement of the elementary grade teachers of the district Kech. In most of, the areas of Balochistan the association of the teachers with technology is very poor. Therefore, the researcher tried to investigate regarding the utilization of information communication technology by the elementary grade teachers in the district Kech to find out the consequences.

2.2 **Previous empirical Studies:**

Nonetheless, the integration of information communication technologies in whatever sphere of life makes it simple and stress-free while in education, technologies can supply a lot of sources of information for teachers and apprentices (Baş, Kubiatko & Sünbül, 2016; Albirini, 2006; Majoka, Fazal & Khan, 2013). Furthermore, the previous empirical studies of the dependent and independent variables are included in this study.

More specifically, in the present era or the global era where technology is diffused with the every field of life, no one can imagine without living with technology. (Paraskeva, Bouta & Papagianni, 2008; Buabeng-Andoh, 2012). For instance, teacher's engagement can be illustrated as interest, need, purpose and enthusiasm to convey role in teaching and learning practices and it demonstrates their eagerness that despite of challenges and further obstacles one is attracted towards their work (Reading, 2008; Ertmer & Ottenbreit-Leftwich, 2010; Majoka, Fazal & Khan, 2013; Abass et al., 2015).

As if, the teachers themselves believe that ICTs can be the possible and useful pedagogical tool in the future. Then this action, will further stimulate them to discover the means themselves to get better, particularly, those who are not competent in handling, ICT equipment's (Yunus, Salehi, Embi, & Salehi, 2014).

In addition, other paper concerns about information communication technology to support interactivity in teaching (Beauchamp & Kennewell, 2008). Moreover, initiatives the government has taken to enhance the ICTs investment clarifying the importance of ICT integration in education (Webb, 2002; Liu, Tsai & Huang, 2015).

Clearly, it is many-sided that how teachers are using ICTs pedagogically according to the curriculum. In this manner, it is necessary that what type of technology the teachers use for the integration of ICTs in education, but also what kind of pedagogical designs they use to tackle the problems and issues in the integration (Hsu, 2010). Chile is being a developed country working and exerting so many efforts to upgrade the worth of education. This study is also concerned with the innovative pedagogical practices using ICTs in schools (Hinostroza, Guzmán, & Isaacs, 2002; Somekh, 2008).

Correspondingly, a study discussed as the factors which deter or encourage teachers by using ICTs in the classroom are accordingly to their pedagogical techniques (Mumtaz, 2000). Another, vary problem is lack of ICT resources within the school, in this case students and teachers both cannot use certain tools in the course of study. (Hassan, Sajid, 2012).

As, Loveless (2003) describes the perceptions of the primary teachers regarding their use of ICTs and their pedagogical skills. Given that, primary school teachers are well aware about the technological instruments in many social and cultural contexts. Whereas, pre service teachers should be equipped with the technical skills to integrate ICTs in education (Aslan & Zhu, 2016; Tondeur, Van Keer, van Braak & Valcke, 2008; Inan & Lowther, 2010).

In the same way, as (Shaikh & Khoja, 2011) mentioned that role of ICTs is very much effective in higher education system in parliamentary procedure to lower the poverty and stronger the economies of Pakistan. For example, another study contributing in

the sphere of data communication technology integration in education (Qadir, Pacurara & Hameed, 2014) explored regarding worth of Punjab IT Labs Project in secondary and higher secondary schools. Thus, the provincial government established IT labs for the learners and about 4286 computer labs were provided to secondary schools in Punjab in 2009.

For the improvement of information communication technologies in education, the Turkish government used to make investments to make the availability of the instrument possible (Gulbahar, & Guven, 2008). In the same way, it is also mentioned that the interaction of the factors can encourage greater capacity to deal with the changes (Hsu & Sharma, 2008).

We should also consider, that information communication technology has a great potential in the process of teaching and learning. The variable ICT use in teaching is a main focus in many studies of ICT integration (Vanderlinde, Aesaert & Braak, 2015).

Yet, another study conducted for the assessment of ICT of lower secondary school students in Thailand to examine regarding the ICT competency self-assessment tool and quality of the tool of the assessment (Kopaiboon, Reungtrakul & Wongwanich, 2014).

. In addition, the process of integration of information communication technologies into high school classrooms is supported by the intellectual society. The researchers analyzed the statements by using a phenomenographic approach, while, the perceptions wide-ranging with respect to what and how. Here, the perceptions of the teachers are constituted that how technologies can be enhanced to increase the learning outcome (Cope & Ward, 2002).

For the best ICT integration in the school, it's crucial to facilitate the schools to develop school based ICT policies. (Vanderlinde, Van Braak & Tondeur, 2010). Correspondingly, so many studies are concerned with the use of ICTs in education. The ICT coordinators are giving support to the school teachers in order to make them aware about the new world of technology. Therefore,

the teachers in these schools feel confident, since they feel they have the necessary support to use ICTs in education (Abrami, 2001; Cakir, 2013).

. Similarly, the results have shown that teachers' attitudes towards technologies significantly influence the efficient use of these technologies in school learning (Ertmer & Ottenbreit-Leftwich, 2010). Consequences, suggest that the teachers' perceived usefulness of computer technology had a direct significant effect on their intention to use technology (Ma, Andersson & Streith, 2005; Ward & Parr, 2010).

In like manner, the different forms of digital communication devices are collectively called as information communication technology. Which have been entered the mainstream of everyday learning institutes (Hutchison & Reinking, 2011).

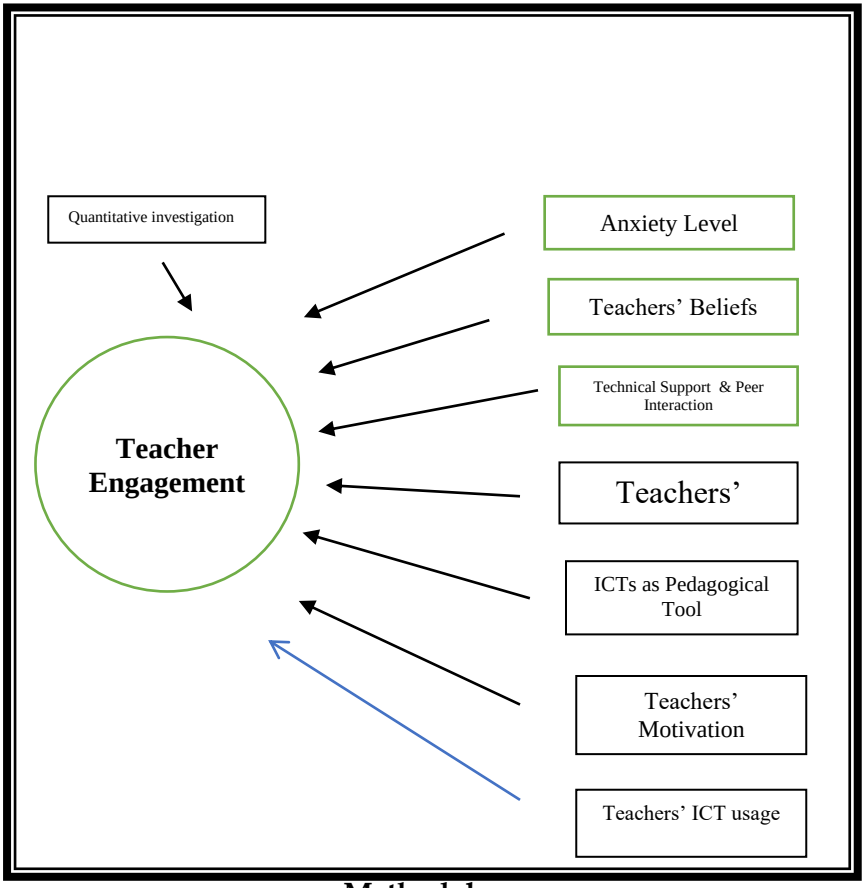
It is worth mentioning, that the access technology is increasing in most of the countries, but the beliefs of teachers are not supporting this idea. (Ertmer & Ottenbreit-Leftwich, 2010). Overall, the research studies indicated if teachers believe that the information communication technology tools are good for teachers teaching and learners, learning, they may try to use them in their practices (Ottenbreit-Leftwich, Glazewski, Newby & Ertmer, 2010).

After all, in the latest and new setting, the technology is integrated into each and every field in different ways. For instance, the teachers are the main change agents having their own beliefs regarding the use of the computers, which can affect their use of technology in the classroom (Teo, Chai, Hung & Lee, 2008; Tondeur, Hermans, van Braak & Valcke, 2008).

In the light of, many researches the integration of information and communication technology is can be affected by many kinds of factors. One of those factors is the teachers' attitude towards the use of ICTs (Wong, 2002). In this process, many implications emerged, that the establishment needs to provide the technological skills to the university teachers to make them

efficient for the teaching practices (Wong, Hanafi, 2007; Kerckaert, Vanderlinde & van Braak, 2015).

Research model



Methodology

3.1 Research design:

The rationale of this survey was to observe how teacher's engagement can get affected by the following independent variables and also seek out the teacher's perceptions regarding the role of ICTs in elementary classes. For that reason, the specific

independent variables were anxiety level of the teachers, peer interaction and technical support, teachers' motivation, teacher's beliefs, teachers' use of ICTs and ICTs as a pedagogical instrument.

As a matter of fact, the participants of this research study were all elementary grade teachers from government girls and boys schools of district Kech. Furthermore, the study was proceeding to be accumulated through a closed-ended survey design. So for this reason, adapted questionnaire was given to the teachers of government schools of district Kech.; 404 school teachers have participated in the study by completing the questionnaire given back to the researcher. This survey employed or a quantitative method is used to cover up a large population which cannot be truly covered through qualitative method (Creswell, 2008).

3.2 **Population:**

Consequently, the first step of the methodology was to find out the density of the elementary grade teachers in district Kech. With this in mind, the population of the study was all the elementary grade teachers in district Kech. For this reason, the researcher visited the education office in the Turbat Tehsil of district Kech and asks about the total no of the teachers in the middle and high school. According to the officer of the education office the total no of the teachers in the elementary grade level were nearly 3593. Therefore, the researcher selected 404 teachers for this study.

3.21 **Target population:**

Indeed, after deciding the population of the study, the target population was selected. Therefore, the target population of the present survey was all the elementary grade teachers of government schools in district Kech which were nearly 3593.

3.32 **Sample size**

Most importantly, 404 elementary grade teachers were selected from the different government schools in district Kech through purposive sampling. Thus, the instrument for the data collection was a questionnaire having 50 items along with the demographic information adapted from authentic research papers. The questionnaire had given to 404 respondents in order to get their opinions regarding the variables used in this study.

3.4 **Sampling Technique:**

Thus, for the sampling techniques, nonrandom sampling was used for the selection of the respondents for this study (Creswell, 2008; Cohen, Manion & Morrison, 2007). Specifically, purposive sampling used to select the respondents (Frankel, Wallen & Hyun, 2012) and the target population for the current subject was all elementary grade teachers in government schools of district Kech.

3.5 **Research Instrument:**

Indeed, the current research was Co-relational study, i.e. examined quantitatively, so for that reason, researcher adapts a questionnaire of 50 items along with demographic information, i.e. age, gender and teaching experiences of the respondents to do cross-sectional survey (Burgess, 2001) to look into the experiences of elementary grade teachers of district Kech in the public sector. The items on the questionnaire were adopted from the previous related literature selected for this study.

3.6 **Instrument's Reliability**:

Meanwhile, the research instrument for quantitative survey was moderated through a pre-pilot study by the researcher in order to see into the dependability of the survey questions

(Creswell, 2008; Cohen, Manion & Morrison, 2007). Thus, the researcher also granted a pilot survey of the specifics of the questionnaire of the 52 respondents in order to minimize the flaws in the study and run the data on the SPSS software and checked the reliability statistics (Burgess, 2001).

Details of the respondents:

Total no of the respondents	390
Total no of the female respondents	328
Total no of the male respondents	62

3.10 Ethical Consideration:

Most significantly, researcher guided this study under ethical consideration that no one was forced to fill the questionnaire. It was up to the respondent to contribute to the present case. The researcher ensured the respondents that their responses were only applied for this work and hold on their remarks confidential. Similarly, in the process of data collection and analysis of data the researcher kept the ethical values in the first priorities.

3.11 Research Procedure:

Furthermore, for the quantitative survey, the researcher adapted a questionnaire from the trust worthy sources gave to the respondents to fill the questionnaire according to their experiences of using ICTs in elementary grades. After that researcher brought the questionnaires from the respondents and run the data on SPSS software to fit the regression analysis, reliability and factor analysis to retrieve out the impacts of independent variables on the dependent variable and tested the

null hypothesis (Creswell, 2008; Cohen, Manion & Morrison, 2007).

3.12 **Types of study:**

By all means, the model to estimate the impact of independent variables, i.e. The anxiety level of teachers in using ICTs, teachers' beliefs, teachers' use of ICTs, technical support and peer interaction in ICTs, teachers' motivation using ICTs, teachers' use of ICTs as pedagogical tool and teacher's attitude in using ICTs on dependent variable i.e. Teachers' participation in ICTs in elementary grades in parametric structure was defined as follows:

$$Y\ (TE) = \alpha + \beta_1 AL + \beta_2\ TB + \beta_3\ TS\ \&\ PI + \beta_4\ PT + \beta_5\ TA + \beta_6\ TM + \beta_7\ TU + €$$

Where Y was the dependent variable, i.e. teachers' engagement in ICTs in elementary grades in the ICT classroom means the engagement of teachers in classrooms equipped with ICT instruments, whereas independent variables are, AL was the anxiety level of teachers that means teachers feel panic and nervousness whilst using ICT instruments and teachers cannot productively work in ICT classrooms, TB was the teachers' belief regarding the use of ICTs in elementary grades. Beliefs of most of the school teachers' are optimistic concerning the application of technology while there are many schools in the countryside where teachers' beliefs are may not as positive towards ICTs as those who are using technology on a daily basis.

TS and PI were technical support and peer interaction that means if peers or colleagues support the teachers using ICTs in classroom then this can also effect teacher's engagement, basically the technical support in using ICTs can also effect teacher's engagement, PT was the teacher's use of ICTs as pedagogical tool that if the teachers use ICTs in classroom they can easily make students understand regarding the relevant topics if they unaware of the use of the instruments, then can also effect teacher's

engagement in ICTs, TA was teacher's attitudes towards ICTs that if they feel information communication technologies are effective tools and they should be used in classrooms.
In that case, they may be somehow try to learn the use of ICTs, but if they feel these things are not worthy, then it can also affect teacher's engagement in using ICTs, TU was the teachers' Usage of ICTs in the classroom. If the teachers are well aware of the concept of ICTs as a pedagogical tool, then they can make ICTs in their use in classrooms.
The collection of the sample was based on the random sampling. The data uses for this study were obtained as teachers. As, of the consideration of theoretical and empirical studies researcher supposed to examine the variables which can affect teacher's engagement for teaching using ICTs with the model as follows:

$$Y\ (TE) = \alpha + \beta_1 AL + \beta_2\ TB + \beta_3\ TS\ \&\ PI + \beta_4\ PT + \beta_5\ TA + \beta_6\ TM + \beta_7\ TU + €$$

3.15 Data Analysis and Statistical Tool:

Therefore, for quantitative data analysis, statistical tools were given, i.e. the data run on SPSS software and check the reliability, factor analysis and regression analysis.

Results and estimations:

The same as, in the data analysis section the data analyzed by applying different tests on SPSS software and checked the reliability, factor analysis and regression analysis.

Table: 1
Frequency table

	Frequency	Percent	Valid Percent	Cumulative Percent
GENDER				
Female	328	84.1	84.1	84.1
Male	62	15.9	15.9	100.0
Total	390	100.0	100.0	

AGE				
15-30	103	26.4	26.4	26.4
31-45	240	61.5	61.5	87.9
45 and above	47	12.1	12.1	100.0
Total	390	100.0	100.0	
EXPERIENCE				
1 year- 10 years	149	38.2	38.2	38.2
11years- 20 years	237	60.8	60.8	99.0
21 years- 30 years	4	1.0	1.0	100.0
Total	390	100.0	100.0	

4.1: Reliability:

As, to check the reliability of the data, statistical tests of reliability were applied on the questionnaire for the current study consisted of 50 questions including both dependent and independent variables. Therefore, the reliability test has been applied to SPSS software and the Cronbach value to the data was 0.727 and it shows the reliability of the data is very good.

4.2: Reliability Statistics:

The first and foremost, dependent variable of the current study was the teachers' engagement having 3 no of items and the value of alpha was 0.838. The second variable is Pedagogical tool with 3 no of items and the value of alpha was 0.898. The third variable is Technical support with 2 no of items and the value of alpha was 0.599. The fourth variable of the study is an Anxiety level of teachers with 3 no of items and value of alpha was 0.625. The fifth variable is Teachers' usage of ICT by 5 no of items and value of alpha was 0.515. The sixth variable is Teachers' motivation with 3 no of items and value of alpha was 0.657.

Whereas the seventh variable is Teachers' beliefs with 3 no of items and value of alpha is 0.639 and the overall reliability of the data was 0.684. As, the limitation of the reliability statistics is that it should be greater than 0.5 while the overall reliability of this research is 0.727 that shows the instrument reliability is in a good range and applications for this research.

Table-2 Reliability Statistics

Variable	**No. Of Items**	**Cronbach's Alpha**
Teachers' engagement	3	.838
Pedagogical tool	3	.898
Technical support	2	.599
Anxiety level of teachers	3	.625
Teachers' usage of ICT	2	.515
Teachers' motivation	3	.657
Teachers' beliefs	3	.639
Overall	19	.727

4.3: Factor Analysis:

Since, to check the Variance of independent variable, statistical tests KMO and Bartlett's Test were applied to SPSS software and the value of KMO of the independent variable was 0.732 and it showed the 73.2% of the variance.

Rotated Component Matrix table:

Items	1	2	3	4	5	6	7
I can choose technologies that enhance the teaching approaches for a lesson.	.875						
My teacher education program has caused me to think more	.902						

deeply about how technology could influence the teaching approaches I use in my classroom.							
I can adapt the use of the technologies that I am learning about different teaching activities.	.875						
When students have difficulty with the computer, I am usually at a loss as to how to help them.		.857					
Whenever I can, I avoid using computers in my classroom.		.823					
Even when I try very hard, I do not use the computer as well as I do other instructional resources.		.861					
ICTs present students lifelike applications in teaching-learning process.			.595				
I believe ICTs as powerful tools helping students' understanding of abstract content.			.592				
I think all students should use ICTs in teaching-learning process in their classrooms.			.824				
I feel confident that I can design technology-enhanced learning activities for my students.				.692			
I feel confident that I can design technology-enhanced learning activities for my students.				.777			
Teachers in my school are well informed about the value of computers in teaching and learning.				.757			
I enjoyed doing the activities in ICT class very much.					.801		
The activities in ICT class were fun to do.					.492		
After working on the activities in ICT class for a while, I felt pretty					.792		

competent.							
At faculty meetings, we frequently discuss the subject of integrating computers in the school curriculum						.716	
Teachers in my school are well informed about the value of computers in teaching and learning.						.834	
The use of ICTs in the teaching - learning process makes saving time.							.559
The use of ICTs helps me organize the teaching - learning process better.							.832

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.732
Bartlett's	Approx. Chi-Square Test of Sphericity	2570.598
	Df	171
	Sig.	.000

Factor analysis is a test to check or conformed the groups on SPSS software and the result is shown in the table of rotated component matrix, Therefore, as in the table Rotated Component Matrix conforms the groups of items related to the concerned variables and also represents the correlation between the factors and the variables, and conformed groups of 7 variables, whereas, the 8th variable cannot be loaded with SPSS software. As, factor analysis was used to check the instrument reliability so it shows

that it conforms the groups and made it clear that the instrument is reliable.

4.4: Regression Analysis:

Table-5 Regression Coefficient (Teachers' engagement in ICT)

Variables	**Coefficient**	**t-stats**	**Prob.**	**V.I.F**
(Constant)	6.013	4.775	.000	
Pedagogical tool	-.282	-6.108	.000	1.080
Anxiety level	.006	.069	.945	1.194
Technical support	.129	1.240	.216	1.304
Teachers' motivation	.490	7.292	.000	1.166
Teachers' usage of ICT	.028	.189	.850	1.221
Teachers' beliefs	-.184	-1.475	.141	1.424
Adj. R^2	.180			
F-stats (Prob.)	0.00			

a. Dependent Variable: TEMT

Discussion:

As it is mentioned, that the table 5 describes the values of all variables, that both dependent and independent variables are with their β value, significant values and VIF values in the tables. If the β value is positive or negative in both the cases it has effects on dependent variable, i.e. teachers' engagement in ICTs. The P value of the table shows the significance of both variables that is dependent and independent variables. In the above table, p value of teachers' anxiety level, technical support, teachers' usage of ICTs and teachers' beliefs have values more than 0.10 which means all of the four variables have insignificant values while teachers' use of ICTs as a pedagogical tool and teachers'

motivation have values less than 0.10 that shows these two variables have significant values.

In the table no 5 the independent variable teachers' use of ICTs as a pedagogical tool has a significant value. While the beta value is with a negative sign that shows that teachers' use of ICTs as a pedagogical tool has a negative effect on the teachers' engagement. That means if teachers' use of ICTs as a pedagogical tool increases by 1 unit, then teachers' engagement decreases by -.282 with the p value .000 that shows the value is significant and the hypothesis is rejected since the value is less than 0.1 because this is a limitation of p value that it should be lower than 0.1. This is fact that if teachers' use of ICTs as a pedagogical tool increases than they can better engages with ICTs tools in their classrooms. And can make the learners more comfortable in the classrooms, where ICTs are being used as a pedagogical tool. But in the case of, this research the negative value for teachers' use of ICTs as a pedagogical tool can be due to the possibilities that most teachers don't know the right use of ICTs, teachers are not fully trained to properly cope with the ICT. So for this reason, they mostly rely on their lectures. Basically, computer illiteracy is the main reason and if use of ICTs doesn't match with the teaching methodology effectively than ICT is of no use. The consequences, of this research also proved the objective the impacts of teachers' use of ICTs as a pedagogical tool in elementary classes. It is clear that the variable teacher's use of ICTs as a pedagogical tool has effects on the teacher's engagement.

However, if the teachers' anxiety level has increased by 1 unit than teachers' engagement increases by 0.006 and the p value is 0.945 which is greater than 0.1 shows that it is an insignificant value and hypothesis is accepted, since, the anxiety stops teachers to use electronic devices. They may feel nervousness and shyness and they may not use ICTs without any further assistance. But, this study claims that if teachers' anxiety is increasing than teachers' engagement increases too. This claim is may be due to

the possibility that most of the teachers are not using technological tools in their classrooms. They even don't know the effects and use of technologies so that they don't have anxiety regarding information communication technologies just because they are not using it. These consequences proved the effects of the anxiety on teacher's engagement in applying ICTs in elementary classes. Hence, the objective is achieved.

In the case, of technical support that is if technical support is increased by 1 unit than teachers' engagement increases by 0.129 with the p value 0.216 shows that it is insignificant because it is greater than 0.1 and, which shows that it is an insignificant value and hypothesis is accepted. Since, technical support and peer interaction is a very important variable and it has a positive effect on teachers' engagement. If a teacher gets technical support from the ICT coordinator and have coordinated with peers, can easily get better engagement with ICT tools. Consequently, those teachers who are supported by the technical staff and their peers have a great and a confident involvement towards ICTs. In this case, the objective for the effects of technical support and peer interaction on teachers' engagement in applying ICTs in elementary classes is truly achieved.

So as with the case, of teachers' motivation that is if teachers' motivation is increased by 1 unit than teachers' engagement increases by 0.490 with the p value .000 shows that it is a significant value because it is lower than 0.1 so that the hypothesis is rejected. Accordingly, it is a proved phenomenon that if someone has the motivation towards their tasks they can get better involved or engaged. Same is the case with teachers if they have motivation than they can engage by using ICTs in their classrooms. Hence, the objective of the impacts of teacher's motivation using ICTs on teacher's engagement in elementary grades is also achieved. According to the results of this study if teacher's motivation increases than the teacher's engagement also increases.

Similarly, teachers' usage of ICT that is if teachers' usage of ICT is increased by 1 unit than teachers' engagement increases by 0.028 with the p value 0.850 shows that it is insignificant because it is greater than 0.1 so as the hypothesis is accepted. Subsequently, the teachers' usage of ICT in the classrooms increases the teachers' engagement towards technologies. Truly, if the teacher uses the tools in the classrooms can find them effective for the apprentice and their future in order to improve their knowledge and skills. Consequently, the objective, effects of teachers' use of ICTs on teacher's engagement in applying ICTs in elementary classes is also achieved through this study. The present study claimed that if the teachers' usage of information communication technology is increase then the teacher's engagement also increases.

Lastly, if teachers' beliefs increases by 1 unit than teachers' engagement decreases by -0.184 with the p value 0.141 which is greater than 0.1 shows that the value is insignificant and has negative effects on the teachers' engagement by using ICTs in elementary grades so that the hypothesis is accepted. Basically, this study is conducted in a very remote area, where teachers have poor beliefs and having weak associations with information communication technologies. This may be the possibility of the result that if teachers' beliefs are increases than teachers' engagement decreases. Henceforth, the results of this research approved the effects of teachers' beliefs using ICTs on teachers' engagement in elementary grades. This study claims that if the teacher's beliefs increases the teacher's engagement decreases.

VIF value shows the coefficient of multiple co-linearity which means that the variables are very much connected with each other. If the value of VIF is greater than 10 then there is multi Co linearity exists. In the above table the VIF value for all variables are less than 10 that is 1.080 for teachers' use of ICTs as a pedagogical tool, 1.194 for teachers' anxiety level, 1.304 for the technical support, 1.166 for the teachers' motivation, 1.221 for the teachers' usage of ICTs, and 1.424 for the teachers' beliefs that

means a change in value of any variable does not effect on values of other variables.

The significance of the adjusted R square in the above table shows the suitability of the model which is .180 that shows the dependent variable (Teachers' engagement in ICTs) can predict .180% of variance independent variable (teachers' use of ICTs as a pedagogical tool, teachers' anxiety level, technical support, teachers' motivation, teachers' usage of ICTs, teachers' beliefs).. And the f value in table 5 shows the relative importance of both variables in above model that is 0.00.

B value is used to form a regression equation which is:

TEMT= 6.013-0.282 (PGT)+0.006(ANT)+0.129(TCS) +0.490(TMN) +0.028(TUI) -0.184(TBL)

4.6 Gender model:

Table no 7

Coefficients

GENDER	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
			B	Std. Error	Beta			Tolerance	VIF
Female	1	(Constant)	6.449	1.635		3.945	.000		
		PGT	-.276	.050	-.289	-5.518	.000	.902	1.109
		ANT	.058	.099	.031	.584	.560	.865	1.157
		TC	.163	.120	.076	1.361	.174	.787	1.271
		TMN	.536	.075	.378	7.165	.000	.893	1.120
		TUI	.096	.174	.030	.551	.582	.863	1.159
		TBL	-.375	.158	-.136	-2.366	.019	.750	1.334
Male	1	(Constant)	14.631	2.137		6.847	.000		
		PGT	-.397	.113	-.407	-3.506	.001	.924	1.083
		ANT	-.257	.125	-.241	-2.062	.044	.911	1.098
		TCS	-.196	.160	-.143	-1.227	.225	.917	1.091
		TMN	.055	.130	.050	.425	.672	.895	1.118
		TUI	-.334	.229	-.179	-1.457	.151	.828	1.207
		TBL	-.044	.154	-.035	-.289	.774	.863	1.159

a. Dependent Variable: TEMT

In this table no 7 the values of all variables, that both dependent and independent variables are with their β value, significant values and VIF values in the tables differentiated gender wise as females and males. This table also clearly shows the effects of independent variables on dependent variables, but there was one limitation which was the no of male respondents was not equal to the no of female respondents in the data collection. If the no of respondents are equal, i.e. the no of male respondents and female respondents than they can show a clear picture of the results.

4.7 Overall results:

Table 8

Overall Results		**Female (N=328)**		**Male (N=62)**	
6.013	(.000)	6.449	(.000)	14.631	(.000)
-.282	(.000)	-.276	(.000)	-.397	(.001)
.006	(.945)	.058	(.560)	-.257	(.044)
.129	(.216)	.163	(.174)	-.196	(.225)
.490	(.000)	.536	(.000)	.055	(.672)
.028	(.850)	.096	(.582)	-.334	(.151)
-.184	(.141)	-.375	(.019)	-.044	(.774)

The table 8 describes the overall results of regression analysis and the results of contextual variable different among females and males. As, the overall result of dependent value is 6.013 and its p value is .000 while in case of females table the beta

value is 6.449 and it is p value is .000. On the other hand, the beta value for males is 14.631 and the p value is .000 which shows that the result is significant. Finally, the objective the contextual variables differ among male and female gender wise is achieved as the impacts of the use of ICTs is differ among male and female teachers in the school level.

5.1 Conclusion:

The current work focused on the integration of ICTs in elementary grades in the district of Kech Balochistan. As, many countries are focusing on the idea of innovation in education mostly USA and Japan, whereas the developing countries like Pakistan are coping with different issues like teachers' engagement in ICTs in school level (Knezek & Christensen, 2002).

To conclude, it is observable that all the independent variables have effects on teachers' engagement, but in some cases it is either positive or negative. The results showed that utilization of information technology as a teaching tool and teachers' beliefs have negative effects on teachers' engagement. Even though, the anxiety level of teachers in using ICTs, teachers' usage of ICTs, technical support and peer interaction in using ICTs and teacher's motivation using ICTs have positive effects on teachers' engagement in ICTs in elementary grades.

In order to integrate information communication technologies in education, all the stakeholders need to work collectively. For this reason, the first and foremost agent is a teacher and it is very crucial that along with the technology a teacher should be trained in all the aspects of teaching. To minimize the effects of anxiety and increases teachers' beliefs, technology should be introduced in all the elementary grade schools. Teachers should be provided professional skills in order to enhance their engagement in information communication technology.

Basically, the research article was to gauge the teachers' activity in information communication technology in the school district of Kech Balochistan and it is found that the teachers are very enthusiastic regarding the use of ICTs. But, due to the unawareness and lack of professional skills, it is a very problematic to use ICTs in the elementary classes of the school of district Kech.

5.3 Recommendations of the study:

The recommendations of the study were as follows**:**

1: As to increase the teachers' engagement in using ICTs in elementary grades, the higher authorities should introduce information communication technologies to every school of district Kech.

2: For the correct integration or diffusion of information communication technology, it is very important to make teachers equipped with skills of using ICTs in the classrooms.

3: Essentially, computer illiteracy is the main reason of this region and if use of ICTs doesn't match with the teaching methodology effectively than ICT is of no use. What should the higher authorities do to conduct trainings and workshops concerning the practice of information communication technologies and the pedagogical techniques through which these technologies were applicable in the field of education?

4: As, this study claims that the beliefs of the teachers of district Kech were negative regarding the use of ICTs due to their poor associations. In this case, an ICT coordinator should be appointed in every school in order to help the teachers utilize technology in the classrooms.

5: There should be comprehensive chapters regarding the use of ICTs in the school books in order to enhance the teacher's motivation.

6: Being a teacher, the researcher strongly recommends that the teachers should recognize their worth in the society. Therefore,

they should work hard for their professional development in the school level.

7: If a teacher has any kind of instrument like Laptop or personal Tab, he or she should bring that instrument in the school and make an introduction with the apprentice.

5.4 Future recommendations:

Accordingly, ICT integration with education is very necessary to achieve the goals of the modern era, so there should be more deep researches on teachers' engagement in ICTs in order to make learners more competent.

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