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## **Gaps between Beliefs and Practices of Teachers at School Level**

**Nasreen Akhter\***  
**Muhammad Akhtar\*\***

### **Abstract**

*This paper has reported results of a survey study that was conducted to investigate gap between beliefs and practices of teachers. Data of this study was collected from 299 trained teachers and 1460 students from five districts of Punjab Province of Pakistan. Two questionnaires (one for students and one for teachers) were used as tool of this study. It concluded that teachers had strong beliefs about their roles regarding different aspects of teaching learning process but their practices as observed by their students did not exhibit their beliefs. Results identified that teachers were aware about importance of lesson planning and preparation and use of audio visual aids. They believed that learners centered skills of teaching and extra educational help to students could improve students' learning achievement. They also thought that involvement of parents in educational matters and discouragement of tuitions in teaching were effective techniques to upgrade educational standard of students but their practices were not according to their beliefs. This study has recommended teacher educators to improve scheme of study of teacher education courses and emphasize practical part of teacher training courses. Furthermore, it invites heads of schools to motivate teachers to exhibit practices according to their beliefs.*

**Key Words:** Teachers' beliefs, Teachers' practices, Teaching, Teacher training

### **Introduction**

Teaching is an art. It requires knowledge, skill and efforts of teachers to achieve the goals of education. Teachers attain knowledge about teaching during the training

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\* Assistant Professor, Department of Education, The Islamia University of Bahawalpur.  
E-mail: nasreen.akhtar@iub.edu.pk, drnasreenakhtar01@gmail.com

\*\*Principal, City Public High School Chishtian.

period. So, teacher training courses are designed to inculcate knowledge and skill of teaching in prospective teachers during the training. As result of successful training, prospective teachers learn skills that are needed to be implemented during the teaching in real classroom situations. During teaching in real situations, teachers implement skills of teaching practically and learn the applicability of rules of teaching.

Term belief conveys the meanings of; opinion, assumed truth, faith, trust, intellectual judgment and a mental state or attitude of acceptance about something. It is a state of mind in which a person assumes that something is true. According to Zalta (2014) belief is a feeling of being convinced that something exists is true. In views of Cantu (2001) beliefs serve as a filter through which decisions and judgments are made. Near to Akbar, Akhtar, Chaudhry and Abaidullah (2013) beliefs play critical role in selection of various options regarding teaching process. According to Grossman (1990) beliefs are important in decision making of teachers. Their conceptual map regarding any step of teaching is developed by teachers' beliefs.

Believes provide basis to the actions. Teachers' beliefs impact the performance of teachers. Good beliefs results in the form of good practices. Normally, it is assumed that teachers practice what they think and believe. Commonly, practices of teachers are considered to be the reflections of beliefs of teachers. It is also a point of view that beliefs are developed by training and matured by successful practices of theories in real situations for long time periods. If a teacher cannot achieve the expected results by implementing a specific technique of teaching repeatedly, it develops a belief in the mind of teacher that the rule is not true to get the expected results. Application of good beliefs about teaching is necessary to achieve good results in teaching. Teacher training courses focus to educate prospective teachers about the effective teaching skills. Philosophy of education and teaching skills are compulsory courses of teacher training courses. Purpose to teach these courses is to introduce effective teaching perceptions and skills to give knowledge about the effective teaching skills that are necessary to develop important beliefs in teachers.

In general, teaching according to belief is necessary but difficult for teachers where teachers are less motivated to achieve their goals. Dedication to work, honest effort, love with teaching profession and hard labor are necessary for effective teaching. No doubt, trained teachers have knowledge about effective teaching skills. They need to apply theory into practice. It is necessary to do experiment about the applicability of most of rules of teaching in real classroom situation. But, normally less dedication towards teaching has observed in situations where teaching profession is adopted by chance not by choice by people working as teachers.

Various studies have pointed out contradictions between beliefs and practices of teachers at various levels. Robertson and Smolka (1997) concluded gaps between beliefs and teaching practices in environmental education. A study conducted by Kuzborska (2011) pointed out that there was a relatively strong relationship between the teachers' beliefs but English teachers did not teach in accordance with their theoretical beliefs. While investigating the gaps between beliefs and practices of teacher educators Akbar, Akhtar, Chaudhry and Abaidullah (2013) pointed out that teacher educators had strong beliefs about the lesson planning, sharing objectives of teaching to students, introducing the lesson to students properly and applying learner centered skills of teaching in real classroom situation but their practices about their beliefs were poor. This means, even teacher educators teaching prospective teachers do not implement the rules of teaching in practice. They teach adverse to their beliefs. Probably, prospective teachers get message to just attain knowledge about the ideal techniques of teaching but learn that implementation of the theories in practice is not mandatory. That's why teachers practice adverse to their beliefs in real situation.

### **Statement of the Problem**

This study was conducted on "Gaps between beliefs and practices of teachers at school level". The study was planned on assumption that teachers do not implement the theories/knowledge about teaching into practice. They have knowledge about the ideal situations in teaching but do not implement the rules of teaching practically. This gives a notion to new teachers and prospective teachers that rules of teaching are just for studying, not for implementing. This also damages the quality of teaching. So, study in the area was necessary to analyze the current situation and prepare a framework for the future.

### **Objectives of the study**

The study focused to:

1. Find out beliefs of teachers regarding different aspects of teaching learning stages.
2. Find out practices of teachers regarding the aspects of teaching learning process.
3. Find out gaps between beliefs and practices of teachers with regard to different aspects of teaching learning process.

### **Significance of the Study**

This study has searched beliefs of school teachers. It has explored the mindset of teachers about their beliefs and preferences regarding the art of teaching. So, this study is helpful for teacher trainers to understand; what trained teachers have learnt by training period and which aspects of teacher training has not achieved. This study is helpful for teacher educators to evaluate the course contents and theoretical and



practical aspects of teacher training courses too. It has pointed out strong beliefs of teachers regarding ideal practices of teachers. This explains that teacher educators perform well to inculcate knowledge of ideal teaching skills to prospective teachers. On the other hand, while pointing out the gaps in beliefs and practices of teachers, this study is helpful for teacher educators to understand that practical aspect of teacher education courses needs attention. It point outs that teacher educators are not successful to enable teachers to apply theory into practice in real classroom situation.

On the whole, this study is helpful for policy makers, teachers and school administrators to review their roles and responsibilities to evaluate the reasons behind gaps between teachers' knowledge and practices of trained teachers. The future researchers can get guidelines from this study while reviewing literature on the topic of this study and search areas for future research

### **Procedure of the study**

This study was completed by following the procedure of descriptive research. This study was delimited to five districts of Punjab (Bahawalpur, Rawalpindi, Multan, Lahore and Bahawalnagar. Data was required from the teachers and students. So, population of the study comprised of teachers as well as students of school level. At the sample selection stage, firstly 350 teachers were randomly selected from the list of population. Fifty students from one district were chosen to give equal representation to each district in the sample. Then five students against each one trained teacher (total=1750 students) working as Secondary School Teacher were decided to be randomly chosen.

At the stage of data collection, teachers were given a questionnaire that was comprised of sixteen statements on five point Likert scale. Statements were related to the beliefs of teachers about the teaching process. Teachers were requested to rate the statements as according to their beliefs. From students, five students against one teacher were requested to fill in the questionnaire that was just related to the practices of teachers. It was comprised of sixteen statements on five point Likert scale. Students were requested to rate each statement of questionnaire on the basis of their observation about what teachers normally does in practice. From totally delivered 299 teachers and 1460 students returned the questionnaires. At data analysis stage, mean score of each item of data collected from teachers was computed. In the same way mean score of each item of student data was also computed. Further, mean score and mean difference were computed to compare mean score of teachers' beliefs with teachers' practices.

### **Validity and Reliability of the Questionnaires**

After constructing questionnaires, two experts in education were requested to evaluate the content validity and face validity of the questionnaires. They were

requested to evaluate each statement on a scale keeping in view the objectives of study. These experts gave some suggestions to improve the statements. So, statements in the light of recommendations of experts were made and to finalize the questionnaires.

For pilot study, tool was administered to fifty teachers and fifty students. All statements were observed understandable for the samples. At data collection stage, after administering the questionnaire to sample of the study, Cronbach alpha value was computed using SPSS version 20 to find out the reliability of the tools of the study that was 0.741 for questionnaire for teachers and 0.773 for questionnaire for students.

### **Results and Discussion**

To describe the results, data was divided in to two parts i.e. teachers' beliefs and teachers' practices. Scores of teachers' beliefs were computed from the data collected from teachers. Scores of teachers' practices were computed from data based on students' observation about their teachers (reported by students). These were reported as teachers' practices. In following pages, the results of the study have described and discussed to point out the gaps between beliefs and practices of teachers.

**Table 1 Beliefs and practices of teachers regarding preparation for teaching**

Aspects	Mean scores		Mean difference	Sig.
	Teachers' belief	Teachers' practice		
Detailed lesson planning is effective way to teach the lesson effectively.	4.09	3.53	0.559*	0.000
Planning and preparation of teaching aids is necessary for effective teaching.	4.22	2.59	1.635*	0.000
Use of teaching aids make lesson interesting and effective	4.12	2.79	1.331*	0.000

Table 1 indicates that majority of teachers believed that lesson planning, preparation of helping aids and use of these aids is necessary for effective teaching (mean=4.09, 4.22 and 4.12). By evaluating mean scores of students' observations regarding the application of teachers' beliefs in practice, it was seemed that majority of them did not apply their beliefs in real situation (mean=3.53, 2.59 and 2.79). In other words, there was a gap between teachers' beliefs and practices. Mean difference of all aspects (0.559, 1.635 and 1.331) were significant at 0.05 levels.

Table 2 Beliefs and practices of teachers about applying learner centered skills of teaching

Aspects	Mean scores		Mean difference	Sig.
	Teachers' belief	Teachers' practice		
Allowing students to ask questions during lecture is necessary to provide learner centered learning experiences to students.	4.20	3.80	0.408*	0.000
I love to teach students by involving them into practical activities.	4.16	3.99	0.174*	0.013
Problem solving and project method are best to give lifelong learning experiences to students.	4.28	3.93	0.351*	0.000

Table 2 indicates teachers' beliefs and students' observations about the application of different learner centered skills of teaching. According to the table, teachers have strong beliefs about the learner centered teaching skills (mean=4.20, 4.16 and 4.28). Mean score of students' observation about the application of these aspects in the practical situation in classroom situation indicates that teachers' actions did not reflect their beliefs because significant mean difference was found between teachers' beliefs and teachers' practices regarding all aspects (0.408, 0.174 and 0.351) at 0.05 level of significance. This means, there was a gap between teachers' beliefs and practices.

Table 3 Beliefs and practices of teachers about the coaching of students in written assignments

Aspects	Mean scores		Mean difference	Sig.
	Teachers' belief	Teachers' practice		
Teacher should point out mistakes in written work.	4.42	4.06	0.359*	0.000
Teacher should discuss mistakes of students in written work and help them to rectify the mistakes.	4.18	3.95	0.231*	0.003

Table 3 indicates beliefs and practices of teachers about the educational practices of teachers regarding the assessment of written assignments. Written assignments are integral part of any educational program. Teachers assign different assignments to students to improve and mature students' writing skill. As figures in the

table shows, teachers thought that they should point out mistakes of students in assignments to aware students about their mistakes (mean=4.42). In the same way they have strong belief about the way to discuss the mistakes of assignments with students so that they may be able to understand; how they could improve their assignments by rectifying mistakes (mean=4.18). But comparison of mean score of beliefs and practices of teachers in light of students' observation indicates that teachers do not practice according to their beliefs (mean=4.06 and 3.95) with 0.359 and 0.231 mean difference that was significant at 0.05 level. These again exhibit flaws between teachers' beliefs and practices.

Table 4 Beliefs and practices about the use of incentives: rewards, punishment and self-respect

Aspects	Mean scores		Mean difference	Sig.
	Teachers' belief	Teachers' practice		
To avoid negative impacts, punishment is banned in my class	3.16	3.28	- 0.117	0.251
Student should be given respect	3.28	3.44	-0.154	0.103
Rewards are necessary to motivate students for excellent performance	3.96	3.21	0.764*	0.000

Table 4 depicts beliefs and practices of teachers about the use of positive incentives in teaching learning process. It shows 67% (sr. 1 and 2 in the table) practices of teachers are according to teachers' beliefs. According to teachers' beliefs, physical punishment should be banned and students should be given respect to students (mean=3.16 and 3.28) in classes. Mean scores of teachers' practices of both aspects (3.28 and 3.44) and mean difference (-0.117, -0.154) indicates that teachers' practices were according to their beliefs as mean difference were not significant (0.251, 0.103) at 0.05 level of significance. Even students observed that their teachers gave them more respect as they thought and avoided punishment during the classes.

About the aspect indicated in sr.3, again a contradiction between teachers' beliefs and practices was indicated. Teachers believed that rewards could be used to improve the performance of students in classes (mean=3.96) but in reality they could not practice their thought in real classroom situation (mean=3.21, p=0.000, mean difference=0.764) at 0.05 level of significance.

Table 5 Beliefs and practices of teachers about the help of students

Aspects	Mean scores		Mean difference	Sig.
	Teachers' belief	Teachers' practice		
Discussion on personal matters of students help teacher to develop better teacher student relationship.	4.10	3.83	0.268*	0.003
Giving extra coaching to children from deprived families is moral duty of teachers.	3.99	3.28	0.709*	0.000
Tuition should be banned for teachers	4.05	3.36	0.689*	0.000

Table 5 depicts beliefs and practices of teachers about extra coaching and individual and moral help of students. According to the beliefs of teachers, teachers should negotiate with students about the personal matters to diagnose their problems and develop better teacher student relationship mean (mean=4.10). They should give extra coaching to children who are from educational and socially weaker families (mean=3.99) instead of giving tuitions on payment (mean=4.05) to the academically weaker students. But practices of teachers observed by their students indicated that teachers were behind in their practices in comparisons to their thoughts. Mean scores of students' observations regarding different aspects indicated in the table were lower than teachers' beliefs (mean=3.83, 3.28 and 3.36) and mean difference of all aspects (0.268, 0.709 and 0.689) were significant at 0.05 level. This again indicated gaps between beliefs and practices of teachers.

Table 6 Beliefs and practices of teachers about the involvement of parents in educational process

Aspects	Mean scores		Mean difference	Sig.
	Teachers' belief	Teachers' practice		
Parents should be consulted to discuss students' matters during parent teacher meetings	4.44	4.07	0.378*	0.000
Teacher should prepare himself for parent teacher meeting	4.32	3.65	0.666*	0.000

Table 6 depicts beliefs and practices about the involvement of parents in educational process of children. It explains teachers' strong beliefs to consult parents in parent teacher meetings (mean=4.44) and prepare themselves before meetings

(mean=4.32) to discuss educational matters of children with the parents. On the other hand, overview of students' observation about the practices of their teacher indicates that there was a gap between practices and beliefs as mean difference (0.378 and 0.666) were significant at 0.05 level.

## **Conclusions**

1. Majority of teachers think that lesson planning, advance preparation of helping aids and use of helping aids is necessary to achieve effective results by teaching lessons but their practices do not exhibit their actions.
2. Majority of teachers believe that effective learning is possible by applying learner centered skills like as question answer sessions, problem solving and project method but in real situations, they do not practice according to their belief.
3. Majority of teachers believe that they should point out mistakes of students on their work and discuss the mistakes in detail to explain; how the mistakes can be rectified? But practically, they do not evaluate students' notes properly. Moreover, they do not discuss the mistakes of students with their students to improve their skill to answer the questions in future. This shows gaps between beliefs and practices of teachers.
4. Majority of teachers idealize to give rewards to students to inspire them for better learning in the future but in practice they rarely offer rewards to students.
5. Majority of teachers believe that punishment and disrespect of students must be banned. Practically they not only give respect to students but also avoid the physical punishment to avoid the negative impacts of these negative incentives on students. So, in this aspect, there is no gap between belief and practice of teachers.
6. Majority of teachers believe to help students by properly coaching them at school, avoid the private tuitions, give extra coaching to children from the deprived families and discuss personal problems with students to help them in solving their issues but their practices are against to their beliefs.
7. Majority of teachers believe to prepare themselves for parent teacher meetings and consult parents to discuss students' educational matters to improve students but their practice do not exhibit their beliefs.

## **Discussion**

Teaching is difficult task. It requires hard labor, patience and love to teaching profession. Only dedicated and hardworking persons can perform their duties as teachers in well-mannered way. No doubt, higher level qualification and training to teach the students is necessary for successful teaching. But, sometimes highly educated and trained persons cannot exhibit their skills in classroom because of lacking skill to apply knowledge into action. Moreover, dedication to the work of teaching is necessary for teachers. Persons having no dedication to the teaching profession cannot teach well because of having no passion and love to the teaching profession.

This study has investigated some beliefs and practices of teachers in real classroom situation. Results of this study has pointed out that teachers are appreciable to have strong beliefs about different aspects of teaching. The knowledge of teachers about the teaching perceptions gives clue that teachers are well informed about the effective teaching skills to achieve educational objectives. They have knowledge that lesson planning, preparation of teaching aids and use of teaching aids during teaching is necessary. They admit the value of learner centered techniques of teaching and appreciate the concept of interactive learning. They admit that vigilant and careful assessment of students' work is necessary. But data about the practices of teachers in real situations as reported by students who are best observers and best evaluators of their teachers has shown weak coordination between beliefs and practices of teachers.

Role of parents is vital in the educational process of children. Even an able teacher, working in ideal school environment cannot work successfully unless having cooperation of parents. Parental involvement in the educational process and even cooperation to a teacher of even uneducated parent can make the educational process of a child effective for a teacher. The study has pointed out that beliefs of teachers are strong about the value of involvement of parents. Teachers have clear mindsets about value of parental involvement in teaching learning process. They believe that successful education of a child is not possible unless consulting and involving parents in difficult situations. They have awareness about the value of parent teacher meeting and their role to prepare themselves before calling parents in meetings. But unluckily, observations of students recorded in this study have negated the ideal role of teachers to show their willingness to work as according to their beliefs in this regard too. Observations of students has pointed out that teachers do not exhibit their beliefs in to

practice. They believe to develop better relationship with their students, help poor students by giving extra help after school time and discourage tuitions but not exhibit their beliefs in practice as strong as they think. In other words there are gaps in beliefs and practices of teachers.

Analysis of the situation as indicated by conclusions of this study requires evaluating the reasons of this situation. Results of this study are signing towards the support of theory that knowledge of teaching learnt during teacher training is not transformed to trainees in the way as it requires. Government of Pakistan has did lot of efforts to improve teacher training programs. Review of educational policies of Pakistan indicates that government of Pakistan is committed to improve education through improving teacher education and appointing qualified and trained teachers at school level. But various studies as cited previously (Robertson and Smolka, 1997; Kuzborska, 2011; Akbar, Akhtar, Chaudhry and Abaidullah, 2013) has also pointed out gaps between beliefs and practices of teachers. This requires attention of not only organizers of schools and teachers working in real classroom situation to think ways to improve the situation but also teacher educators and policy makers involved in curriculum development of teacher education courses to analyze the schemes of studies of teacher education courses. A fruitful way to fill the gaps between beliefs and practices demands trainee teachers to practice application of laws during the training period. Proportion of theory and practice of courses can also be balanced to improve teachers' skills to apply knowledge into practice.

### **Recommendations**

1. The study has pointed out strong beliefs and weak practices of teachers about various skills of teachers to work for effective education of students at school level. It has supported that teachers have knowledge but they do not exhibit their knowledge into practice. So, heads supervising school activities should motivate teachers to exhibit their skills into practice. They may help to provide material resources to students to develop and use teaching learning resources to make their teaching effective and interesting for students.
2. Teacher education institutions need to revise and improve curriculum. They should increase practical proportion in the courses. Teacher educators should ensure to give demonstration about the practical components of concepts during



teaching. Trainee teachers may be provided chances to do extensive practice to attain skill to practice theory into practice.

3. Aptitude test may be compulsorily taken at the stage of admission in teacher education courses. Teaching is a sacred profession and needs dedication of work so; only persons having deep interest in teaching should join the profession of teaching.
4. A further study on the topic may be conducted collecting data from elementary level schools in the country.

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## **M-Learning: Factors Influencing Behavior Intentions in Distance Education**

**Jahan Ara Shams\***  
**Intzar Hussain Butt\***  
**Muhammad Zafar Iqbal\***

### **Abstract**

*M-learning technology has reshaped the existing education system and is rapidly being integrated in the education sector especially outside the formal classroom settings. The purpose of this study was to explore the factors that influence the behavior intentions of the distant learners towards the use of m-learning. These factors include utility of m-learning, ease in m-learning, self-management of the m-learner and the behavior intentions towards the use of m-learning. The participants of the study were 100 male and female prospective teachers studying under distance education system. The data was collected using a questionnaire consisting of 20 items. The results showed that there is a significant relationship between utility of m-learning, ease in m-learning, and the behavior intentions of the prospective teachers towards the use of m-learning. The correlation between self-management of the e-learner and behavior intentions was found to be non-significant.*

**Key Words:** M-learning, Distance Education, Behavior Intentions, Self-management, Prospective teachers

### **Introduction**

Mobile learning is an escalating phenomenon in today's world of educational innovations. It is a new educational strategy and a good addition to the existing store of educational technology. It has eliminated the barriers of location for the learners.

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\* Division of Education, University of Education, Lahore.  
Corresponding Author's E-mail: ib@ue.edu.pk

Portable devices like cell phones, tabs and iPods have made it easy for the learner to access the content from anywhere in the world. O'Malley et al. (2003) describe mobile learning as 'any sort of learning that takes place when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies' (p.6).

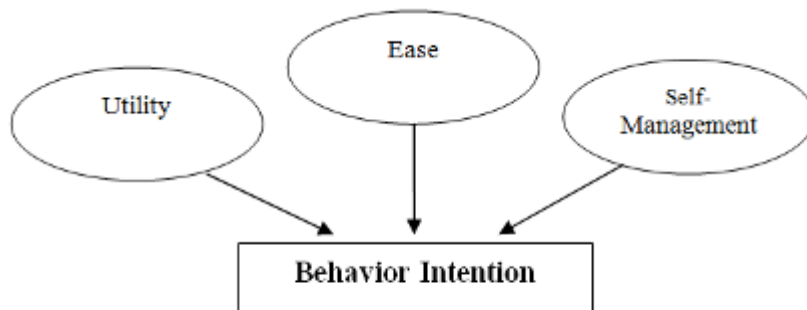
Today m-learning is the center of attention of many researchers and is being considered as "harbinger of the future of learning" (Schwabe & Goth, 2005; Park, 2011; Keegan, 2002, p.9). Although M-learning is not a new concept and has been around from few years but it is still in the process of development with day by day innovations in the technological world. It is a flexible form of learning (Seppälä & Alamäki, 2003). It develops collaboration between learning that takes place in university, home or at work outside, by its distinctive features of convenience, immediacy and expediency (Kynäslähti, 2003; Sharples, Corlett & Westmancott, 2002; Sharples, Taylor & Vavoula, 2005). Although m-learning has decreased the dependence on the fixed time and space by making it possible to learn in formal and both informal settings and has the working and learning ways (Park, 2001; Peters, 2007).

M-learning provides the learners with the opportunity of learning across time, space, contexts and life transitions. There are empirical evidences on the advantages of M-learning technology for the learners (Goldman & Kaufman, 2001; Gay, Stefanone, Grace-Martin, & Hembrooke, 2001; Liu, Wang, Liang, Chan, Ko and Yang, 2003). Irwin Jacobs (2013) stated that "always on, always connected mobile devices in the hands of students have the potential to dramatically improve educational outcomes" (p.2). In the current era where technological transformation like m-learning has brought revolution in the existing teaching and learning process, academicians and educators feel a dire need of creating new learning models (Johnson & Maltz, 1996; Lin & Liu, 1999; Chen & Nahrstedt, 2000; Chen & Lai, 2001; Chen, Kao & Sheu, 2003) to direct behaviors of the learners. Although researchers have offered theoretical frameworks, instructional designs (Sharples, Taylor, & Vavoula, 2005; Zurita & Nussbaum, 2007) and mobile learning models like Task model of mobile learning (Josie, Mike, Claire, Giasemi & Jenny, 2006), interdisciplinary mobile learning models (Kitchenham, 2011) and others like Web, App & Cellular model of mobile learning (Lorenzo, 2011) etc. for inculcating m-learning in the educational settings but behavior intention models can help in integrating the mobile technology into the lives of distant learners more effectively (Perk, 2011). M-learning provides the learner with learning experiences which are vast in scope. These experiences are 'collaborative, accessible, and integrated with the world beyond the classroom' (Corbeil & Valdes-Corbeil, 2007, p.54). In the context of distance education, it is the availability of the technologies not the technologies embedded with teaching and learning strategies that are crucial for distant learners. M-learning being portable ensures such availability in the easiest way. In this

study the researcher has explored the factors which influence the acceptability of m-learning technology by the prospective teachers using UES-M model of behavior intention.

UES-Model of behavior intention has its theoretical base from the Ajzan and Fishbein's (1980) 'Theory of Reasoned Action', which was developed to model the individuals' positive disposition towards the acceptance of information technology. According to this theory the individual rationally and systematically use the information available to them. So they first consider the possible implications of their behaviors before actually engaging themselves in that particular behavior. This theory claims that the intention of a person to perform a behavior will determine its immediate action which highlights the fact that a persons' behaviors are used to be in accordance with its intentions. The factors Utility, Ease and Self-management in the context of m-learning have been explored in different countries with different populations (Venkatesh, Morris & Ackerman, 2000; Wang, Wu & Wang, 2009; Lowenthal, 2010, Evans, 2000; Smith, Murphy & Mahoney, 2003) and found to have their role in predicting behavior intention. Therefore, the current study has used

UES-M model of behavior intention to explore the factors that cause regression in behavior intentions of Pakistani prospective teachers towards the use of m-learning, studying under distance education system. The model is shown in the Figure 1 below.



***Figure 1.*** UES-M Model of Behavior Intention

Utility of m-learning is defined as the usefulness of the m-learning technology that a prospective teacher perceives for teaching & learning. Usefulness can be elaborated as the probability that m-learning as a strategy of teaching and learning will increase the level of student and teacher performance (Venkatesh, Morris & Ackerman, 2000; Wang, Wu & Wang, 2009; Lowenthal, 2010). So, the utility of the m-learning is

being used as a determinant of behavior intention towards the use of m-learning technology.

Ease of m-learning is defined as the ease in the use of m-learning technology that a prospective teacher perceives. It is the probability that m-learning technology as a strategy of teaching and learning is convenient and free of effort (Wang, Wu, and Wang, 2009; Lowenthal, 2010). So, Ease of the m-learning technology is being used as second determinant of behavior intention.

Self-management of the m-learner is defined as the level or extent of self-disciplined a learner is, for the use of m-learning technology. It can be defined as the level of autonomy the learner perceives about himself. Thus, Self-management of the m-learner is being used here as third factor of behavior intention towards the use of m-learning technology. Evans (2000) has highlighted the need and importance of self-management of the m-learner studying under distance education system. Smith, Murphy & Mahoney (2003) defined it as an important indicator of success with reference to the existing literature.

This study focused on the following research question: Do the factors utility, ease and self-management affect the behavioral intentions of the prospective teachers towards the use of m-learning?

## **Methodology**

### **Participants of the study**

The participants of the study were a total of 100 male and female prospective teachers. These were studying at university level under distance education system. The sample was selected using the technique of convenient sampling because of the accessibility and the availability of the sample. Equal numbers of male and female prospective teachers i.e. 50, 50, were selected to enhance the applicability of the sample on the population.

### **Instrumentation**

The data were personally collected by the researcher in three visits to the Open University when prospective teachers gathered there for a training workshop. The data were collected using a self-developed questionnaire. The questionnaire was comprised of four factors. These factors are utility of m-learning, ease in the use of m-learning, self-management of the m-learner and behavior intentions towards the use of m-learning technology. Five items were asked for each factor. The questionnaire was comprised of 20 items that were developed on 5-point Likert scale in a continuum from

low to high, i.e. the value of 1 being the lowest score and 5 the highest score. The questionnaire statements were like Mobile learning will be very useful in my learning, Mobile learning will be very easy way of learning in comparison to all others, I am a self-disciplined person and use to set goals, and I will love to use mobile learning technology, if available.

A total of 97 useable questionnaires were received and used in the data analysis. The reliability of the questionnaire was found to be 0.78.

### **Data Analysis and Results**

Table 1. Correlation between the factors utility, ease, self-management (SM) and behavior intention (BI)

	Ease	SM	BI
Utility	.721*	-.330	.796*
Ease		-.190	.574*
SM			-.212

\* Correlation is significant at 0.01 level

Correlation analysis was conducted to explore the relationship between factors and behavior intentions towards m-learning. Table 1 showed that there is a strong positive correlation between utility and BI, and ease and BI. The correlation between SM and BI was found to be non-significant. A strong positive correlation between utility and ease is also evident from table 1.

Table 2. Regression analysis for relationship of behavior intentions with other factors

	Utility		Ease		Self-Management	
	B	T	B	T	B	T
Behavior Intentions	0.863	12.08*	0.318	4.40*	-0.004	-0.15

\* Significant at 0.05 level

Table 2 shows that the utility regresses on the behavior intention towards the use of m-learning. The significant value of the coefficient on utility with t statistic 12.08 shows that with the thought of utility of the m-learning technology the prospective teachers are more likely to adopt it.

Similarly the Ease regresses on the behavior intention towards the use of m-learning. The significant value of the coefficient on ease with t statistic 4.40 shows that with the thought of ease of the m-learning technology the prospective teacher is likely

to adopt it. Table 2 also shows that self-management does not affect behavior intentions. The higher influence of utility on behavior intentions than ease is also evident from table 2.

### **Conclusion and Discussion**

Owing to the shift in the role and responsibilities of the teachers (Butt & Shams, 2013; Scheirer, 2000) and overnight increase in the body of knowledge, the teachers are needed to use recent mobile based technologies to equip their students with latest and easily accessible knowledge. It will resultantly raise the level of education. The findings of the study has shown that there is significant positive relationship between the factors i.e., perceived utility of the m-learning, perceived ease in the use of m-learning and behavior intention of the prospective teachers' towards the use of m-learning. These results support the findings of the earlier researches of Taylor & Todd, 1995; Venkatesh & Davis, 1996; Compeau & Higgins, 1999; Wang, 2003; Davis & Davis, 2003; Hall & Higgins, 2005; Ma, Andersson & Streith, 2005; Teo et al., 2008; Wang, Wu & Wang, 2009; and Lowenthal, 2010.

The findings have also shown that the perceived utility of the m-learning is the most influential variable that causes prospective teachers to adopt and use m-learning technology in their lives. It can be inferred that although the prospective teachers feel that m-learning technology is easy to use and handle but they give more weightage to the utility of the use of m-learning. Similarly ease in the use of m-learning technology is also found to be causing regression in the behavior intention of prospective teachers towards the use of m-learning. Similar findings about the role of utility and ease were found by Lowenthal (2010) and Yuen & Ma (2008).

In addition to that Lowenthal (2010) found that self-management of the m-learner is not predictor of behavior intentions towards the use of mobile learning. However the finding about the association of self-management of the m-learner with the behavior intention of the m-learner confirms the finding of Lowenthal (2010). The reason of this finding may be that the prospective teachers with self-managed life styles feel that m-learning is not a good alternative to the existing learning strategies. Corlett, Sharples, Bull and Chan (2005) have shown a concern for the need of equipping learners with relevant skills to make them self- directed learners. They may have the opinion that well managed existing strategies are sufficient for learning. The findings also take our attention towards making mobile technology easy for the people if we want them to use it. There is also lack of awareness about the utility of the mobile technology. In the field of mobile technology, this study has much importance by highlighting the need of incorporating awareness and skill for enabling prospective teachers to use it.

Although many researches are being done on the emerging technology of m-learning but it is the first research in Pakistan which has explored the factors which regress the behavior intention of prospective teachers' towards the use of m-learning. So there is little or no literature to talk about factors that influence the behavior intentions of prospective teachers towards the use of m-learning.

### **Recommendations**

The growth of m-learning technology is being seen in both formal and informal education systems. For the students studying under distance education system it is a most suitable technology to provide better and more effective learning experiences. It is cost effective (as a large number of people already have mobile phones), flexible and in the easy approach of learner with its distinct feature of mobility. In spite of drastic advancement in m-learning and its integration in the learning environments there is scarcity of research in the field of m-learning in Pakistan. Thus studies should be undertaken in this area. Moreover, in the light of above discussed results it is recommended or suggested that:

- The development of positive attitudes of prospective teachers towards m-learning is needed for making them accept and make use of this technology.
- There should be workshops or training sessions to make the use of m-learning easy for the learners. This convenience in the use of mobile learning will resultantly make the learners to use m-learning.
- Awareness seminar should be arranged to tell learners the benefits of m-learning.
- This research is limited in the scope as it has explored the UES-M model using only prospective teachers studying under distant education system. There is need for more researches with different populations of students studying under distance education.

**Note:** The outcomes of this study were first shared at 27<sup>th</sup> Annual Conference of Asian Association of Open Universities 2013 that was held at Allama Iqbal Open University, Islamabad from 1-3 October 2013. This paper has been improved after incorporating the suggestions forwarded by the audience of the oral presentation.

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## Why do Female Graduates have Low Entry Rate in the Job Market?

Amjad Ali Arain<sup>\*</sup>  
Muhammad Ramzan<sup>\*\*</sup>  
Iftikhar Hussain Jafri<sup>\*\*\*</sup>  
Muhammad Zafar Iqbal<sup>\*\*\*\*</sup>

### Abstract

*Data shows that the enrollment rate of female gender, at tertiary level and their participation rate in the labor force are not proportionate thus women are not fully benefiting the socio-economic benefits of education. This paradox of gender imbalance raises some questions: why do female graduates stay outside the job market? Why are they not able to utilize their human capital developed by education? What social and economic factors affect their probability of employment? To find the answers to these questions cross-sectional data on seventy three countries was collected and analyzed by using linear regression model. In this model independent variables were: estimated female earnings ratio, female graduate unemployment rate, female marriage earlier to men, female early marriage, dependent population, urban population and GDP per capita. The empirical results show that female early marriage, trend of female marriage earlier as compared to male, and the presence of dependents of under-fourteen years old has a significant negative effect on female chance to go for a job, whereas wage equality has a significant positive impact female graduates' entry into the job market.*

**Key Words:** Female gender, tertiary education, job market.

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\* Associate Professor, Department Education, Sindh Madressatul Islam University, Karachi Pakistan.

E-mail: amjad.arain@yahoo.com

\*\*Assistant Professor, Department of educational Training, Islamia University Bahawalpur, Pakistan.

\*\*\*Assistant Professor, Faculty of Education, University of Sindh, Pakistan.

\*\*\*\*Department of Education, International Islamic University Islamabad, Pakistan.

## **Introduction**

We live in knowledge era where quality human capital is a fundamental element of success. Females make half of the world population so development of human capital, through higher education, is equally important for them as well. But according to Lips (1999) until the recent past many people considered higher education inappropriate for women and women inappropriate for higher education. It is a fact that gender discrimination is unfavorable for the society because it prevents women from attaining the right to equality, and it also denies realization of their other fundamental rights (Jones, Snelgrove, & Muckosy, 2006). There is no reason to keep women away from the economic activities because female gender is more efficient and productive if human capital is developed in them through education. The scientific studies have found that the returns to female education are higher than those for males (Psacharopoulos G. , 1994), investment in schooling have greater returns on the labor market for women (Pitt, Rosenzweig, & Hassan, 2010), a study of 95 countries shows that estimated gender specific returns to schooling are higher for women (Psacharopoulos & Patrinos, 2004). Likewise research has also proved that compared to men, with the same level of education, women have higher socio-economic outcomes when the investment is viewed on the long term basis (ILO 2009, Schultz, 2002; Strauss & Thomas, 1995; King & Hill, 1998). As female human capital has a high potential, so gender equality is prerequisite for economic growth and social development. Without achieving gender equality a sustainable economic development cannot be achieved (Löfström, 2009). Above of all women are good for economic growth, and economic growth is good for women (Jones, Snelgrove, & Muckosy, 2006).

The international data on gender education and employment shows that female enrollment at tertiary level has increased significantly but they are still under-represented in the graduate labor market in the majority of the countries. Consequently women are not fully benefiting the socio-economic benefits of education due to the higher disparity between acquisition and application of education.

A great deal of energies has been invested to understand and explain the source of this imbalance. This type of gender imbalance paradox is omnipresent and its study is a recent phenomenon. It is out of the capacity of any single research study to investigate into all possible factors linked with gender paradox. This research work also contributes to the pool of knowledge by studying social and economic aspects of the gender imbalance. In this paper we focus on some of the possible factors which act as a transparent wall between graduate females and the job market. These factors can be economic, political, social and spatial in nature.

This macro level investigation uses cross-sectional data on 73 countries. We have divided this paper into two sections: in the first section we explain the nature of

the gender imbalance on the basis of comparable country data, and in the second section we have made an attempt to find some of the root causes of low presence of female graduates in the labor market. This is done by empirical analysis based on multivariate regression models.

## **SECTION – I**

### **The Nature of Paradox**

Usually it is argued that education, particularly higher education, is a gender equalizer but cross country data on female education and employment seemingly does not support this idea. In the world, 42% of the countries have female participation rate at tertiary level (ISCED 5 and 6) superior to male but, surprisingly, only in 18% of the world countries female participation rate in the graduate labor market is equal or higher to male. In more than 60% of the world countries, active age (15 to 64 years) female population is equal or higher to male, but only 20% of these countries have women participation rate equal or higher to men both in education and graduate labor market. Millennium Development Goal number 3 and Education for All (EFA) Goal 5 are about gender equality in education, employment and empowerment. Due to higher priority given to education both by states and organizations a significant progress toward gender equity in education is evident (Lewis & Lockheed, 2006) but on the employment and empowerment side still a great deal of work has to be done. Females still have a long way to go as they are under-represented in the graduate job market, particularly at key or administrative positions (Lips, 1999).

The gender imbalance paradox seemingly reflects the idea that education is neither a catalyst for change nor a gender equalizer if seen in the perspective of gender ratio in higher education and graduate job market in the most of the countries. Neither higher educational qualifications alone do not aid the smooth progress of women's careers (Soesilowat & Salim, 2010), nor high educational attainment alone cannot promote gender equality and empowerment unless equal economic opportunities are not ensured (Singh & Mitra, 2007), while according to the World Gender Gap Report 2010 there is no country in the world that has achieved total gender equality (Hausmann, Tyson, & Zahidi, 2010). This indicates that, in the world, there are many significant factors that are resisting change and neutralizing the gender equalizer property of education.

### **The Source of Gender Imbalance Paradox**

The paradox of higher attendance of females in education and lower presence in graduate job market leads to two major propositions; either the low presence of female graduates in the job market is structural in nature in the sense that there is a mismatch between the competencies acquired and the competencies needed in the job market, or it

is systematic in nature in the sense that female low presence in economic activities can be linked with socio-cultural factors, opportunity cost, marginal utility, monopoly or a gender biased job market.

The data on female participation rate in education and economically active female population (by level of education) confirms that there exist some virtual barriers that may be called “glass walls” which confine women to household life. Likewise there also exist virtual glass ceilings which reduce upward advancement of women who are already on the job market. These virtual barriers can be economic, political or cultural in nature.

Education not only enables an individual to gain personal benefits but it also helps to learn advanced skills to generate new knowledge and to produce other capital goods. It is widely accepted and supported that higher education is a key factor in the development of improved human capital which results in higher efficiency, acceptability and demand in the job market. It is also a key factor in the elevated public and private returns. Perhaps for these reasons, during past the few decades, an unprecedented expansion and extension of higher education has been witnessed in all countries; student enrolment, both male and female, has increased by many folds.

Different theories have been propounded to describe the economic nature of education; according to the human capital theory, education is a production factor and a specific sort of capital, while conflict theory views education as a mean to maintain social inequality and preserving the power of those who dominate society, whereas filter theory maintains that education is a tool to make selection because it informs about the amount and quality of human capital, whereas signal theory considers education as meaningful information about certain level of ability of an individual but gives no information about the productivity. None of these theories explains the gender disparity by answering these questions; why are female graduates under-represented in the job market? Why aren't they able to utilize their human capital? Seemingly the paradox of gender imbalance between human capital development and graduate labor market is beyond the jurisdiction of these theories.

According to Olaniyan and Okemakinde (2008), one major problem in the application of the human capital theory is its failure to account for a growing gap between the level of knowledge gained and knowledge applied through a matching job. Human capital theory also upholds that there cannot be a long-term excess of highly qualified persons because increased supply in a low demand setting will lead to low wages and surplus human capital in the job market. Consequently the supply will reduce in order to equilibrate with the demand. But in the case of female gender it is not true as the ratio of female graduates is constantly increasing disproportionate to their



entry into the graduate job market or economically active life. One possible explanation can be; many women acquire education for the self- satisfaction only.

### **Gender and Higher Education**

In the learning ladder tertiary education is the highest rung while in the pyramid of student enrollment, comparatively, it has the lowest number of students. In the world the higher education enrollment ratios were more than two percent for men and less than one percent for women in 1950, and then these ratios rose to 7.5 percent for men and 4.5 for women in 1970. Women remained under represented in higher education institutions during that period (Schofer & Meyer, 2005). But this gender gap started shrinking in the 1970s, consequently, by 1990, the gap had vanished away but during the same decade another gender gap started appearing since the female enrollment ratio was surpassing that of male gender in higher education in many countries. Consequently, at the advent of 21st century, the average enrollment ratio of female gender was 25 percent higher than male gender. With the passage of time this gap further widened both in the more developed and less developed countries. The most recent data available for 171 countries, at the UNESCO institute of statistics, shows that in 60% of the countries, female student enrollment rate is higher than the male enrollment rate. In some countries male enrolled students are only 30% of the total enrollment at tertiary level i.e. Qatar, Dominica, and Bahrain. This trend of a rapid shift in the female enrollment enable us to predict that in the time to come, this gap is going to further widen and female gender will dominate higher education.

UNESCO data shows that female gross enrollment rate (GER) at tertiary level has witnessed a higher increase in 75% of the countries as compared to male gender during last few decades. From 1980 to 2008, the highest percent increase in female gross enrollment rate, as compared to male gross enrollment rate, was seen in Cuba, Venezuela, Iceland, New Zealand and Uruguay. Whereas the male gross enrollment rate at tertiary level was recorded slightly higher than females in 24% of the countries of the total 113 countries. The highest percent increase in male gross enrollment rate, as compared to female, was noted in South Korea, Tajikistan, Guinea and Turkey during the same period.

UNESCO 2014 data on 169 countries, shows that in more than 102 countries the gender parity (GP) index, for gross enrollment in tertiary education, value is higher than one; it means in these countries enrolled female students are more than that of male students. GER and GP index give information about the participation level but do not tell us about prevalence of education in a particular country. For this purpose we have another indicator, Gross tertiary graduation ratio, which tells us about the pervasiveness of tertiary graduates in a country under study.

Female gross tertiary graduation ratio (first degree) data (2012) shows that in 80 out of 115 countries, female gender has higher gross tertiary graduation ratio (GGR) as compared to male gender. In Finland and Iceland female GGR (tertiary) is twice that of males. Likewise the top ten countries where female gender has surpassed male gender on the basis of GGR (tertiary) are in Europe. Africa has the lowest GGR (tertiary) both for male and female, whereas Europe, North America and Australia have the highest gross graduation ratio for both genders as compared to other regions. This shows that, in the majority of the countries, more females are tertiary graduates than males, so we can say that in these countries female population has more human capital than male population. Female students also have more chance to continue education as the UNESCO data on the expected year of schooling shows. According to the data, available for 166 countries, in the 62% of the countries, expected years of schooling for female are higher than the male.

Female gender has not only surpassed male gender on the gross enrollment ratio, estimated years of schooling and graduation ratio but on the side of educational achievements also. Many international assessment programs have been launched with objectives to assess the different competencies and subject knowledge of the students from different countries. Such programs include: Progress in International Reading Literacy Study (PIRLS) in 2001 and 2006; Program for International Student Assessment (PISA)<sup>3</sup> in 2000, 2003 and 2006; The Trends in International Mathematics and Science Study (TIMSS)<sup>4</sup> in 1995, 1999, 2003, 2007. The results of all these programs show that female students not only performed well but they outperformed male students at many programs. This higher performance of female gender explains that they have better quality of education, as compared to male gender, in terms of competencies and knowledge.

### **Gender and Graduate Job Market**

According to ILO data, approximately half of the world population is comprised of females but only 40% of them, with an age of 15+, are economically active. In 1985 this value was at 38.6%; an increase of 1.4% has been seen during 25 years. Today, 51.6% of female population and 77.6% of the male population, with age 15+, is economically active. Among all countries of the world Gulf countries, which are oil rich countries also, have the lowest female ratio in the labor force: Qatar 11.6%,

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<sup>3</sup> PISA is designed to make evaluation of 15-year-old school students' scholastic performance in Reading, science and Mathematics

<sup>4</sup> TIMSS was launched to assess the mathematics and science knowledge of fourth- and eighth-grade students around the world

UAE 15.5%, Iraq 16%, Saudi Arabia 16.3% and Oman 18.2%. On the other hand there are only nine countries in the world where female makes half or more of the total labor force: in Rawanda, Brudi, Lestho, Mozambique and Sierra Leon more than 52% of the total labor force are female, and in Moldova, Lap PDR, Azerbaijan and Kazakhstan this figure stands closer to 50%.

Considering the age group of 20-59 is more reasonable because of homogeneity and comparability. The world data shows that 57.6% of female population of age group 20 to 59 and 91% of the male population, with same age group, is economically active. Since 1985 female participation rate in the economic activities, for the age cohort of 20 to 59 year, has seen a net increase of 5.2%: 52.3% in 1985 to 57.6% in 2010. Among all regions of the world, South and Latin America and southern Africa have witnessed more than 50% increase in the economically active female population. In Eastern Europe and middle Africa female participation rate in the economic activities has decreased by 1.7% and 8.7% respectively, whereas in all other regions of the world it has increased. This grand shift can be attributed to multiple factors that include: higher economic growth, expansion of education particularly higher education, technological development and gender friendly policies in European countries (Rosenbluth, Light, & Schrag, 2002). Among all continents Africa, comparatively, remained the least favorable place for female gender as the female participation rate in the economic activities has seen an increase of 7.8% only: 48 percent in 1985 to 52 percent in 2010 which is below the world average of 57.6%. In Asia also female participation rate in the economic activities is below the world average. On the regional level Western Europe has 76% of women, from the same age cohort, in the labor market which is the highest among all regions of the world, whereas western Asia or the middle-east has the lowest proportion of economically active female population in the world with a value of 27.8 percent only. Likewise on the economic and technological development basis, the high developed regions has 71.7% while less developed regions have 54.3% of total female population, of the age group 20 to 59 years, are economically active.

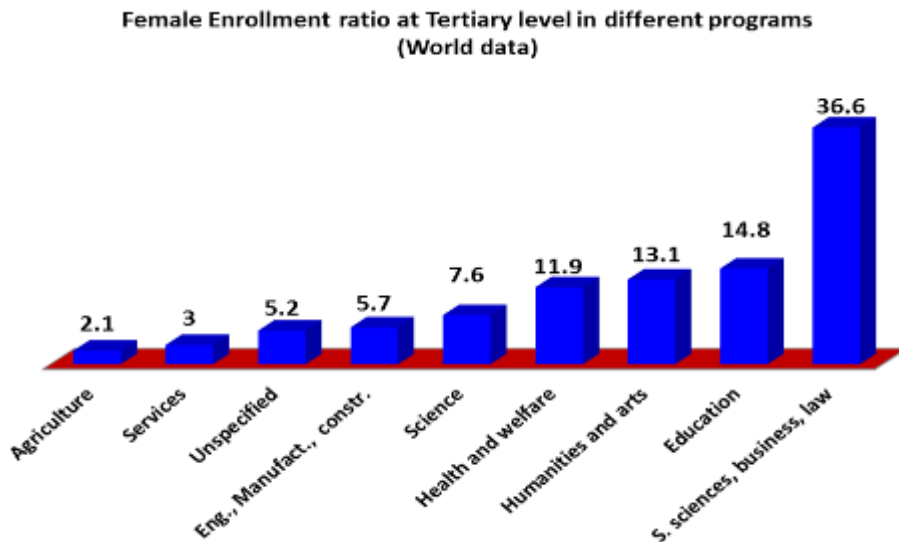
Ratio of Male gender in the world population is increasing continuously but economically active population of male gender, age group 20 to 59 years, is continuously declining for last few decades: it decreased from 93.1% in 1985 to 90.8% in 2010. Micronesia and southern Africa are the only regions in the world where male participation rate in the labor force has increased by 9.4% and 3.5% respectively, while in the rest of the world a decline in the male participation rate in the labor force has been witnessed. Polynesia and Eastern Europe has witnessed the highest decrease in male economic activity rate: 8.5% and 11.7% respectively. In the Asian continent total male participation rate in the economic activities is 92.1 percent which is higher than the world average of 90.8 percent, whereas for Europe this value is only 85.7 percent. On the regional level Eastern Africa has 94.7 percent economically active male

population which is the highest in the world and it is followed by South-East Asia with 93.1 percent of the males, between 20 to 59 years of age, are economically active. Gender parity ratio for economically active population, of age group 20 and 59 years, is the highest in Europe, North America and eastern Asia while it is the lowest in Africa, western Asia and south-central Asia.

### **Gender and the Field of Education**

Female gender's choice of field or program at higher education level can be one cause of low presence in the job market; in the era of science and technology there is higher demand of science graduates but more than 70% of the female gender opt to graduate other than science field. In this way they take the human capital that has higher demand in the job market consequently they have lower presence in the scientific job but higher presence in teaching field at school level.

There exists a positive correlation (0.41,  $p=0.00$ ) between female graduate labor ratio and female graduation ratio, whereas the Gender Parity Index for gross enrollment at tertiary level is weakly correlated (0.20,  $p=0.07$ ) with the female graduate labor force. These relations identify that female graduates presence in the labor market is neither strongly linked with the female graduation ratio nor with female gender dominancy over male gender in terms of gross enrollment ratio at tertiary level. The section-II presents quantitative analysis of some important variables to explain the reason behind the gender imbalance paradox.



Source: Graph based on data from UNESCO

## SECTION – II

During past fifty years many empirical studies have been conducted to investigate into the relationship between education and economic growth. These studies have concluded that human capital, in the form of education, is one of the main determinants of economic growth (Pitt et al, 2010; Löfström, 2009; Lee & Kim, 2009; Keller, 2006; Kwabena et al. 2006; Petrakis & Stamakis 2002; Krueger & Lindahl 2001; Pscachropoulos 1994; Mankiw et al. 1992; Barro, 1991; Romer 1990; Lucas 1988; England & Farka, 1986; Schultz T. , 1961). Likewise other investigations have found that higher education also has an effective role in the enhancement of human capital (Tsai, 2010; Tiago, 2007; Richard, 2006; Chatterji, 1998; Murphy et al., 1991. In this section we have analyzed different factors in order find the answers of above questions. For this purpose we have developed a simple model that provides a framework for empirical analysis, and this is followed by results and discussion.

### Basic Model

We have constructed simple linear regression model which guides the empirical analysis in order to quantify the strength of the relationship between dependent variable “female graduate labor force” and factors which possibly play a significant role in the gender imbalance paradox.

We hypothesized that Graduate female participation rate in the labor force (Y) is a function of X. It can be written as;

$$Y \approx f(X_n)$$

Where n is the possible number of independent variables  $X$  .

For a simple linear regression we have;

$$y_i = \beta_0 + \beta_1 x_i + \varepsilon_i, \quad i = 1, \dots, n$$

Similarly for a multiple linear regression model with p independent variables we have;

$$y_i = \beta_0 + \beta_1 x_{1i} + \dots + \beta_p x_{pi} + \varepsilon_i, \quad i = 1, \dots, n$$

$y_i$  is regressand or dependent variable,

$x_i$  denotes regressors or independent variables,

$\beta_0$  is the intercept and  $\beta$  is the slope of regression line. Whereas both  $\beta_0$  and  $\beta$  are parameters. It is also called effects or regression coefficients.

$\varepsilon_i$  is error term, disturbance term, or noise. It captures or explains all other factors which influence the dependent variable  $y_i$  other than independent variables  $x_i$ . We have hypothesized that Female Graduates Labor Force (% of female labor force) ( $y_i$ ) depends upon  $x_{pi}$  where  $x_{pi}$  = Urban Population, GDP per capita, Estimated Female Earnings Ratio, Female Graduate unemployment (% of total female unemployment), Female marriage earlier to Men, Female Married aged 15 to 19 (%), Dependent Pop age 0 to 14 (% of total population).

By fitting the variables name in the model we have;

$$\begin{aligned} \text{Female Graduates Labor Force} = & \beta_0 + \beta_1(\text{Urban pop}) + \beta_2(\text{GDP per capita}) \\ & + \beta_3(\text{Earing Ratio}) + \beta_4(\text{Graduate Unemp}_F) + \beta_5(\text{F marriage earlier to M}) \\ & + \beta_6(\text{F married 15to19}) + \beta_7(\text{Dependent Pop (0 - 14 age)}) + \varepsilon_i \end{aligned}$$

## Data

We have analyzed the data on 73 countries. At the first step it was planned to include all countries in the world and to conduct a longitudinal study but the unavailability of data did not permit us to proceed in this direction, as it happens with the most international comparisons, the sample is not random and has been restricted by data availability (Blitz, 1975). This study uses the most recent available data up to year 2012 because for the majority of the variables data is available up to this year only. The data for this, partially cross-sectional study, have been retrieved from two sources; The UN data and The World Databank. We assume that data collected by these organizations is representative, reliable and unbiased. We also assume that the data is comparable.

The countries, included in the research, present a wide array of development and transformation; on the economic side our sample has the countries like, Madagascar, Tajikistan, where GDP per capita (PPP)<sup>5</sup> is less than \$2000 US and we also have Luxemburg with a GDP per capita (PPP) value, more than \$78000; on side of

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<sup>5</sup> Purchasing power parity (PPP) is an economic technique to determine the relative values of two currencies by equating the price of a basket of identical traded goods and services in two countries.

Purchasing Power Parities (PPPs) are currency conversion rates that both convert to a common currency and equalize the purchasing power of different currencies. In other words, they eliminate the differences in price levels between countries in the process of conversion. (OECD)

the female graduate labor force the values ranges from 2.20% to 76.4%; likewise Gender parity index for gross completion rate, (ISCED 5A, first degree) variable value range from 0.79 to 2.69; if seen in terms of geographical location we have, in this sample, countries from all continents of the world.

We are interested in the effect/s of socio-economic factors on the female graduates' participation rate in the labor force. On the economic side our factors include: GDP per capita (PPP), Estimated earned income ratio and female graduates unemployment ratio. While on the social side we have: female marriage rate at the age of 15 to 19, female marriage age gap to male, female fertility rate, female estimated years of schooling and gender parity index for gross completion rate, (ISCED 5A, first degree). We have also inserted a spatial variable, Percent of population living in urban areas. Although we found many of these factors significantly correlated with "female graduate labor force" and probably these variables also have significant explanatory power also but we have introduced few of them in our model.

## Results

Tables 1 and 3 present the descriptive statistics and correlation matrix respectively. In order to quantify the strength of the relationship between dependent and independent variable we have run the regression model in four steps by increasing the number of explanatory variables at each step. The values of the coefficient  $\beta$  and  $p$  - value show that each independent variable, in the model, has significant and effective explanatory power. Whereas collinearity<sup>6</sup> diagnostics shows that Tolerance<sup>7</sup> and VIF<sup>8</sup> values are within the acceptable range, so each explanatory variable can explain independently the variation in the dependent variable. (See table 3). By fitting the calculated values of coefficients in the model, we have;

$$\text{Female Graduate Labor Force} = 19.10 + 0.10(\text{Urban pop}) + 1.35(\text{GDP per capita}) + 28.4(\text{Earing Ratio}) + 0.66(\text{Graduate Unemp}_F) + (-3.60)(\text{F marriage earlier to M}) + (-0.60)(\text{F married 15to19}) + (-0.90)(\text{Dependent Pop}_0 \text{ to 14 age} + \epsilon$$

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<sup>6</sup> Multicollinearity or collinearity refers to a situation in which two or more explanatory variables in a multiple regression model are highly correlated. VIF (variance inflation factors) and tolerances for individual variables gives information on the strength of collinearity between or among explanatory variables.

<sup>7</sup> Tolerance=  $1-R^2$  (a value less than 0.20 indicates the presence of multicollinearity)

<sup>8</sup> Variance Inflation Factors or  $VIF=1/\text{Tolerance}$  (a value equal to 5 or above indicates the presence of multicollinearity)

Table 1 shows that female graduates participation rate in the job market has a significant positive correlation with GDP per capita (PPP) and urban population while it has a negative correlation with estimated earnings ratio, marriage earlier to men, married female aged 15-19 and dependent population.

Here for the sake of brevity we will discuss only fourth or the last step of the model which is also our complete model with all independent or explanatory variables together. According to empirical results, urban population as percent of total population and GDP per capita (PPP) are insignificant whereas all other variables are significant and have a collective as well as individual significant impact on the female graduation participation rate in labor force. These results have enabled us to answer the questions in the presence of statistical evidence.

Table 1

**Correlations**

		Labor force Female graduates, (% of F_labor force)	Earning Ratio (Female to male)	Dependent s % age 0-14	Female married aged 15-19 (%)	Female marriage earlier to male (years)	GDP_log	Unemployment rate Ter. Ed_Female (% F unemp.)	Urban population (%)
Labor force Female graduates, (% of F_labor force)	Pearson Correlation Sig. (2-tailed) N	1 .025 73	.263* .000 73	-.436** .000 73	-.366** .001 73	-.437** .000 73	.465** .000 73	.656** .000 73	.490** .000 73
Earning Ratio (Female to male)	Pearson Correlation Sig. (2-tailed) N	.263* .025 73	1 .000 73	-.178 .132 73	-.224 .057 73	-.330** .004 73	.134 .260 73	-.036 .760 73	.025 .833 73
Dependent s %_age 0-14	Pearson Correlation Sig. (2-tailed) N	-.436** .000 73	-.178 .132 73	1 .000 73	.718** .000 73	.321** .006 73	-.771** .000 73	-.093 .433 73	-.379** .001 73
Female married aged 15-19 (%)	Pearson Correlation Sig. (2-tailed) N	-.366** .001 73	-.224 .057 73	.718** .000 73	1 .000 73	.549** .000 73	-.705** .000 73	-.217 .065 73	-.372** .001 73
Female marriage earlier to male (y ears)	Pearson Correlation Sig. (2-tailed) N	-.437** .000 73	-.330** .004 73	.321** .006 73	.549** .000 73	1 .000 73	-.483** .000 73	-.176 .136 73	-.463** .000 73
GDP_log	Pearson Correlation Sig. (2-tailed) N	.465** .000 73	.134 .260 73	-.771** .000 73	-.705** .000 73	-.483** .000 73	1 .092 73	.198 .005 73	.619** .000 73
Unemployment rate Ter. Ed_Female (% F unemp.)	Pearson Correlation Sig. (2-tailed) N	.656** .000 73	-.036 .760 73	-.093 .433 73	-.217 .065 73	-.176 .136 73	.198 .092 73	1 .005 73	.325** .005 73
Urban population (%)	Pearson Correlation Sig. (2-tailed) N	.490** .000 73	.025 .833 73	-.379** .001 73	-.372** .001 73	-.463** .000 73	.619** .000 73	.325** .005 73	1 .005 73

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).



Table 2: Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Urban population total (%)	73	13.22	100.00	67.17	19.64
GDP per Capita (PPP)_log	73	2.94	4.90	4.20	.40
Female graduates_ Labor force	73	.74	76.37	31.29	15.9
Estimated Earning Ratio (Female to male)	73	.24	.77	.57	.109
Unemployment rate_Female Tertiary edu. (% F unemp.)	73	2.10	79.90	20.49	14.43
Female marriage earlier to male (years)	73	1.08	7.62	2.90	1.01
Female married aged 15-19 (%)	73	.15	33.00	7.22	7.85
Dependents population %_age 0-14	73	13.40	43.90	21.84	7.56
Valid N (list wise)	73				

Empirical results show that female early marriage, female and male age difference at the time of marriage and dependent population (children age 0 to 14 years) has a negative impact on females graduates participation in the economic activity, while estimated earnings ratio has a positive and strong positive effect on the females graduates participation in the economic activity. Surprisingly and interestingly female graduate unemployment (as percent of total female unemployment) has a positive impact on the rate of female graduate in labor force.

### **Urban Population**

The variable urban population as percent of total population is positively correlated with the female graduate labor force and it also showed a significant positive impact on dependent variable in the model in step one with a 0.24 value of R squared. This mean 24% variation in the female graduates participation in economic activity can be explained by this single variable; urban population. In the other words, there is 24% higher chance for a female graduate to go for an employment if she is living in an urban area. The model also explains than 1% change in the urban population will bring an increase of 0.39% in female graduates labor force. But this variable becomes insignificant in model 4, this means that female graduates living in urban area but not entering in the labor market, they are under the influence of other factors. Our data shows that there are countries like Kuwait, Malta and Iceland where more than 90% of the population is urban but female graduates makes less than 30% of the labor force.

**Table 3: Model summary and coefficients information**

Model	Predictors (X)	R	R <sup>2</sup>	$\beta$	<i>p</i> - value	Tolerance	VIF
1	Urban Population (%)	0.490	0.240	0.398	0.000	1.000	1.0
2	Urban Population total (%)	0.531	0.282	0.265	0.013	0.616	1.6
	GDP per capita (PPP)			10.370	0.045	0.616	1.6
3	Urban Population total (%)	0.787	0.620	0.133	0.102	0.572	1.7
	GDP per capita (PPP)			8.588	0.027	0.602	1.6
	Estimated Earning ratio (%)			36.528	0.001	0.975	1.0
	Unemployment rate Ter. Ed_			0.628	0.000	0.892	1.1
4	Urban Population total (%)	0.832	0.692	0.100	0.208	0.504	1.9
	GDP per capita (PPP)			0.356	0.947	0.250	3.9
	Estimated Earning ratio (%)			28.405	0.011	0.850	1.2
	Unemployment rate Ter. Ed_			0.668	0.000	0.859	1.2
	Female marriage earlier to male_years			-3.602	0.017	0.534	1.9
	Female married % (aged 15-19)			-0.602	0.014	0.338	2.9
	Dependent population_age 0-14			-0.909	0.001	0.311	3.2

Dependent variable (Y): Female graduate labor force

### **GDP Per Capita**

GDP per capita tells about the economic development and economic activity of any country. This variable can be taken akin to the level of wages of employees in the absence of data on actual wages. GDP per capita has a positive impact on the female graduate employment trends but it also become insignificant when other variables were introduced in the model 4. It means that there are other variables that more important than wages that play a decisive role in females entry into the job market with a graduation degree.

### **Earnings Ratio**

Equal opportunity in the wages and earning opportunities are the backbone of gender equity. Estimated earnings ratio has emerged as the most powerful explanatory variable in the model both in the model 3 and 4. The model 4 states that one percent increase in the estimated earnings ratio will bring 28% increase in the female graduate labor force. This can have many explanations: when female graduates have wages equal to men it helps them to overcome the opportunity cost; higher wages, not only motivates them to enter into the job market but also to continue the job; equity in wages gives same economic and social status to female. Women earn less than men, it is a widely observed phenomenon, among OECD nations women in Australia, Belgium, Italy and Sweden earn 80% as much as males, whereas in Austria, Canada and Japan women earn about 60% (Polachek & Xiang, 2009) When for the female gender the opportunity cost exceeds the earnings then it is not favorable to seek or continue a job, consequently they prefer to do household duties but most female household work

continues to be classified as non-economic activity, the women who are thus occupied are classified as outside of the labor force. (ILO, 2009)

### **Female Graduate Unemployment Rate**

Strangely, unemployment rate of female with tertiary education is positively linked with the female graduate labor force. Seemingly it is because of the high enrollment and graduation rate of female gender at tertiary level in the countries where female graduates are already in high proportion in the job market. Another reason can be attributed to “data hitch”: as different countries have different and varied sources of data collection on unemployment. Anyhow the model shows a positive impact of female graduate unemployment on the participation rate of female graduates in economic activities. This needs some further investigation.

### **Female Marriage Rate at Age 15 to 19 (Early Marriage)**

Female marriage at the start of economically active age is negatively correlated with the participation in the economic activities because of the household responsibilities, child rearing, looking after dependents and high chance of having more children. Countries with higher rate of female youth marriage have low ratio of female graduates in the job market. According to our empirical results 1% increase in the female married at the age 15 to 19 will bring a 0.6% decrease in the economically active female population with tertiary education.

### **Female Marriage earlier to Males**

This also has significant negative effect on the female participation rate in the graduate job market. Our model predicts that female marriage one year earlier to male will decrease the probability for female to go for a job by 3%. It can be due to multiple reasons; the younger is female as compared to the male, at the time of marriage, the less authority she has; the age difference means thinking difference; male with older age are economically stable so they don't give importance to their women's economic activity. Early marriage means that girls and women experience disempowerment as an effect of gender-based inequality (Naana & Pobi, 2003). Polachek and Xiang (2009) also have found the age gap between husband and wife at the first marriage increases the wage gap and decreases the probability of female to continue education.

### **Dependent Population (Age 0-14)**

In all parts of the world it is the responsibility of women to rear children, while men do not consider or feel it their responsibility (Lopez-Claros & Zahidi, 2005) as a result women have to sacrifice their own economic career. Our empirical results show that dependent population, between age 0-14, has a negative effect on the female graduates participation rate in the labor force; one percent increase in the dependent population (age 0-14) will bring 0.9% decrease in the female labor force.

## **Conclusions**

Robust increase in the enrollment rate of female gender, at tertiary level, is a worldwide phenomenon and in a number of countries women have surpassed men on gross enrollment ratio index at tertiary level. Though female graduate labor force has increased considerably but it is not proportionate to the increase in the female gross enrollment at tertiary level. The paradox of high enrolment of female gender in higher education institutions and low presence in the graduate job market is complex and systematic in nature. The empirical results show that female early marriage, trend of women marriage earlier to men, and the presence of dependent population of less than fourteen years old have a significant negative effect, while wage equality has a significant positive impact on the female graduates' entry into the job market. On the other hand urban population ratio and GDP per capita have no significant effect on the female graduates' entry into the job market. Therefore we can conclude that the existing gender paradox can be solved by achieving gender equity and equality.

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## Development of a Scale to measure English Language Learning Attitude of Secondary School Students

Muhammad Saeed <sup>\*</sup>  
Muhammad Zafar Iqbal <sup>\*\*</sup>  
Mumtaz Akhtar <sup>\*\*\*</sup>  
Khalid Saleem <sup>\*\*\*\*</sup>

### Abstract

*Attitude plays vital role in teaching-learning process, especially for learning a language which is very complex phenomena particularly in case of foreign/ second language. Studying English language learning attitude in Pakistan is an initiative to lodge efforts to improve English language learning in the country. Although precise measurement of language learning attitude is quite difficult, yet a number of scales have been devised for this purpose. The available instruments for the measurement of English language attitude are mostly from foreign context and no scale is available focusing Pakistani perspective. The present study is an effort to develop an indigenous English language attitude scale for the measurement of students' attitude towards English language learning in Pakistan specifically at secondary level. A questionnaire of 25 items was developed and validated after collecting data from students of secondary schools from four districts of Punjab province of Pakistan. To determine the reliability of the instrument coefficient of reliability was determined. The Cronbach alpha ( $\alpha$ ) reliability for the developed instrument was .912.*

**Key Words:** Item development, language learning, attitude scale, attitude measurement, factor analysis,

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\* Senior Subject Specialist, Government Higher Secondary School Bamabala, Okara.  
Email: msraipuri@hotmail.com

\*\*Director Research Graduate Committee, University of Management and Technology Lahore.

\*\*\*Dean Faculty of Education, Institute of Education and Research, University of the Punjab, Lahore.

\*\*\*\*Director University of Education Lahore, Okara Campus.

## **Introduction**

Generally speaking, study of students' attitude towards learning of some subject is very important, particularly towards a foreign/second language. At the same time attitude is considered as an integral factor that affects language learning performance (Visser, 2008). Achievement in a target language relies not only on intellectual capacity, but also on the learner's attitudes towards the learning of that language. Hence, learning language should be approached primarily as a social and psychological phenomenon rather than as a purely academic one (Abidin & Hanan, 2012). In the same way learning a foreign language poses number of fears to the students at almost all levels. Moreover, Successful learning of second language is a many-sided phenomenon where certain variables have a complex relationship (Boyle & Houndoulesi, 1993; Dornyei, 1994; Norris-Holt, 2001) and these variables influence student's motivation, attitudes and similarly could raise or drop their levels of interest towards language learning (Dornyei, 1990; McIntyre & Gardner, 1991; Dornyei & Otto, 1998; Ramirez, 1995). The adaptation of attitude towards learning a foreign/second language in Pakistan is very complex phenomenon to study. In the present study the researchers intended to develop an instrument to explore the secondary school students' attitude towards English language learning in Pakistan.

As far as the concept of attitude is concerned it can be defined as one's perception of self, of others, and of the culture in which s/he is living (Brown, 2000). Similarly, Ajzen and Fishbein (2000) consider attitude as one's orientation, liking or disliking, towards some object, person, aspect or trait. The difficulty with analyzing literature on attitudes is that this term refers to a variety of different things and is not at all uniform in definition and purpose. However, Hannula (2002) attempted to identify four aspects of attitude which could help in the prospect of emotions aroused in situation, emotions associated with a stimulus, expected consequences, and relationship of situation to personal values. Briefly speaking, attitude denotes a summary of the evaluation of a psychological object captured in such attribute dimensions as good-bad, harmful-beneficial, pleasant-unpleasant, and likeable-dislikeable. (Ajzen, 2001).

A scale is an instrument which measures subjective variables. Usually it comprises of different sub-scales to investigate different dimensions of the variable of interest. The same is the case with the measurement of attitudes. Different attitude measurement scales have been developed by the experts to determine attitudes of students, teachers, administrators, consumers etc. (Can, 2010; Pala, 2006; Yavuz & Coskun, 2008). A difficulty with the measurement of attitude is precision of measurement. Just like the definition of attitude, its precise measurement had been questioned by several experts (Brown & Cooney, 1982; Ajzen, 2001).



The measurement of English language attitude has been a subject of research since long. In this regard different tools have been devised all over the world keeping in view the demographic as well as the social and lingual contexts. The first attempt was made by Gardner (1980). He developed Attitude/Motivation Test Battery (AMTB). In 1992, Baker proposed a comprehensive theoretical model, focusing on the importance of conducting attitudinal research in the field of language learning. Following the guidelines provided by Baker another English language attitude scale was developed by Doukas (1996). The new developed English language learning scale was in the context of English as foreign language. Some other researchers put their efforts to determine the English language learning attitude (Gajalakshmi, 2013; Hashwani, 2008). Similarly, Boonrangsri et al. (2004) also developed an attitude scale for the measurement of English language attitudes. This scale was developed in the Kenyan perspective to determine affective and emotional components of English language learning attitude. Shams (2008) modified Gardner (1980) scale to use it in Pakistani perspective for determining attitude towards English as foreign language.

Regarding English language learning attitude in Pakistan, Mansoor (1993) investigated students' attitude towards acquisition of language with a sample of Punjabi speaking students and concluded that these students rated English as the highest preferred language, Urdu at second whereas their mother tongue was at the bottom. Hussain (2010) conducted a study to determine relationship of class room learning environment and attitude towards learning English. Results showed positive and significant association between class room learning environment and attitude towards learning English. Female students have more positive attitude rather than male students. A research study in Pakistan was carried out to examine the attitude of Pakistani people towards English language and Punjabi, a local language. The findings revealed English language has progress beyond the status of English as Foreign language (Jabeen, Mahmood & Rasheed, 2011). Another study was conducted to find out gender based attitude of students towards learning English in Karachi, Pakistan. Girl students have more positive attitude than male students (Shams, 2008). Akram and Yasmeen (2011) carried out a research study in Faisalabad, Pakistan to explore students' attitude towards English and Punjabi languages and results showed that people of Faisalabad were more positive towards English language than Punjabi.

All of these scales were developed in the countries where English is lingua franca or it is second language. The situation in Pakistan is comparatively different as this is a multilingual country. So there is a need to develop a scale to explore the attitude of secondary school students with the help of context oriented tool.

### **Research Methodology**

The present study is of quantitative nature as it involves collection of information in frequencies, numbers or repeated calculations and analyses (Creswell, 2012; Fraenkel & Wallen, 2009). For the development of the scale a five step model proposed by AKBULUT and Zeynep (2013) was followed. Summary of the five steps is as under:

1. Literature Review: a considerable quantity of literature was reviewed to gain an insight about the scale development and measurement of attitudes.
2. Scale Development: To develop “English Language Learning Attitude Scale”, a number of items were developed and out these items only 26 were finalized for scale. These items were developed in both the English as well as Urdu languages on 5-point rating scale. The respondents were to select response from the provided five options as per their level of agreement. The responses were given points for final analyses. Points were labeled as “strongly agree (5 points), agree (4 points), undecided (3 points), disagree (2 points) and strongly disagree (1 points)”.
3. Review of Field Experts: After finalizing the statements these were reviewed by 5 experts from the field of education and English language learning.
4. Application: Initially the scale was piloted on 338 secondary level students from male and female schools of rural and urban areas.
5. Analysis of the items: Reliability coefficient, factor analysis, and other appropriate statistics were used to analyze the constructed items.

### **Population**

All the students of class nine who got themselves enrolled during the academic year 2010-2011 in male and female public secondary schools of Punjab province constituted the population of the study. Students from class 9<sup>th</sup> studying in the four randomly selected districts viz. Okara, Kasur, Faisalabad, and Lahore was the accessible population for study at hand. The criterion for selection of these districts was their population and only those districts were considered for sampling where population density was more than 500 people per square kilometer.

### **Sample**

As the population of the study was spread in 36 districts of Punjab province, it was practically difficult for the researchers to approach all the secondary level students. Moreover, the mere random sample sampling would have made the data collection process more challenging and laborious. It was, therefore, decided to use multistage stratified random sampling technique for sample selection. For drawing a representative sample the population density of districts was taken as criterion. Four districts were randomly selected from the list of districts having population density more than 500

people per square kilometers. Thus, the districts selected included Okara, Kasur, Faisalabad, and Lahore. From each selected districts twelve male secondary schools, six from rural areas and six from urban areas, and twelve female secondary schools, six from rural areas and six from urban areas, were again randomly selected. Thus total of 96 male and female secondary schools were selected from four districts viz. Okara, Kasur, Faisalabad, and Lahore. Finally, from each of the selected school one section of class nine constituted the sample of the study. In this way 3636 students, 1798 male and 1838 females, were the participants of the study.

### **Data Collection**

For the purpose of data collection, the developed scale was administered to the students of class nine twice, firstly for the pilot testing and secondly for final data collection. The scale was administered at the completion of academic year. The scale was developed as per the criteria stated above and consisted of three sub-scales viz. Motivation towards English language learning, Unpleasant Emotions towards English language learning and Inclination towards English language learning. Total of 16 items were developed and tried out.

### **Pilot Testing of English Language Learning Attitude Scale**

Pilot testing of the developed items for the proposed scale was conducted to determine their reliability. For this purpose 338 secondary level male and female students from schools (conveniently selected) of rural and urban areas were randomly. These students were not included in the final administration of the questionnaire. The reliability coefficient of ELLAS for pilot testing was  $\alpha = .885$ . Table 1 shows the mean, standard deviation, and reliability coefficient values of the pilot test.

Table 1: Mean, Standard Deviation and Coefficient of Reliability for ELLAS

Total Items	Mean	Standard Deviation	Coefficient of Reliability
26	93.74	2.395	.885

Table 2 below shows the item statistics and item-total correlation for the piloted version of the developed English Language Learning Attitude Scale.

Table 2: Item Statistics and Item-Total Correlation for ELLAS

Item No	Difficulty Index	(Discrimination Index	Item No	Difficulty Index	Discrimination Index
1.	3.931	.461	14	3.761	.601
2.	2.892	.322	15	3.692	.432
3.	3.661	.403	16	3.883	.543
4.	3.663	.463	17	4.044	.492
5.	3.911	.513	18	2.774	-.082
6.	3.522	.504	19	3.773	.552
7.	3.663	.512	20	3.464	.304
8.	3.493	.501	21	3.833	.564
9.	4.054	.551	22	3.392	.493
10.	3.683	.572	23	3.342	.381
11.	3.441	.441	24	3.763	.432
12.	3.831	.611	25	3.552	.461
13.	3.531	.441	26	3.232	.371

The results of the above Table reflect that all the items of the scale, except one item i.e. 18, were reliable with moderate level of difficulty. One item with the lowest reliability (-.082) was deleted and the final scale consisted of 25 items.

### **Factor Analysis of ELLAS**

The principal axis factor analysis with Varimax rotation and Kaiser Normalization was applied to examine the internal structure of ELLAS. Table 3 below shows the factor loadings thus obtained. According to Nelson (2005) only those items in an instrument are retained whose factor loading is at least 0.30 on its own scale and less than 0.30 on all the other scales. The application of this criterion on the present scale led to the removal of one item i.e. 18 of the revised ELLAS. This item was deleted from the sub-scale viz. Unpleasant Emotions towards Learning English. This item had loadings of less than 0.30 on the scale and was consequently omitted from subsequent analyses.

Table 3 also shows that the percentages of the variance were 45.38 % for Motivation towards Learning English, 41.94 % for Unpleasant Emotions towards Learning English and 44.58 % Inclination towards Learning English. In the same way, the Eigen values for three sub-scales of ELLAS ranged from 2.229 to 5.446. Overall, the analyses reported in Table 3 support a strong structure for 25 items with three sub-scales of final version of ELLAS. The detail of the factor loading and other relevant aspects is given in the table below

Table 3: Factor Loadings of the items for the Final ELLAS

Item No.	Factor Loading		
	Motivation Towards Learning English	Unpleasant Emotions towards Learning English	Inclination towards Learning English
1	.686		
3	.531		
5	.652		
7	.621		
9	.714		
10	.672		
12	.751		
14	.701		
16	.697		
17	.645		
19	.688		
21	.703		
2		.529	
4		.694	
6		.722	
8		.733	
11		.732	
13		.718	
15		.669	
18		--	
20		.658	
22			.606
23			.657
24			.678
25			.699
26			.702
Eigen value	5.446	3.74	2.229
%ageof Variance	45.38	41.94	44.58

### **Development of Final ELAS**

The final form of English Language Attitude Scale comprised of 25 items. Mean Score, Standard deviation and reliability coefficient of final form of ELALS is reported in Table 4. The reliability coefficient for the final version of the scale was  $\alpha=0.913$  which is highly acceptable for any scale in social sciences.

Table 4: Reliability Coefficient of Final ELLAS

Total Items	Mean	Standard Deviation	Coefficient of Reliability
25	91.77	21.699	.913

As far as the item to item relationship is concerned, the scale reflected that the relationship between different items ranges from  $r = .112$  to  $r = .550$ . It means that the scale possesses internal consistency. Moreover, absence of negative correlation between any of the two items further validate that the internal consistency of the scale is good.

Reliability coefficient for the sub-scales of revised ELLAS was also calculated. The coefficient of reliability of each sub-scale is reported in Table 6. Value of coefficient of reliability ranged from 0.688 (for Inclination towards Learning English subscale of ELLAS) to 0.889 (for Motivation towards Learning English subscale of ELLAS).

Table 6: Coefficient of Reliability for each Sub-scale of ELLAS

Sub-Scales of ELAS	Total No. of items	Coefficient of Reliability
Motivation towards learning English	12	.889
Unpleasant emotions towards learning English	8	.837
Inclination towards learning English	5	.688

## Discussion

Attitude represents a summary evaluation of a psychological object captured in such attribute dimensions as good-bad, harmful-beneficial, pleasant-unpleasant, and likeable-dislikeable. (Ajzen, 2001). Attitude measurement had been the topic of research since long. Several scales have been devised for the precise measurement of attitude (Can, 2010; Pala, 2006; Yavuz & Coskun, 2008). But scale developed by Gardner (1985) is considered as most important and reliable because of worldwide administration and use. Gardner's scale viz. Attitude/Motivation Test Battery (AMTB) was translated in many languages of the world including Urdu, the national language of Pakistan. Although its use turned out to be reliable in measuring English Language attitudes of Pakistani students, yet it was not in the social and cultural context of Pakistan (Shams, 2008; Akram & Yasmeen 2011). Therefore, there was a need to develop a scale through which attitudes of Pakistani students towards learning English may be precisely determined.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1.		.11	.37	.30	.41	.25	.39	.25	.49	.40	.17	.45	.18	.39	.23	.42	.35	.39	.18	.39	.32	.10	.36	.24	.32
2.		4**	5**	0**	1**	2**	7**	9**	7**	8**	1**	9**	8**	7**	4**	2**	4**	6**	3**	7**	0**	7**	5**	5**	9**
3.			0**	.19	.18	.33	.14	.34	.15	.18	.32	.12	.26	.15	.24	.13	.10	.14	.25	.13	.13	.23	.12	.24	.11
4.				3**	9**	8**	7**	3**	1**	4**	0**	1**	2**	4**	9**	1**	7**	9**	3**	6**	5**	7**	2**	5**	4**
5.					3**	6**	4**	9**	4**	5**	9**	7**	5**	0**	9**	4**	8**	4**	9**	3**	5**	9**	4**	4**	3**
6.						4**	7**	8**	9**	2**	6**	7**	3**	9**	8**	5**	1**	7**	0**	5**	6**	7**	8**	8**	2**
7.							4**	0**	0**	8**	3**	5**	1**	9**	8**	8**	6**	6**	4**	1**	7**	8**	7**	1**	7**
8.								6**	4**	6**	8**	1**	5**	0**	1**	0**	8**	4**	0**	1**	4**	7**	0**	1**	1**
9.									2**	.43	.40	.19	.37	.14	.38	.16	.36	.30	.31	.17	.35	.36	.13	.26	.20
10.										6**	7**	3**	8**	7**	9**	3**	5**	8**	9**	4**	5**	1**	7**	0**	2**
11.											4**	2**	2**	7**	8**	1**	9**	7**	3**	7**	3**	7**	0**	4**	1**
12.												8**	0**	5**	3**	2**	0**	8**	3**	9**	9**	7**	6**	2**	3**
13.													1**	8**	8**	0**	2**	3**	7**	3**	9**	8**	6**	9**	8**
14.														6**	.24	.45	.26	.23	.23	.44	.25	.16	.37	.16	.39
15.															0**	0**	5**	6**	8**	4**	7**	2**	4**	6**	2**
16.																3**	.26	.49	.36	.43	.22	.45	.34	.27	.35
17.																	0**	6**	2**	5**	5**	0**	4**	3**	1**
18.																		5**	.24	.40	.27	.20	.33	.21	.12
19.																			6**	2**	1**	9**	0**	4**	9**
20.																				4**	.37	.24	.35	.30	.29
21.																					6**	2**	8**	4**	0**
22.																						8**	5**	8**	7**
23.																									.29
24.																									4**
25.																									8**

**Table 5 Item to item relationship of the ELLAS**

\*Correlation is significant at the 0.05 level (2-tailed).

\*\*Correlation is significant at the 0.01 level (2-tailed).

Keeping in view the need and context of Pakistani students a scale comprising of three sub-scales with 25 items was developed. Scale development 5-step model proposed by AKBULUT & Zeynep (2013) was used to accomplish this study. English Language Attitude Scale (ELAS), the outcome of the research at hand, is highly reliable scale with coefficient of reliability as .912. At the same time the internal consistency of the scale is also very good as the relationship between different items of the scale is good. Moreover, all the subscales of ELAS viz. Motivation towards Learning English, Unpleasant Emotions towards Learning English and Inclination towards Learning English are quite strongly interrelated with reliability coefficient values 0.888, 0.836 and 0.687 respectively. Factor Loadings of the items for ELAS Scale also indicate strong relationship between different sub-scales of the final scale. It is, therefore, recommended that the present scale would be highly reliable for assessing Pakistani students' attitude towards English language and consequently will be a help in promoting the cause of effective English learning.

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**ENGLISH LANGUAGE ATTITUDE SCALE**

مزید طلباً

اس سوالنامے میں آپ کے سامنے کچھ بیانات پیش کیے جا رہے ہیں۔ اس میں کوئی جواب صحیح یا غلط نہیں۔ صرف آپ کی رائے درکار ہے۔ رائے کا اظہار کرنے کے لئے ہر جملے کے آگے پانچ درجے دیئے گئے ہیں۔ آپ اپنی رائے کے مطابق کسی بھی جملے میں دیئے گئے نمبر کے گرد دائرہ لگائے اور باقی نمائے خالی چھوڑ دیتے۔

SA=Strongly Agree بہت زیادہ متفق , A= Agree متفق , U= Undecided کوئی رائے نہیں

DA=Disagree متفق نہیں , SDA=Strongly Disagree بالکل متفق نہیں

S.No.	Statements	SA	A	U	D	SDA
1	I like English مجھے انگریزی (زبان) پسند ہے۔	5	4	3	2	1
2	Time passes so slowly during English classes. انگریزی کلاسوں کے دوران وقت بہت آہستگی سے گزرتا ہے۔	5	4	3	2	1
3	I like to listen English commentary of any match. مجھے کسی بھی کھیل کی کمنٹری انگریزی میں سنانا اچھا لگتا ہے۔	5	4	3	2	1
4	It is useless to learn English. انگریزی سیکھنا بے فائدہ ہے۔	5	4	3	2	1
5	English is an enjoyable subject. انگریزی ایک فرحت بخش مضمون ہے۔	5	4	3	2	1
6	I get bored while listening English. میں انگلش سنتے ہوئے آرتا جاتا ہوں۔	5	4	3	2	1
7	I like to spend the most of my time in studying English مجھے اپنا زیادہ تر وقت انگریزی کے مطالعہ میں صرف کرنا پسند ہے۔	5	4	3	2	1
8	I feel worried in English class. میں انگریزی کی کلاس میں پریشان ہو جاتا ہوں۔	5	4	3	2	1
9	English is important to me. میرے لیے انگریزی اہم ہے۔	5	4	3	2	1
10	I like to have an English book gifted to me. مجھے تحفہً انگریزی کتاب لینا پسند ہے۔	5	4	3	2	1

SA=Strongly Agree بہت زیادہ متفق , A= Agree متفق , U= Undecided کوئی رائے نہیں DA=Disagree متفق نہیں , SDA=Strongly Disagree بالکل متفق نہیں						
S.No.	Statements	SA	A	U	DA	SDA
11	I feel uncomfortable in English class. مجھے انگریزی کی کلاس میں بے چینی محسوس ہوتی ہے۔	5	4	3	2	1
12	I like listening English مجھے انگریزی سننا پسند ہے۔	5	4	3	2	1
13	I think studying English is a waste of time. میرے خیال میں انگلش کا مطالعہ وقت کا ضیاع ہے۔	5	4	3	2	1
14	I like to study English than any other subject. دوسرے مضامین کی نسبت مجھے انگریزی کا مطالعہ پسند ہے۔	5	4	3	2	1
15	I hate English among all subjects مجھے تمام مضامین میں سے انگریزی کے مضمون سے نفرت ہے۔	5	4	3	2	1
16	I like to develop my English language skills. میں انگلش زبان کی مہارتیں (سننا، بولنا، پڑھنا اور لکھنا) سیکھنا پسند کرتا ہوں۔	5	4	3	2	1
17	English is very important in every day life روزمرہ زندگی میں انگریزی کی بہت اہمیت ہے۔	5	4	3	2	1
18	Learning English is a joyful activity. انگریزی سیکھنا ایک بے لطف سرگرمی ہے۔	5	4	3	2	1
19	English is less important subject than any other subjects. دوسرے مضامین کی نسبت انگریزی کم اہم مضمون ہے۔	5	4	3	2	1
20	When I learn English I feel Satisfaction جب میں انگریزی سیکھتا ہوں تو مجھے اطمینان محسوس ہوتا ہے۔	5	4	3	2	1
21	Reading English stories is my hobby. انگریزی کہانیاں پڑھنا میرا مشغلہ ہے۔	5	4	3	2	1
22	I feel disturbed while my teacher speaks English جب میرا استاد انگریزی بولتا ہے تو مجھے گھبراہٹ محسوس ہوتی ہے۔	5	4	3	2	1

SA=Strongly Agree بہت زیادہ متفق , A= Agree متفق , U= Undecided کوئی رائے نہیں DA=Disagree متفق نہیں , SDA=Strongly Disagree بالکل متفق نہیں						
S.No.	Statements	SA	A	U	DA	SDA
23	I will opt English if it is an elective subject. اگر انگریزی اختیاری مضمون ہو تو پھر بھی میں اسے پڑھوں گا۔	5	4	3	2	1
24	I would be happy when it will not be English period. اگر انگریزی کا پیریڈ نہ ہو تو میں خوش ہوں۔	5	4	3	2	1
25	I like listening English News on TV. میں ٹی وی پر انگریزی خبریں سنا پند کرتا ہوں۔	5	4	3	2	1

## **Need of School Social Work in Response to Education related Problems in Pakistan**

**Asif Naveed Ranjha\***

**Aisha Shoukat\*\***

**Muhammad Dilshad\*\*\***

### **Abstract**

*School is first formal institution for child socialization. Many children face adjustment and education related problems in schools. This study uses and reviews the literature on school level education related problems, reasons, school social work and school social work in Pakistan. Literature analysis explores children's low admission rate in schools, corporal punishment, absenteeism, indiscipline, bullying, failure, dropout and difficulties in the syllabus as major problems. These problems are mainly caused by poverty, unawareness of parents about the importance of education, unsuitable school education system, teachers' attitude, parents' negligence about their children and children's less or no interest in education. School social work being an important specialization of social case work, using the principle of individualization, helps in solution of children's problems related to their school and education in school. School social work could not be practiced in real sense, even it remained an important part of five year development plans in Pakistan. This study suggests initiation of school social work in some schools on experimental basis for a certain period. Appointment of school social workers will be helpful to develop coordination among children, school, teachers, parents and community and to solve school and education related problems.*

**Keywords:** Education, School, School Social Work, Education related problem,

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\* Department of Social Work, The Islamia University of Bahawalpur, Pakistan.

E-mail: aasif\_ranjha@yahoo.com

\*\* Department of Social Work, The Islamia University of Bahawalpur, Pakistan.

\*\*\* Department of Education, The Islamia University of Bahawalpur, Pakistan.

## **Introduction**

Development in the education sector is key to the solution of other problems, After 68 years of independence, Pakistan faces various multidimensional problems. Education related problems are continuing and of a severe nature among the present problems. Pakistan is among those few nations where the education system is continuously eroded (Suleman, Aslam, Hussain, Butt, & Ahmad, 2012). Previous governments made many efforts to bring schooling and education acceptable at international or at least national level and results remained unsatisfactory (Saeed et al., 2013). According to Hulshof (2014), 6.5 million children are out of schools in Pakistan and one of very two students in fifth grade does not meet educational requirements of grade two student. A fresh survey gives a horrible picture that 20.5 million children are not going to school in Pakistan, which is a serious message for government, parents and communities (The News, 2014).

Out of school children include both types one who never attended school and who dropped studies for any or without reasons. There could be various reasons behind not joining school and being dropped out of school. Poverty, unemployment and lack of schools are considered major hurdles for children to reach or attend school. We can find many examples, especially in rural areas where the government or volunteer run schools exist, but children do not attend due to unawareness on the part of parents about the importance of education. Besides that, children face many seen and unseen education related issues which are ignored attention by teachers, parents, school administration and policy makers. These problems seem minor, but disturb children's education process and leave long lasting effects on their lives. Some children face adjustment problems in the school environment and with follow and others feel difficulty in teaching methodology and curriculum. Teachers do not have time to treat every child with different background on an individual basis. These unaddressed problems lead towards truancy, depression, indiscipline, negative behaviour, failure or dropout. There is need to stop these tiny look issues or at least to reduce them through some serious interventions. Many researchers and academicians have conducted countless studies on education related problems in Pakistan and have suggested different measures for government policy makers, parents, teachers, students and communities. Different policies are designed or revised to combat education related problems, but problems and effects exist.

## **The Research Problem and Procedure**

This study describes school education related problems and importance of school social work practice to deal with such problems. This study is of qualitative nature and relies heavily on analysis of secondary data including published research papers, reports and documents related to the issue. This study also gives some recommendations after review and analysis of literature on children's adjustment and



education related problems, their causes and school social work and its need in Pakistan.

### **Education Related Problems in Schools**

There are many researches and discussion on various education problems, but school education problems are becoming worse day by day. Students face school education problems in almost all states and Pakistan is one prominent among those. Children have no access to quality education, health services and other basic needs and have to live in impoverished environments (Quinn-Lee, 2014). Millions of children are out of schools in Pakistan (Hulshof, 2014). Besides utmost efforts of the provincial governments, it does not seem that Pakistan will be able to achieve the 100% enrolment target of Education For All (EFA) 2015 as already pointed out by G. A. Khan, Azhar, and Shah (2011). No doubt, the government should work for enrolment of out of school children, but there is also need to determine the reasons of dropout and to reduce or stop dropout rate. G. A. Khan et al. (2011) emphasize to review social and public policies to handle dropout problems. Poverty or low income has been considered as a major reason for dropout from schools in Pakistan (Gul, Gulshan, & Ali, 2013; Hussain, Salfi, & Khan, 2011; G. A. Khan et al., 2011; Malik, 2002; Memon, Joubish, & Khurram, 2010; Sattar, Yasin, & Afzal, 2011). It is the fact that poverty is one of the biggest reason affecting education process and system, especially at grassroots level but it could not be removed by the use of any magic wand. Poverty produced problems could be tackled through alternative and suitable methods. Here, another question arises that if the government offers free education for poor communities, then what are the reasons behind out of school and dropout after enrolment. As poor or low income families are not well aware about the necessity of education, S. B. Khan (2010) recommends to educate the parents about the importance of education. Habib (2014) believes that parents' interest in education affects positively on their children's school going and result. This is also a possibility that low or no interest of children in education is a reason for not joining or leaving school education. Ahmad, Said, and Khan (2013) point out corporal punishment or torture as a reason for the poor performance of students and dropout from school.

A research on Pakistan and Bangladesh reports low or no interest of parents in education system, in their children's schools and conditions of their children in schools (Crozier & Davies, 2007). Relationship and cooperation among parents, school and community is essential, especially for primary level education of children (Habib, 2014). Ahmad et al. (2013) consider direct relationship of teacher and student as fundamental element where the attitude of teacher affects very much on learning process of student during that direct relationship. An effective partnership between parents and teachers is also vital to meet educational requirements of a child (Allen & Tracy, 2004). Parent Teacher Association (PTA) concept has been introduced to reduce

distance between parents and teachers and to involve parents in the educational process. Habib (2014) and Nasir, Farooq, and Ali (2013) discuss objective and importance of PTA and PTCs (Parent Teacher Councils) that these parent-teacher bodies strive at home, school and society for better education of children. Their major functions include the motivation of parents to send their children in schools and increase their knowledge about education, to aware parents about educational services of government, to reduce dropout rates and absenteeism and to build productive relationship between teachers and parents. Another question arises as to why education problems exist and why children are out of schools when PTA or PTCs are functional. It seems that these associations fail to achieve targets and to solve educational problems.

Farley, Smith, and Boyle (2005) point out indiscipline, violence, crimes, drug use, cheating, harassment and lack of teaching values as prominent education problems in government schools. Ahmad, Hussain, Ahmad, Amhad, and Tabassum (2012) report bullying in government schools. Now, school children are involved in labour work in schools. In Sialkot, children acted as sweepers instead of learning as reported by Dawn (2014). According to Farley et al. (2005), self-discipline, honesty, courage, good work habits and a sense of responsibility are not emphasized in government schools.

Though, the curriculum is same for all in a class, difference of family background and perception level of children becomes hindrance for some children. Old and outdated books are taught in government school and also these books are not interesting for children (Laghari, Abro & Jamali, 2013). In addition, teachers cannot teach effectively due to over work load and overcrowded classes and they cannot treat children on individual basis. Laghari et al. (2013) report complicated teaching methodology and medium of instruction as an education problem in schools. In conventional school system, children do not speak about difficulties in curriculum and teaching methodology due to respect and fear of teachers which affects their learning negatively.

Scholars and researchers give many constructive suggestions to improve school education system. Ahmad, Rauf, Rashid, Rehman, and Salam (2013) propose an increase in the school education budget, recruitment of more teachers, effective teacher trainings, depoliticizing of the education system, need based and easy understating curriculum, improvement in teaching method, language and examination system, implementation of rules and ensuring accountability for solution of educational problems. In light of recommendations of Ahmad, Rauf, et al. (2013), practical steps could bring many improvements, but still the school education system needs some professional inclusions to diagnose problems and reasons. School social work deals all above discussed problems in a professional way and brings a suitable solution in every case through the use of principles and skills.

### **School Social Work**

Social work profession work helps individuals, groups and communities in specialized ways for the solution of problems. Role of school social work cannot be ignored for solution of children's adjustment and educational problems in schools. School social work is an important specialization field of social case work. Children did not use to go to school before the twentieth century (Segal, Gerdes, & Steiner, 2009). According to them, many states in America, ensured school enrolment of children through necessary legislations. There was need of specific assistance to adjust the children in a new environment after their enrolment in schools. School social work was considered a suitable professional specialization for assistance in schools. School social work practice was initiated on a regular basis at government schools in Boston, Hartford and New York in 1906 and presently, school social work is practiced in many schools there (Farley et al., 2005). They recommended this professional practice in all schools. Leonard (1994) gives a definition of school social worker, 'An individual who holds a master's degree in social work and is licensed or certified by the State in which services are provided or holds a school social work specialist credential' (p. 3815). Role of school social worker and its importance was recognized for assisting in improving educational opportunities for students. This recognition was through 'The Improving America's Schools Act' in 1994 (Farley et al., 2005).

School is a primary service provision place for children who have emotional and behavioural problems. In school, school social worker identifies, assesses, helps and refers the students who face any mental health problems (Woolley & Curtis, 2007). In addition, worker guides students about available opportunities and services for students in school (Leyba, 2010). He helps students in service projects and clubs and creates an environment where students can learn to help their fellows, junior students, elders and communities. Leyba (2010) explains that school social work practice creates self-esteem, friendship and confidence in students and students feel it easy to go to school social worker for solution of their problems.

Cameron (2006) points out conventional policies to establish and maintain discipline in schools in America. The conventional practices include security methods, suspension, corporal punishment and teachers' actions to control students' behaviours. He believes that conventional policies give rise to behavioural disorder and academic problems in schools. He considers the practice of school social worker effective to deal with problems created by conventional policies. School social work actions include student advocacy for discipline, guidance of teachers and administrators about the drawbacks of conventional policies, education of school staff on effective methods and mass awareness campaign to get support.

School refusal behaviour of students cannot be left unattended unless it upshots negatively for both students and school system (Kearney & Bates, 2005). Such refusal means student refuses to go or feels difficulty to attend the whole day in school. This refusal could lead student toward negative activities, i.e., drug use, crimes, etc. School social worker acts in collaboration with school professionals, community, social service organizations, children and their parents to reduce and stop truancy (Teasley, 2004). Broussard (2003) believes collaboration of home and school very important for success of the student. He claims that school social worker well equipped with theoretical knowledge of family system and family diversity and strengths, can coordinate with students' families and communities. With special reference to the needs of children with mental health problems, Early and Vonk (2001) discuss intervention role of school social worker for prevention, treatment and environment modification. The worker has also to deal with children and their families having attachment issues (Shaw & Páez, 2007). Children with violent and antisocial behaviour become alone and keep themselves separate from family, school and community (McKay, 2010). Here, school social worker connects all these stakeholders for problem solution. He plays an important role to control the tendency of drug use among school children (Roy & Shields, 1979).

The home visit is also part of school social work. Home visits by school social worker could be helpful to reach students with diverse backgrounds, involve parents and create a linkage between home and school (Allen & Tracy, 2004). Steiner (1979) emphasizes school social worker to understand the political process which develops policies on the education system.

### **School Social Work in Pakistan**

Education related problems were realized in Pakistan at very early stages. In First Five Year Plan, recommendations were made for experimental appointment of male and female social workers in addition to teaching staff to handle children's irregularity and withdrawal from schools (Government of Pakistan, 1957). This recommendation came from the realization that the social worker could help in building better relationships between parents and teachers. In Second Five Year Plan, the role of social worker was recognized and guided to reduce absenteeism, indiscipline and failures in schools (Government of Pakistan, 1960). The Third Five Year Plan emphasized the role and practice of professional school social worker (Government of Pakistan, 1965). It was admitted that with heavy workload and low salary could not give attention to students' life, absenteeism causes, gangsterism, crimes and failures. On the other hand, parents' busy routine and carelessness create school and education related problems and these circumstances leads to weak or no relationship between parents and teachers. So, appointment of school social worker with case work and group work specialization was proposed in schools, colleges and universities. This

practice would be helpful to guide students about their educational life, to save their school career, to guide them for financial assistance, to develop their personality, to help in home adjustment, to facilitate teaching work, to improve the parent teacher relationship and to help students avoid crime involvement. Third Five Year Plan took the revolutionary step and proposed 40 school social work units in East Pakistan with a financial estimation of 2 (two) million rupees. Khalid (2006) also discussed these steps by the state during the Third Five Year Plan. He argued that start of school social work units would help to reduce truancy, indiscipline and adjustment problems in schools. Better coordination with education department would help school social work practice to resolve students' school education problems. Initially, six school social work units were set up in West Pakistan (Khalid, 2006). School social work practice was put on priorities in social welfare services in the Fourth Five Year Plan also and 18 more units were proposed (Government of Pakistan, 1970). These units were proposed to be administered under Directorate of Social Welfare West Pakistan. Third and fourth five year plans were ideal regarding school social work practice and provided considerable funds for the practice.

In the Fifth Five Year Plan, 10 more school social work projects were proposed in different cities in West Pakistan (2 in Islamabad, 2 in Lahore, 2 in Azad Kashmir, 2 in Northern Areas, one in Quetta and one in Peshawar). The recommendations were made to initiate these units in slum areas where low-income groups resided so that their socioeconomic related to child education could be fulfilled (Government of Pakistan, 1978). The plan also recommended to solve absenteeism and failure problems through this practice. Again in the Sixth Five Year Plan, school social work practice was considered helpful in the education system and proposed for psychosocial development of 44.4% children who were under 14 years at that time in Pakistan (Government of Pakistan, 1983). According to the Sixth Plan draft, this practice would help to keep children in schools, to reduce wastage and leakage of the education system and to build linkages among educational system, family and community. School social work pilot units were started in Islamabad during the Sixth Five Year Plan, which were to be extended at the provincial and local level in next phase (Khalid, 2006). The Seventh Five Year Plan also had provisions to set up school social work units in selected areas to provide better education services for low-income communities (Government of Pakistan, 1988). Similarly, The Eighth Five Year Plan proposed Federal and Provincial Social Welfare departments to continue the setup of school social work units and to initiate more in the rest of the areas (Government of Pakistan, 1993). According to Rehmatullah (2002), also the Fourth Social Welfare Policy, 1994 stressed to assist students through services of school social work which would coordinate among parents, communities and schools. Unfortunately, school social work practice is nowhere except special education schools run by the Federal Special Education Department previously

which has been merged in the provincial special education departments after 18<sup>th</sup> Amendments.

### **Discussion and Recommendations**

Various multifarious problems exist in Pakistan affecting all ages and classes and most terrible situation is in the education field. The state is responsible to take serious and constructive measures when millions of children are out of school, drop out after joining schools and children, parents and teachers are unhappy with the education process. In Pakistan, either need based efforts have not been made in the education field or not implemented properly. School social work is recognized and proved specialization to help in school education related problem worldwide. Almost in all five year plans, initiation of school social work practice has been emphasized but unfortunately the programme has not been implemented in a proper way. If school social work started in some schools, no professional and qualified social worker was appointed to get valuable results. In other words, we can say that practice of school social work has been replaced by introducing Parent Teacher Associations and Parent Teacher Councils in schools. These associations and councils could not produce desired results. These are not taken seriously by parents as well as teachers because of their non-professional and volunteer nature. We can witness examples of appointments of psychologists and case workers in special education institutions to help teachers and parents in the solution of psychosocial and adjustment problems of the special children. Similarly, provincial governments should take steps to handle seen and unseen problems in schools.

Practice of school social work could improve performance of children and schools. A trained professional school social worker works on a student's enrolment, class participation, attendance, learning process, relationships with teachers and other students, non-academic activities, adjustment in school, financial and social matters. He takes case of every child with the problem on an individual basis and follows the ethics and principles of social work. He takes the child in confidence and keeps all communication confidential for a better problem solution. School social worker guides child, parents and teachers for solution after diagnosing the problem and its causes. As far as education related problems in Pakistan are concerned, school social worker can develop a positive coordination between teacher and student to eliminate corporal punishment element. This could lead towards reduction of truancy, failure, bullying and the dropout rate in schools. In addition, using his professional skills, he constructs a healthy environment in school by solving mutual problems of children. Children feel comfortable and happy to spend maximum time in such environment which affects their education in a positive way. Though, teachers have no enough time to see adjustment problems of children and to meet parents, school social worker acts as a bridge between children and teachers, teachers and parents and children and parents. During meetings

with parents, he can guide them about educational progress, needs and problems of their children. He awakes parents about the importance of education and motivate them to visit the school. Through his professional skills, he guides children individually or in groups and teachers for problem solution. School social worker plays important role in ethical trainings for children. He is not authority to bring any changes in the curriculum, but he can work on problems of understanding curriculum content and language. After knowing the details of such problems from children, he can discuss with concerned teachers. Then, teachers teach in an easy way by giving special to one or some students who face difficulty in understanding curriculum. School social worker finds many weaknesses of students through their academic results and then provides his guidance and counselling where needed.

Many suggestions can be given to authorities about practice of school social work. School social work should be taught as a compulsory specialization at the university level so that well trained practitioners could be available. Initially, the provincial government should appoint some qualified social workers in a few districts on a trial basis. These appointments should be done in scale 16 or 17 through the Public Service Commission. During this pilot phase, school social workers should be appointed in primary, middle and high schools for a period of one or two years on contract basis. Prior to appointment, the school social workers should be trained through the Department of Education, Social Welfare and universities. School social work practice could be given under supervision of the Department of Social Welfare or, Department of Education or both. Later on, provincial governments can establish a separate department for school social work in case of success stories of the pilot project. An experienced social work academician from any university could be appointed as head or director of school social work project to make its practice effective and successful. He can run the project in the right direction through developing coordination between departments of social welfare and education.

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## **Formal Operational Stage of Piaget’s Cognitive Development Theory: An Implication in Learning Mathematics**

**Safdar Rehman Ghazi\***

**Umar Ali Khan\*\***

**Gulap Shahzada\*\*\***

**KarimUllah\*\*\*\***

### **Abstract**

*This research study was conducted with the aim to apply Formal Operational Stage (12-16 years) of Piaget’s Cognitive development theory in learning mathematics. This study was survey type in nature. Sample of the study was comprised of two hundred students of age twelve to sixteen years. Mean, standard deviation and t-test were used as statistical tests for analysis of data. Results of the study revealed that students of age twelve to sixteen years can do classification, intersection, ratio & proportion, and geometry to some extent while the academic achievement of the students falling in Piaget’s formal operational stage (12-16 years) cannot do factorization and transitivity. The academic achievement of the urban students was better as compared to the rural students regarding Classification, Intersection, Ratio & Proportion, and Transitivity, while the academic achievement of the rural students was better than the urban students regarding Factorization and Geometry. It revealed that socio-cultural differences have impact on formal operations stage students. It is recommended that encouraging environment should be provided and competition between rural and urban school students should be started in learning mathematics at elementary and secondary level schools.*

**Key Words:** Piaget’s Stage Theory, Cognitive Development, Formal Operational Stage, Mathematics, Urban, Rural.

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\* Director, IER, University of Science & Technology Bannu, Pakistan.

Email: [drsrghazi@yahoo.com](mailto:drsrghazi@yahoo.com)

\*\* Director, IER, Gomal University D.I.Khan, Pakistan.

\*\*\* IER, University of Science & Technology Bannu, Pakistan.

\*\*\*\* M. Phil. Scholar, IER, University of Science & Technology Bannu, Pakistan.

## **Introduction**

Jean Piaget a well-known psychologist belonged to Switzerland. He developed Cognitive Development theory in 1952 and was known as Piaget's Theory. He was concerned with children cognitive learning and proved that how they responded to their surroundings. Piaget's theory centered on a rule that cognitive development starts in a sequence of four separate, universal stages. These four stages work for all time in similar order and each stage constructs on the basis of the prior stage. Piaget stated that cognitive development was a reformation progress of mind as a result of genetic, biological maturation and surrounding practice. Children pass through four stages of cognitive development up to the adulthood (Wadsworth, 2003).

Cognitive development process is the formation and composition of thinking processes. It includes particularly identification, recall, solve difficulties, problems, hindrances, and make decisions about something from childhood to adulthood. Piaget's theory of cognitive development is concerned with information, knowledge and understanding, how a human being gains knowledge, builds knowledge as well as applies knowledge (Wadsworth, 2003). In view of Piaget (1964) cognitive development in early period contains processes which are based upon some actions and in later period cognitive development involves mental operations. Ojose, (2008) asserted that Piaget's theory on cognitive development stages are Sensorimotor (0 - 2 years), Pre operations (2 - 7 years), Concrete operations (7 - 11 years), and Formal operations (12 - 16 years).

Cherry (2014) explained that in view of Jean Piaget, children grow within four stages of cognitive development. Each stage is characterized, how children understand the world around. According to Piaget, children are like "little scientists". They try to discover the world around them. Piaget proposed that there is a qualitative change in kids during these four stages. During the sensorimotor stage (0 - 2 years), infants gain knowledge through sensory practices, using different things. Piaget (1977) distributed the first stage into six sub-stages having specific time of each sub-stage with composition of actions such as visualization, seeing, hearing, investigation, physical and motor practices e.g. catching, sucking something, and trying to stand. Piaget explained that ability to count numbers or things like one cock, two cats, three dogs, four tigers etc are additional features of sensorimotor stage. According to Essa (1999), language and some symbolic actions are developed in preoperational stage. However, thought process is not consistent up to this stage. Children comprehend simple categorization, ordering, function, games, etc. Piaget (1977) explained that at the preoperational stage (2 - 7 years), children gain knowledge through imaginary play. They try to use their senses and acquire opinion of other people. During the concrete operational stage (7 - 11 years), children start thinking more logically, but their thinking may be inflexible. Children make an effort with abstract and theoretical thought.

Cherry (2014) stated that the formal operational stage (12 - 16 years) of Piaget's cognitive development theory involves increase in sense or intellect, the ability to exercise deductive way of thinking plus understanding of conceptual thoughts. In this period, children build up their ability to reflect on abstract concepts and develop ability of logical thoughts (use general principles to find out specific results), deductive reasoning, and systematic arrangement. In abstract concepts, children think about probable result and effects of any activity. Abstract concepts are helpful in long-term planning. Deductive logic is required especially in science and mathematics. Children are able to solve a problem quickly in an organized way. Brain and Mukherji (2005) stated that in formal operational stage, actual things are no longer required and intellectual operations can work 'in the mind' using conceptual words. Ojose (2008) explained that the youngster at formal operations stage is able to form hypotheses, deducing probable outcomes, allows the youngster to build his own type of math. He builds up theoretical thinking ways by means of clear symbols devoid of the need of insightful information. Ojose (2008) found views of Anderson (1990) that logical way of thinking during formal operations stage presents to the mind procedure concerned with generalizing and evaluating of logical influence as well as explanation, assessment, and its use. Copeland (1979) explained that at the formal level it establishes relations between classes bringing together elements, in twos, threes, and so on. This generalization of classification and relations of order culminates in a combinatorial system—combinations and permutations. This combinatorial system is of prime importance in the extension of the power of thought.

Piaget did not clearly relate his theory to education, although later researchers have explained how Piaget's theory can be applied on teaching and learning. Piaget (1961) recommended that cognitive development be considered like a range connecting the contact of four aspects counting, maturation, energetic practices or knowledge, societal contact and wide-ranging balance development. Smith et al. (2003) explained that social and cultural environment have no role in cognitive development. Children see culture reality and follow social relationships in their respective culture. Still others, like Vygotsky, focus on the influence of the social and cultural environment.

Essa (1999) explained views of Copple, DeLisi and Sigel (1982) that in studying children's cognition, we are more concerned with the process of knowing instead of what children know. Piaget's stages focus on developing cognitive abilities. Their principles are applied widely to social, moral, physical and mathematical learning. Teachers of school-aged children should have knowledge about Piaget's theory and its implications in educational setting. Knowledge about how children learn is important for effective teaching.

Focus on teaching mathematics is the need of time, because mathematics is a complicated subject for any grade level in Pakistan particularly in Khyber Pakhtunkhwa that may affect quality and results of science and arts education equally. Mathematics usually requires a higher thinking ability on the part of students while we have not been yet attained that cognitive level. Perhaps one major reason is that Piaget's suggested age-stage theory is not followed in its real sense in our country especially in Khyber Pakhtunkhwa. Therefore main focus of the study was to apply formal operations stage (12-16 years) of Piaget's Cognitive development theory on students of age twelve to sixteen years at district Bannu, Khyber Pakhtunkhwa (Pakistan) in learning mathematics concepts (viz; classification, intersection, factorization, ratio and proportion, transitivity, geometry).

### **Statement of the Problem**

The problem was to apply the formal operational stage (12-16 years) of Piaget's cognitive development theory on students of age twelve to sixteen years in learning mathematics concepts (viz; classification, intersection, factorization, ratio and proportion, transitivity, geometry) in rural and urban context at district Bannu, Khyber Pakhtunkhwa (Pakistan).

### **Objectives of the Study**

The following were objectives of the study:

1. To apply Formal Operational Stage (12-16 years) of Piaget's Cognitive development theory in learning mathematics concepts (viz; classification, intersection, factorization, ratio and proportion, transitivity and geometry) on students of age twelve to sixteen years at district Bannu, Khyber Pakhtunkhwa.
2. To compare the achievement in mathematics concepts (viz; classification, intersection, factorization, ratio and proportion, transitivity and geometry) of rural and urban students falling in Piaget's Formal Operational Stage (12-16 years) of cognitive development theory.

### **Hypotheses of the Study**

This study was guided by the following null hypotheses.

1. There is no significant difference in the formal operational stage of rural and urban students in the achievement of classification in mathematics.
2. There is no significant difference in the formal operational stage of rural and urban students in the achievement of intersection in mathematics.
3. There is no significant difference in the formal operational stage of rural and urban students in the achievement of factorization in mathematics.
4. There is no significant difference in the formal operational stage of rural and urban students in the achievement of ratio and proportion in mathematics.

5. There is no significant difference in the formal operational stage of rural and urban students in the achievement of transitivity in mathematics.
6. There is no significant difference in the formal operational cognitive development stage of rural and urban students in the achievement of geometry in mathematics.

### **Significance of the Study**

This study is significant in the awakening of students' cognitive development towards mathematical concepts. Cognitive development has a key role in learning mathematics because it has abstracts concepts which need high reasoning ability. This study will fill gap of the Formal Operations stage (12- 16 years) of students in learning mathematics. After studying the results, teachers will give attention to the cognitive development of students while they teach mathematics and they will adopt new method of teaching to activate the students' cognitive ability. Therefore, this study will be helpful to improve students results at secondary level and dropout rate will be definitely decreased especially in the subject of mathematics. This study will also give suggestions to the policy makers and curriculum developers to draw suitable plans and guideline to activate and motivate students' cognitive development for the improvement of teaching mathematics.

### **Methodology and Procedure**

This study was survey type in nature. Population of the study was all male students of age twelve to sixteen years studying in public sectors schools of district Bannu, Khyber Pakhtunkhwa, Pakistan. Sample of the study comprised of two hundred students of age twelve to sixteen years who were selected randomly.

A self-developed objective type test including formal operational activities of mathematics (viz; classification, intersection, factorization, ratio and proportion, transitivity and geometry) was used to collect data from the sample. Validity of the instrument was checked through fifteen educationists and concerned subject teachers. For the reliability of the instrument, the test was exercised on randomly selected sample of fifty students. Reliability coefficient Cronbach alpha value was found 0.78 using SPSS 21. The test was administered on students of age twelve to sixteen years at district Bannu. Two hundred male students of age twelve to sixteen years (one hundred from urban and one hundred from rural students) were selected from public sector schools of district Bannu using random methods. One of the researchers administered respective test personally and collected answer sheets from the students.

### **Results**

The collected data was entered in SPSS 21 software and was analyzed using percentage, mean scores, standard deviation for descriptive analysis, and independent



samples t-test for group comparison. The following cut points of the mean values were used to interpret the descriptive results:

Below average value = (0-0.67)

Average value = (0.68-1.33)

Above average value = (1.34-2)

Table 1: Analysis of scores showing %age, Mean and SD on classification

S.N	Statement	F	Scores	%age	M	SD
1	If A= {1,2,3,4,5}, B={2,3,4} then $B \leq A$	79	0	9.5	1.35	0.59
	True/False	121	2	90.5		
2	If A= {1,2,3,4,5}, B= {2,3,4} then $B \leq A$	75	0	37.5	1.25	0.97
	True/False	125	2	62.5		
3	A= {1,2,3,4,5}, B= {1,2,3} then A=B	107	0	53.5	0.93	1.00
	True/False	93	2	46.5		
4	If A={3,6} ∴ P(A) ={∅, {3},{6} {3,6}}	135	0	67.5	0.65	0.94
	then (A) nP(A) =	65	2	32.5		
5	A= {5,6,7}, B={4,5,6,7,8} then	50	0	25	1.50	0.87
	AUB=_____	150	2	75		
6	The basic unit of classification is called	84	0	42	1.16	0.99
	_____	116	2	58		
7	Basic unit of living things is	119	0	59.5	0.81	0.99
	called_____	81	2	40.5		
Overall scores		649	0	46.36	1.59	0.39
		751	2	53.64		

Table1 shows the academic achievement of the students falling in Piaget's formal operational stage (12-16 years) regarding the ability of classification falls in the range (1.34-2) of above average with M= 1.59 and SD= 0.39.

Table 2: Scores, %age, Mean and SD on Intersection

S.N	Statement	F	Scores	%age	M	SD
8	A={3.5.7}, B={6.7.8} then A n B=	53	0	26.5	1.47	0.88
	_____	147	2	73.5		
9	The thick-tailed class is (Mule, donkey).	139	0	69.5	0.61	0.92
	The long –eared class is (horse, mule). Find out the intersection of these classes?	61	2	30.5		
Overall scores		192	0	48	1.04	0.62
		208	2	52		

Table 2 reflects the academic achievement of the students falling in Piaget's formal operational stage (12-16 years) regarding the ability of intersection falls in the range (0.68-1.33) of average with M= 1.04 and SD= 0.62.

Table 3: Scores, %age, Mean and SD on Factorization

S.N	Statement	F	Scores	%age	M	SD
10	5.4.3.2.1=_____	156	0	78	0.44	0.83
		44	2	22		
Overall scores		156	0	78	0.44	0.83
		44	2	22		

Table 3 shows the academic achievement of the students falling in Piaget's formal operational stage (12-16 years) regarding the ability of factorization falls in the range (0-0.67) of below average value with M= 0.44 and SD= 0.83.

Table 4: Scores, %age, Mean and SD on Ratio and Proportion

S.N	Statement	F	Scores	%age	M	SD
11	If we know that train goes 60 mile in 01 hour, we have, as a ratio, 60 to 1. To find how far the train goes in 5 hours while $a/b=c/d$ .	114	0	57	0.85	0.99
		84	2	42		
Overall scores		114	0	57	0.85	0.99
		84	2	42		

Table 4 shows the academic achievement of the students falling in Piaget's formal operational stage (12-16 years) regarding the ability of ratio and proportion falls in the range (0.68-1.33) of average with M= 0.85 and SD= 0.99.

Table 5: Scores, %age, Mean and SD on Transitivity

S.N	Statement	F	Scores	%age	M	SD
12	Working at the qualitative level with three bottles of different shape but the same volume, if it takes the same time to fill A as B and the same time to fill C as B, then how do the times to fill A and C compare? If $a=b$ , and $b=c$ then $a=c$	169	0	84.5	0.31	0.73
		31	2	15.5		
Overall scores		169	0	84.5	0.31	0.73
		31	2	15.5		

Table 5 shows the academic achievement of the students falling in Piaget's formal operational stage (12-16 years) regarding the ability of transitivity falls in the range (0-67) of below average with M= 0.31 and SD= 0.73.

Table 6: Scores, %age, Mean and SD on Geometry

S.N	Statement	F	Scores	%age	M	SD
		115	0	57.5		
13	Draw a diagram of human body.	3	1	1.5	0.84	0.98
		82	2	41.5		
		118	0	59		
14	Construct an angle of 45 <sup>0</sup> .	1	1	0.5	0.82	0.98
		81	2	40.5		
	In right angle triangle whose one side	151	0	75.5		
15	measure is 9cm and second side is of	13	1	6.5	0.43	0.78
	measure 12cm. find the length of	36	2	18		
	Hypoteneous of this triangle?					
Overall scores		384	0	64		
		17	1	2.83	0.69	0.63
		199	2	33.17		

Table 6 shows the academic achievement of the students falling in Piaget's formal operational stage (12-16 years) regarding the ability of geometry falls in the range (0.68-1.33) of average with M= 0.69 and SD= 0.63.

Table 7: Comparison of Rural and Urban students for the ability of Classification

Location	N	M	SD	t-value	P-value
Rural	100	1.08	0.33	_6.25	0.00*
Urban	100	1.32	0.42		

d.f. =398 \*  $p \leq 0.05$

The p- value (0.00\*) shows that there is a significant difference between the academic achievement on Classification of rural and urban students at 0.05 level of significance and therefore, the hypothesis, there is no significance difference is rejected. However, it can be inferred that the performance regarding Classification of the urban students with mean score M= 1.32 and SD= 0.42 is better than the rural students with mean score M= 1.08 and SD= 0.33.

Table 8: Comparison of Rural and Urban students' scores for the ability of Intersection

Location	N	M	SD	t-value	P-value
Rural	100	0.84	0.65	_2.477	0.01*
Urban	100	0.99	0.59		

d.f. =398     \*p ≤ 0.05

The p-value (0.01\*) shows that there is a significant difference between the academic achievement on Intersection of rural and urban students at 0.05 level of significance. Therefore, there is no significance difference between the academic achievements on Intersection of rural and urban students are rejected. However, it can be inferred that the performance regarding Intersection of the urban students with mean score M= 0.99 and SD= 0.59 is better than the rural students with mean score M= 0.84 and SD= 0.65.

Table 9: Comparison of Rural and Urban students for the ability of Factorization

Location	N	M	SD	t-value	P-value
Rural	100	1.24	0.97	4.8	0.00*
Urban	100	0.77	0.98		

d.f. =398     \*p ≤ 0.05

The p-value (0.00\*) shows that there is a significant difference between the academic achievement on Factorization of rural and urban students at 0.05 level of significance. Therefore, the hypothesis that there is no significance difference between the academic achievements on Factorization of rural and urban students is rejected. However, it can be inferred that the performance regarding Factorization of the rural students with mean score M= 1.24 and SD= 0.97 is better than the urban students with mean score M= 0.77 and SD= 0.98.

Table 10: Comparison of Rural and Urban students' scores for the ability of Ratio and Proportion

Location	N	M	SD	t-value	P-value
Rural	100	0.70	0.95	_2.15	0.03*
Urban	100	0.91	0.99		

d.f. =398     \*p ≤ 0.05

The p- value (0.03\*) shows that there is a significant difference between the academic achievement on ratio and proportion of rural and urban students at 0.05 level of significance. Therefore, the hypothesis that there is no significant difference between the academic achievements on ratio and proportion of rural and urban students were rejected. However, it can be inferred that the performance regarding ratio and proportion of the urban students with mean score  $M= 0.91$  and  $SD= 0.99$  is better than the rural students with mean score  $M= 0.70$  and  $SD= 0.95$ .

Table 11: Comparison of Rural and Urban students' scores for the ability of Transitivity

Location	N	M	SD	t-value	P-value
Rural	100	0.54	0.89	<u>2.77</u>	0.01*
Urban	100	0.80	0.98		

d.f. =398      \* $p \leq 0.05$

The p- value (0.01\*) shows that there is a significant difference between the academic achievement on Transitivity of rural and urban students at 0.05 level of significance. Therefore, the hypothesis that there is no significant difference between the academic achievements on Transitivity of rural and urban students is rejected. However, it can be inferred that the performance regarding Transitivity of the urban students with mean score  $M= 0.80$  and  $SD= 0.98$  is better than the rural students with mean score  $M= 0.54$  and  $SD= 0.89$ .

Table 12: Comparison of Rural and Urban students' scores for the ability of Geometry

Location	N	M	SD	t-value	P-value
Rural	100	0.61	0.58		
Urban	100	0.60	0.61	0.23	0.82

d.f. =398       $p \leq 0.05$

In the above table 12 the p- value (0.82) shows that there is no significant difference between the academic achievement on Geometry of rural and urban students at 0.05 level of significance. Therefore, the hypothesis that there is no significant difference between the academic achievements on Geometry of rural and urban students is accepted. However, it can be inferred that the performance regarding Geometry of the rural students with mean score  $M= 0.61$  and  $SD= 0.58$  is not significantly better than the urban students with mean score  $M= 0.60$  and  $SD= 0.61$ .

## **Discussion**

The academic achievement of the students falling in Piaget's formal operational stage (12-16 years) regarding the ability of classification indicates the students overall mean scores (1.59) falls in the range (1.34-2) of above average with  $M= 1.59$  and  $SD= 0.39$ . It reveals that students can do classification in learning mathematics. Moreover the academic achievement of the students falling in Piaget's formal operational stage (12-16 years) regarding the ability of intersection, ratio and proportion, geometry indicates the students overall mean scores 1.04, 0.85, 0.69 falls in the range (0.68-1.33) of average with  $M= 1.04$ ,  $M= 0.85$ ,  $M= 0.69$  and  $SD= 0.62$ ,  $SD= 0.99$ ,  $SD= 0.63$  respectively. It indicates that students of age twelve to sixteen years can do classification, intersection, ratio and proportion, geometry to some extent in learning mathematics in our rural and urban context at district Bannu. While the academic achievement of the students falling in Piaget's formal operational stage (12-16 years) regarding the ability of factorization, transitivity indicates the students overall mean scores 0.44, 0.31 falls in the range (0-67) of below average value with  $M= 0.44$ ,  $M= 0.31$  and  $SD= 0.83$ ,  $SD= 0.73$ . Essa (1999) stated that the children formal operations stage of Piaget's cognitive development theory is characterized by complicated, theoretical or conceptual thoughts plus rational way of thinking capabilities practical to physical, societal in addition to ethical troubles. Seeing the views of Piaget's Theory on formal operations stage (7-11 years), this study indicated partial success of the formal operations stage (7-11 years) of Piaget's Cognitive development theory on students of age twelve to sixteen years in our rural and urban context at district Bannu in learning mathematics concepts especially in classification, intersection, factorization, ratio and proportion, transitivity and geometry.

The p- value (0.00\*) results show that there is a significant difference between the academic achievement on Classification, Intersection, Factorization, ratio and proportion, Transitivity of rural and urban students at 0.05 level of significance and therefore, there null hypothesis was rejected. However, it can be inferred that the performance regarding Classification, Intersection, ratio and proportion, Transitivity of the urban students with mean score  $M= 1.32$ ,  $M= 0.99$ ,  $M= 0.91$ ,  $M= 0.80$  and  $SD= 0.42$ ,  $SD= 0.59$ ,  $SD= 0.99$ ,  $SD= 0.98$  was better than the rural students with mean score  $M= 1.08$ ,  $M= 0.84$ ,  $M= 0.70$ ,  $M= 0.54$  and  $SD= 0.33$ ,  $SD= 0.65$ ,  $SD= 0.95$ ,  $SD= 0.89$ . While the performance regarding Factorization of the rural students with mean score  $M= 1.24$  and  $SD= 0.97$  was better than the urban students with mean score  $M= 0.77$  and  $SD= 0.98$ . The p- value (0.82) shows that there is no significant difference between the academic achievement on Geometry of rural and urban students falling in Piaget's formal operational stage (12-16 years) at 0.05 level of significance and the null hypothesis was accepted. However, it can be inferred that the performance regarding Geometry of the rural students with mean score  $M= 0.61$  and  $SD= 0.58$  was better than the urban students with mean score  $M= 0.60$  and  $SD= 0.61$ .

Santrock (2006) described views of Gelman and Brennerman (1994) and Greengfield (2000) that culture and education exercise powerful control on children's cognitive progress than Piaget considered. Seeing views of Smith (2003), Vygotsky (1978) and Santrock (2006), this study revealed that socio-cultural differences have impact on the formal operations stage (7-11 years) of Piaget's Cognitive development theory on students of age twelve to sixteen years in rural and urban context at district Bannu in learning mathematics concepts (viz; Classification, Intersection, ratio and proportion, and Transitivity) because urban students were better than the rural students.

### **Conclusions**

It was concluded on the basis of data analysis and results regarding implications of Piaget's theory on formal operational stage (12-16 years) that students of age twelve to sixteen years can do classification, intersection, ratio and proportion, geometry to some extent and the academic achievement of the students falling in Piaget's formal operational stage (12-16 years) cannot do factorization, transitivity because the students overall mean scores 0.44, 0.31 falls in the range (0-67) of below average value with  $M=0.44$ ,  $M=0.31$  and  $SD=0.83$ ,  $SD=0.73$  in learning mathematics in our rural and urban context at district Bannu.

The academic performance of the urban students was better than the rural students falling in Piaget's formal operational stage (12-16 years) regarding Classification, Intersection, ratio and proportion, Transitivity and performance of the rural students falling in Piaget's formal operational stage (12-16 years) was better than the urban students regarding Factorization and geometry. It revealed that socio-cultural differences have impact on students of the formal operations stage (12-16 years) of Piaget's Cognitive development theory. Moreover, there may be some complications in our text books courses, teaching methodology and audio- visual aids which should be modified for the ease of students' academic achievements.

In the light of the above conclusions it is recommended that:

1. Encouraging environment should be provided for enhancing cognitive development of Piaget's formal operational stage of the students.
2. Rural school students have less academic achievement as compared to urban school students regarding the ability of Classification, Intersection, ratio and proportion, Transitivity in mathematics. Therefore, the researcher recommended that competition between rural and urban school students should be started under guidance of the experienced teachers to bring improvement in cognitive aspects of the students at elementary and secondary level schools.
3. Teachers should motivate students falling in Piaget's formal operational stage through students' participation during their teaching.

4. Parent-teachers interaction must be accelerated through seminars on special occasion for enhancing cognitive development of students especially in learning mathematics.
5. Text books should be modified according to the mental level of students falling in Piaget's formal operational stage (12-16 years) students in learning mathematics.
6. Curriculum developers should focus on mathematics subject at elementary and secondary level and should bring changes according to the mental level of students.

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## **A Correlational Study of Willingness to communicate and English Language Proficiency**

**Muhammad Imran\***  
**Mamuna Ghani\***

### **Abstract**

*The following correlational study was designed to explore any possible relationship among Willingness to communicate (WTC), communication anxiety (CA), perceived competence (PC) and English language proficiency. The sample comprised of 80 EFL learners, both male and female, majoring in Masters' in English at Education University, Multan. Statistical procedure included Descriptive statistics and A Pearson Product-moment Correlation. All the correlations were found to be significant at 0.01 level (2-tailed). CA was observed as strongly and negatively correlated with WTC and EPT, suggesting that anxious students were relatively less willing to communicate in English language and they showed a tendency to perform poorly on English language proficiency test. These anxious students were also observed to rate themselves to be at a lower perceived competence level. The correlations among WTC, PC and EPT were positive and strong, indicating that the students more willing to communicate, were high achievers on EPT and held a high opinion of their own competence in English language. The study suggests that Pakistani EFL learners are hesitant speakers of English language in most of the social situations and there is a need to reduce their anxiety and enhance their confidence to improve their English language oral skills.*

**Key words:** Willingness to communicate, communication anxiety, perceived competence in English language, English language proficiency test.

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\* Department of English, The Islamia University of Bahawalpur.  
Email: drghani2009@yahoo.com

## **Introduction**

The role of motivation in fostering second or a foreign language has been considered of a pivotal importance by language professionals and researchers in the field of second or foreign language teaching. However much of the research focuses on classroom dynamics of language learning, whereas the real life situations; demanding a practical display of language output, prove quite different for language learners. Whenever a real life situation arises, many factors may be at work to determine for a foreign language learner to avail this chance to speak or decide to be reticent. This phenomenon has been termed as 'Willingness to communicate' (WTC) by the researchers. It is relatively a new area of interest for language researchers that accounts for learners intention to take advantage of a target language speaking situation.

Today English is a lingua franca all over the world and serves as a means of communication for the individuals from different cultural and language contexts. Pakistan is among those countries, in which English language has the prime importance in education system. The main purpose of teaching of English as L2 in Pakistan is to enable the learners to use English for written as well as oral communication. In Pakistan, English is taught and learnt from primary to graduation level as a compulsory subject. In Pakistani society and educational system, a good spoken ability in English language becomes a hallmark of social uplift and academic success. The students possessing remarkable oral skills of English language are not only distinguished during their academic tenure but as professionals, they also excel their counterparts. Ghani (2003) describes the importance of English in Pakistani society and educational system as "English has been adopted as a polite and prestigious means of interaction among educated Pakistanis; those who know it are considered educated" (p.105). Despite teaching of English from primary to graduation level, it is observed that students do not have the ability to use English proficiently especially for oral communication.

Four basic skills of language are different modes of L2 use; listening, speaking, reading and writing. In Pakistani ESL context, main focus is on the development of writing skill and other skills are neglected because of the improper syllabus, traditional teaching methods, stereotyped memorization-based system of evaluation and the teaching techniques used in the English language classroom. Ghani et al. (2008) describe that in Pakistani TEFL context writing skill is given more importance and, "English language teaching has become text based in Pakistan" (p.02). This text based teaching of English is a great hindrance in the way of teaching of spoken English and this undue emphasis on written English results in underdevelopment of speaking skills of the learners. In Pakistan, use of English for oral communication is very limited and writing is given more importance. In the present study the main focus is on the use of English for oral communication which is the most neglected area in the teaching and learning of English as L2 in Pakistan.

There are so many factors or variables that affect L2 learning and the frequency of L2 use. These factors can be; socio-economic, socio-educational, socio-psychological, intelligence and personality, age and many other. Socio Educational Model presented by RC Gardener (1985) deals with social and educational factors involved in L2 learning. WTC (Willingness to Communicate) is a model presented by MacIntyre et al. (1998) which deals with communicational possibilities. Many factors prove to be a hindrance in the way to get proficiency in spoken language one of them is language use anxiety. Use of L2 as a medium of oral communication is the most neglected one in Pakistani ESL context especially in the state run institutes; therefore, the present study will focus on the use of English as L2 for oral communication.

The basic purpose of this study is to explore the relationship among affective variables which influence learning of English as L2. This study will explore what affective variables are most influential towards the success of SLA and what others are least influential. The basic purpose of this study is find out the correlation of Willingness to Communicate, English language anxiety, perceived competence in English with the frequency of L2 use and English language proficiency. This study will find out interrelation among the affective variables which influence the frequency of use of English as L2.

### **Statement of Problem**

According to Coleman (2010) in most of the Pakistani schools the basic purpose of teaching English is to enable students pass their examination. In the current situation, teachers and students focus on writing skills in order to pass the end of term examination. As a result teaching English for oral for communication is neglected and the learners are not proficient in the oral use of English. Coleman further argues that English is a basic requirement of white collar jobs. English is essential to succeed in society and to acquire quality education". Shamim (1996) supports the argument of Colman (2010) and found that Pakistani English teachers are concerned only with "doing grammar and doing lessons".

In the current situation, the students face so many problems in the way of frequent oral communication. The students even after completing graduation are not competent enough to use English language as L2 in oral communication. In this way they lose the whole task of English language teaching and learning. Behind this inability to use English for oral communication there are a lot of factors. These factors may include lack of proper facilities and teaching material, improper teaching techniques and teaching strategies, socio economic and socio psychological problems. This study focused on those factors which are responsible for the learners' use of L2 and these factors are: learner's willingness to communicate WTC; level of perceived

competence of the learners; language use anxiety and the level of frequency of L2 use in Pakistani learners of English.

### **Literature Review**

The primary goal of the current study is to examine the reliability of MacIntyre et al.'s heuristic model of WTC (1998) in L2 in explaining the interrelations of affective variables influencing WTC in English among Pakistani students learning English as a foreign language in Pakistan, in order to help Pakistani students develop their English proficiency more successfully. In this section, the researcher of the current study reviews the literature on the previous studies and theories that can explain what determines the success of SLA. With the belief that understanding the diversity of WTC in L2 can explain individual differences in SLA, the researcher of the current study explores what affective factors influence WTC and how WTC can determine the success of SLA. The researcher also believes that explaining individual differences in WTC can help Pakistani students achieve their goal of success in acquiring English proficiency.

### **Willingness to Communicate (WTC)**

Better oral communication is one of the basic goals of language learning and teaching. Success of SLA depends on the extent the learners are able to use English for communicative purpose. Willingness to Communicate is defined as “a language student’s intention to initiate communication when he/she is free to do so” (MacIntyre et al. 1994). MacIntyre et al. (1998, p.547) gave more comprehensive definition of WTC as “readiness to enter into discourse at a particular time with specific person or persons using a L2.”

### **Trait like WTC**

WTC can be defined as a trait of personality. If WTC is personality trait, it can be predicted that level of student’s WTC in different contexts will show consistency. McCroskey and Richmond (1991) describe WTC as “a personality –based, trait-like predisposition which is relatively consistent across a variety of communication contexts” (p.23).

### **Situational WTC**

WTC is also situational in contrast to WTC as a trait of personality. If WTC is situational, it can be predicted that level of student’s WTC in different communicative situations will be different (McCroskey & Richmond, 1998). Situational variables can be; degree of familiarity with the topic, degree of familiarity with the communicative context, level of speaker’s perception, degree of acquaintance, number of receivers, familiarity with the topic of discussion, level of formality etc.

The key concept of WTC was introduced by Burgoon (1976) who presented the concept of Unwillingness to Communicate (UWTC) as L1 language behaviour. According to Burgoon, UWTC is a behaviour or intention to escape oral communication in L1. UWTC can be a trait of introverts when they intend to avoid any kind of communication even in L1. It can also be a result of communicative apprehension or language anxiety when a person does not want to communicate. McCroskey and Baer (1985) conceptualize Willingness to Communicate (WTC) in L1 learning. They just inverted the UWTC to WTC in the same context of L1. Then MacIntyre et al. (1998) conceptualize WTC in L2 learning and its use in real life communication.

### Heuristic Model of WTC

MacIntyre et al. (1998) presented the Heuristic Model of Willingness to Communicate (WTC) ( see fig.1) to describe communicative and social psychological variables that can predict the willingness to communicate of L2 learners:

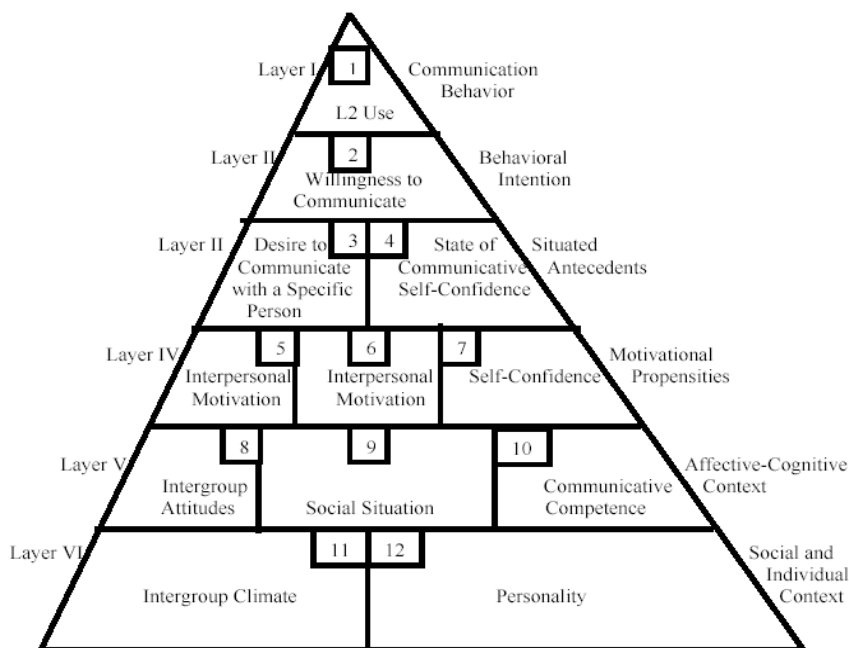


Fig 1 Macintyre et al.’s Heuristic Model of WTC (1998)

### Research Hypotheses

For the purpose of the present study the following null hypotheses are postulated:

- 1) There is no relationship between different levels of willingness to communicate and varying levels of perceived Communication anxiety.
- 2) There is no relationship between level of willingness to communicate and students' level of perceived competence in English language.
- 3) There is no relationship between levels of willingness to communicate and level of English language proficiency of Pakistani under-graduate students.

### **Delimitations of the study**

Firstly, the present study was only be a correlational study establishing any possible relationships among variables being researched and this study did not attempt to establish any cause and effect relationship among any of the variables being explored. Secondly, the sample for the present study comprised of students of M.A. English, studying at Education University, Multan.

### **Significance of the Study**

The present study attempted to highlight Pakistani students' choice to initiate a conversation in English language whenever a situation arises. The study sought to determine the levels of perceived competence in English language and perceived communication anxiety in relation to their willingness to communicate among Pakistani ESL learners, at college level. In this regard the study may be of important pedagogical concern for ESL teachers and educationists in Pakistan. The ESL teachers may adopt some teaching techniques and methods to boost up students' level of perceived competence and lower the level of their communication anxiety, producing highly motivated college students, equipped with good oral communication skills along with higher English language proficiency.

### **Research Methodology**

The present study falls into the category of co-relational research and because of its descriptive type a quantitative approach was used for data collection and data analysis. Survey method was applied to collect data through a set of questionnaires and an English proficiency test was conducted to measure the level of English language proficiency of the participants.

### **Research Instruments**

For the purpose of the data collection two types of instruments i.e. a) a set of questionnaire and b) a test, were used. The set of questionnaire comprised of three scales measuring the construct of willingness to communicate; Communication Anxiety and Perceived Competence in English language. The second tool comprised of an English language proficiency test measuring an overall proficiency of the participants in correct usage of English language and grammar.

### **Willingness to communicate (WTC) Scale**

WTC in English was measured by the scale developed by McCroskey (1992). This scale comprised of twelve items which asked the participants to indicate the percentage of time they would be willing to communicate in English when free to do so in each type of communication situation between the numbers 0 (totally not willing to) and 100 (totally willing to). (e.g., present a talk in English to a group of strangers.). The reliability of this scale was established by calculating Cronbach alpha coefficient which was .93 in the present study.

### **Communication anxiety (CA) Scale**

Communication Anxiety in English (CA) was defined by 12 items adapted from MacIntyre and Clément's study (1996). Each of the 12 items asked participants to indicate the percentage of time they would feel nervous in each of four communication contexts (i.e., public speaking, talking in meetings, talking in small groups, and talking in dyads) and the three types of receivers (strangers, acquaintances, and friends) (e.g., I would never feel nervous = 0 % vs. I would always feel nervous = 100 %). (e.g., having a small-group conversation in English with acquaintances.) (Yashima, 2002:60). The alpha reliability calculated for the present study was 0.92.

### **Perceived Competence in English (PC) Scale**

Perceived Communication Competence in English (PC) was measured a scale comprising of 12 items (Cronbach's  $\alpha = .92$ ) by MacIntyre and Charos (1996). The items requested participants to indicate their self-assessed competency in each of four communication situations and three types of receiver between the numbers 0 (completely incompetent) and 100 (completely competent). (e.g., give a presentation in English to a group of strangers.) (Yashima, 2002:60-61).

### **English Language Proficiency Test (EPT)**

English language proficiency of the participants was measured by administering an English language test. It was a reading comprehension test which assessed the overall proficiency of the students in English language. The test was adapted from Heaton (1979). The test items tested student's comprehension of English grammar and its usage. The test was considered reliable and valid as its items form a standardized ELT class test (Heaton, 1979).

### **Data Collection and Analysis**

Eighty students both male and female participated in the study. All the students were majoring in Masters' in English. Data collection was completed by the researcher with the help of concerned class teachers. All the questionnaires were got filled in by the participants during the English language classes. The students were given clear instructions about how to fill in the questionnaire indicating their degree of agreement to



a statement. Sufficient time was given to students for filling in the packet of questionnaires. After the completion of questionnaires, English proficiency test was administered. The average time taken by the participants to complete the English proficiency test was about 20 minutes. The data were keyed using SPSS software (version 14). After having done the data keyed, data were screened and cleaned to remove any discrepancies. No missing data was found. The normal distribution of the data was made sure for further analyses.

### **Reliability of three Scales**

After keying the data, reliability tests for three scales were run. The alpha coefficient for each scale has been shown in table 1.

Table1 Alpha reliability calculated for three scales

Scale	Alpha reliability
Willingness to communicate ( WTC) (12 items)	$\alpha = .93$
Communication anxiety (CA) ( 12 items)	$\alpha = .92$
Perceived competence in English (PC) ( 12 items)	$\alpha = .92$

### **Comparison with alpha reliability of previous studies**

In the table 2, a comparison between the alpha values of three scales (WTC, CA, PC) used in two previous studies and the present study, is presented:

Table 2. A comparison of alpha values of three scales in different studies

Scale	Alpha reliability		
	Yashima et al 2004	McCroskey et al 1990	Present study
WTC	$\alpha = .93$	$\alpha = .91$	$\alpha = .93$
CA	$\alpha = .88$	$\alpha = .96$	$\alpha = .92$
PC	$\alpha = .93$	$\alpha = .93$	$\alpha = .92$

WTC= willingness to communicate CA= communication anxiety  
PC= perceived competence in English

### **Results**

At first descriptive statistics were run to observe frequencies, mean values, minimum values, maximum values, standard deviations and total possible score of the scales. These values are shown in the next table.

Table 3 Descriptive statistics of scales of Willingness to communicate, Communication anxiety, Perceived competence in English and English proficiency test

Name of scale	Total No. of participants	Minimum score	Maximum score	Mean score	St. Deviation	Total possible score
Willingness to Communicate	80	60	1100	470.62	260.600	1200
Communication anxiety	80	80	990	587.00	229.972	1200
Perceived competence	80	240	1120	616.00	222.088	1200
English proficiency test	80	5	16	10.79	3.080	20

For the purpose of addressing the very basic research hypotheses, a correlation matrix was generated by running the correlation analysis among the variables of willingness to communicate (WTC), Communication anxiety (CA), Perceived competence (PC) and English language proficiency (EPT). The correlation matrix is presented in table 4:

Table 4 Correlation matrix

	WTC	CA	PC	EPT
WTC	1.00			
CA	-.681**	1.00		
PC	.607**	-.469**	1.00	
EPT	.597**	-.454**	.423**	1.00

\*\*Correlation is significant at the 0.01 level (2-tailed).

WTC=willingness to communicate, CA= communication anxiety, PC= perceived Competence, EPT= English proficiency test

In the above given table 4, it is observed that the relationship between willingness to communicate (WTC) and communication anxiety (CA) was significant and negative with an alpha value  $\alpha = -.681^{**}$ . The relationship between willingness to communicate (WTC) and perceived competence (PC) was significant and positive having an alpha value  $\alpha = .607^{**}$ . The English language proficiency (EPT) was found to be positively correlated with willingness to communicate (WTC) bearing an alpha value  $\alpha = .597^{**}$ . The communication anxiety (CA) was found to be negatively correlated with perceived competence in English language and English language proficiency (EPT) having an alpha value  $\alpha = -.469^{**}$  and  $\alpha = -.454^{**}$  respectively. A positive correlation was observed between perceived competence in English (PC) and English

language proficiency (EPT), showing an alpha value  $\alpha = .423^{**}$ . All these correlations were found significant at 0.01 level.

## **Discussion**

In the previous section, the findings of the present study were presented after the description of data collection and data analysis. Now in this section, the findings of the present study are discussed. For the purpose of the study different null hypotheses were postulated. These hypotheses are discussed in detail below:

**Research Hypothesis 1):** There is no relationship between different levels of willingness to communicate and varying levels of perceived Communication anxiety.

After data analysis, the researcher was able to reject the first hypothesis, as a strong and negative correlation ( $\alpha = -.681^{**}$ ) (see table 4)) was found between Pakistani students' willingness to communicate and their perceived communication anxiety. A negative correlation between these two variables indicates the probability that different levels of willingness to communicate may be related with varying levels of communication anxiety. It may be said that the lower the communication anxiety, the higher the willingness to communicate. The Pakistani EFL learners, who feel less anxious during or before a communication, are more likely to be willing to start a conversation in English language, whenever a linguistic situation arises. The students with considerably higher levels of communication anxiety may also be taken as shy individuals who are reluctant to initiate or take advantage of a conversation. The higher levels of communication anxiety may represent their lower levels of self-confidence, which may be further related to their poor self-rating in terms of perceived competence to use English language.

The usual level of communication anxiety among Pakistani EFL learners was found to be high, as the mean anxiety score was observed near 50% (M=587) of the total possible score of 1200. Out of the total sample of 80 participants, 38 got equal to or more than 50% score on communication anxiety scale. It indicates that Pakistani EFL learners feel quite anxious during English language communication. It may not be an unexpected phenomenon as it has been discussed above that Pakistani EFL teaching does not promote speaking and listening skills. In state-run institutions Reading and Writing skills are stressed because of their exam-oriented importance. The teaching objective is achieved by using Grammar Translation Method (GTM), which focuses only on developing the translation skills of students, from Urdu to English or the other way round. Although translation skills along with grammar, are taught to these students, even then they develop poor English language skills, resulting in low academic achievement and enhanced English language anxiety, which may further be manifested in their unwillingness to communicate in English language.

**Research Hypothesis 2):** There is no relationship between level of willingness to communicate and students' level of perceived competence in English language.

The relationship between Willingness to communicate and perceived competence in English language was positive and strong ( $\alpha=.607^{**}$ ) (see table 4). It indicates that Pakistani post graduate EFL learners with a poor self-perception of their own English competence tend to be less willing to communicate in English language. This finding of the present study is in line with the findings of a previous study by Bektas (2007), who conducted a study on willingness to communicate, with Turkish students in Turkish context.

In MacIntyre et al s' heuristic model (1998) perceived competence is an important situational factor which determines an individual's choice to decide and initiate a conversation with a particular person. Communication anxiety and perceived competence, together they make a variable, called self- confidence. A lower level of anxiety and high self-rating of an individual about his competence in English language, impart higher level of self-confidence to them, making them ready to avail every possible chance to communicate in English language, with a desired person or group of persons.

**Research Hypothesis 3):** There is no relationship between levels of willingness to communicate and level of English language proficiency of Pakistani post-graduate students.

In the present study, a positive and strong correlation ( $\alpha=.597^{**}$ ) was explored between the variables of willingness to communicate and English language proficiency. The participants more willing to communicate, were seen as higher achievers on English language proficiency test. In other words, the more proficient students showed the tendency of being more willing to initiate a conversation in English language. Some previous studies also sought a positive significant relationship between WTC and English proficiency. Yashima (2002) found a significant positive correlation ( $\alpha=.13^*$ ) between the variables of WTC and English language proficiency measured in terms of a grammar/vocabulary test.

In the present study the Pakistani post-graduate students show a particular pattern of English language learning. The EFL learners possessing high English language proficiency, lower levels of Communication anxiety and high self-rating of perceived competence; are observed as having a tendency of showing more willingness to communicate in English language. This particular pattern of relationships among different ID variables is represented in figure 2:

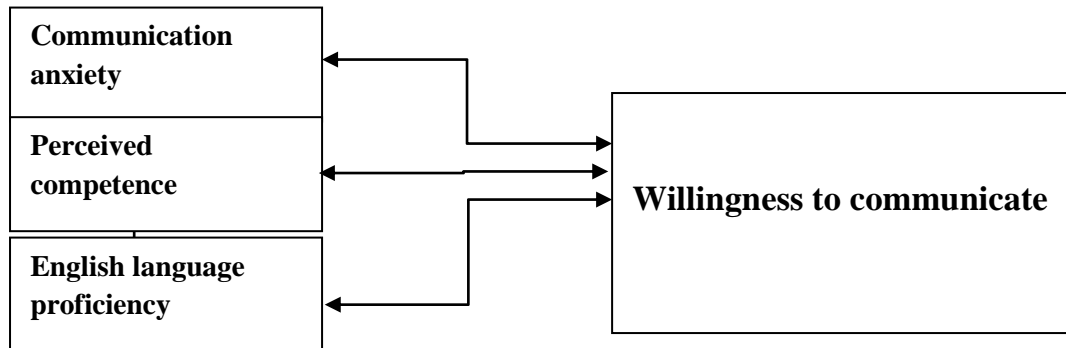


Figure 2 A representation of relationships among variables in the present study

### **Pedagogical Implications**

Based on the findings of the present study, it may be suggested that the level of WTC among Pakistani EFL learners, should be enhanced as high levels of WTC have been seen to be related to higher English language proficiency. It can be achieved by removing students' communication anxiety and boosting up their self-confidence, as these two are very important situational antecedent of WTC. At university level, a communicative approach of ELT with a more interactive English language classroom may be adopted. Moreover language teachers should play their part to shed students' hesitation in initiation a conversation in a formal or informal context. The students may be encouraged to communicate in English language with their teachers, friends and acquaintances. Once they become confident speakers of English language and hold a high opinion of their own perceived competence, they can easily approach 'strangers' and initiate conversation in English language. An enhanced WTC may also increase English language proficiency and students may also be able to score high marks on any English language test, whether academic or professional.

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## Is Algebra an Issue for Learning Mathematics at Pre-College Level?

Mubashar Kayani\*  
Syed Zafar Ilyas\*\*

### Abstract

*Over two decades, teaching as well as learning algebra has been focus of Mathematics education at pre-college level. This paper brought into conclusion that pre-college level students of mathematics face problems in the algebra, especially in word problems, mixes the arithmetic's and algebra. It was studied over different ability level students, through written questionnaires and interviews recordings were analyzed comparatively. Main four types of errors were encountered including errors causes; transitioning from arithmetic to algebra and vice versa, miss-conception of algebraic basic laws and their applications, overconfidence, mixing of unknowns and constants, computational errors etc. Some of the students showed good command over algebraic problems as compared to arithmetic's. Creativity methods of the students could be used for the improving level of understanding of weaker algebraic students.*

**Key Words:** Algebra, errors, misconceptions, teaching-learning algebra.

### Introduction

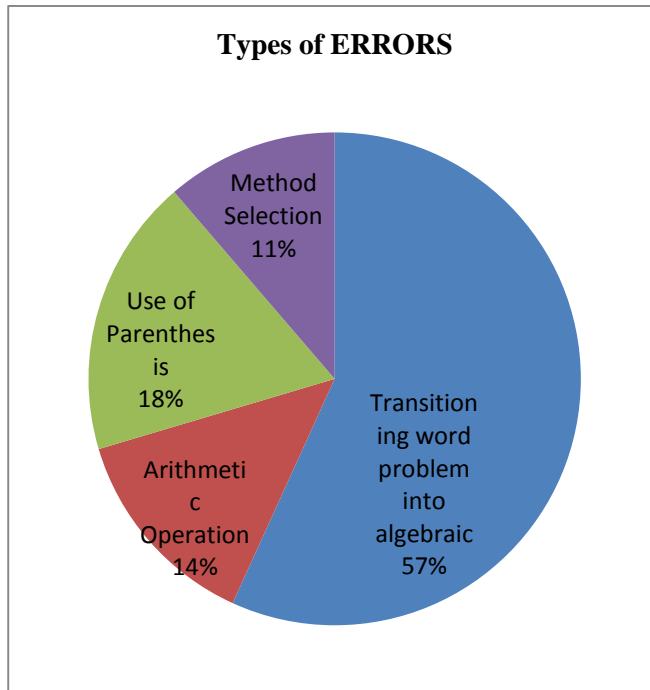
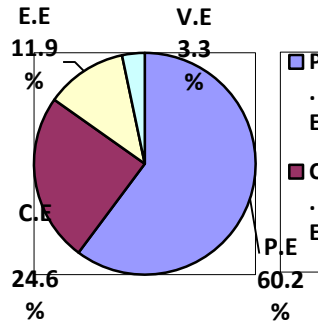
Finding of unknown(s) is done in algebra, in which we substitute unknowns instead of numbers. In algebra real life problems are constructed into unknown equations forms and then laws are followed for solving algebraic equations. It includes real numbers, complex numbers, vectors, matrices etc. As in these days mathematical educational research studies converging their attention towards the difficulties of the student's learning algebra. Today's careers demand to solve problems through skills, by decision making, reasoning with solid strategies etc. Algebra provides not only a magnificent ground to solve the problems through skills but also prepare you for all

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\* Department of Physics Allama Iqbal Open University, Islamabad, Pakistan

\*\* E-mail: szilyas@yahoo.com

challenges in careers. Algebra is a huge mental work which provides you a path for more advanced mathematics. Algebra is much easier to learn than other science subjects but many of us have negative thinking.



Algebra is a study of numerical development of a theory of, unknown calculations and study of operational relations i.e., properties like, associative, distributive and the mathematical systems structured by those operations [Newman, et al (1977). Jacobs, et al, (2007) ,Casy, et al.,(1978) , Clements, et al , (1980), T.Carpenter et al , (2000), Dossey, et al, (1998), Cuoco,A (1995)]. Another research

concludes that students can learn efficiently at earlier their ages. Further, they claimed that the goal of pre-college level algebra is to develop students thinking [Clements, et al , (1980), T.Carpenter et al , (2000), Dossey, et al, (1998)]. The algebraic students are those who can; understand the functions, relations and patterns; present, analyse mathematical situations and structures; be able to construct and express mathematical model; and have the ability to analyze the variations in different contexts [Principles and Standards for Schools Mathematics, (2000)].

Schifter, et al. studied, provided focus on the algebraic generalizations, representations and connections supports students' computational fluency and they focused their working on developing with reasoning which support the learners in a classroom [D. Schifter, S.J. Russel, et al., ,(2009)]. The Department of education requires to explor algebraic concepts and needs improvements in "Mathematics Standards of Learning" in elementary level [Mathematics Standards of Learning, Adoption, (2009)]. Other researchers of the field also have the concept of algebraic reasoning as that build; expressions and the mathematical ideas with symbols to represent, solving problems and generalizes them [J. Kaput, (1998), J. Kaput, (1993), J. Kaput, (2008), D. Schifter,et al., (2009), D. Carraher, et al., (2006), D. Carraher, et al., ,(2008)]. There are several reasons why emphasized on algebra at pre-college level? First, the education ministry decided to start elementary level algebra at both national and provincial levels.

The National Council for curriculum development of Mathematics claimed that students must be given an opportunity to learn algebra across the pre-college texts [Algebra: What, When, and for whom: (2008), Carpenter, T.P. et al., (1984)]. it is necessary to clear the content and provide pedagogical knowledge with instructions focused on early algebraic reasoning in professional development of elementary teachers. Some groups of teachers reported that they approach instructions of the elementary mathematics curriculum through an algebraic context [V. Jacobs, et al., (2007)].

### **Methodology**

For the study the group of 90 students of classes 7, 8, 9 and 10 from different high schools of Punjab, Pakistan were selected. The schools from rural, semi-rural, urban, a mix-ability students group were selected. First of all an algebra test of 25 questionnaires was conducted to all students of mixed-ability. Since students having less ability showed low marks and made many errors while high mental level students made fewer mistakes. After this a test series was started for one month for the purpose of obtaining the variety of students having different abilities of errors was selected as a sample. In second stage 45 students were selected for interview. The interviews were taken one by one for 20 to 30 minutes and were recorded [Newman, et al (1977)].

Jacobs, et al, (2007), Casy, et al., (1978) ]. Then for each student it was analyzed by comparing the written work with the recorded interview. While studying this topic four types of major errors and some of its causes came into notice, which were discussed on the basis of some algebraic methods used by three students of higher secondary school/pre-college level. These students were enrolled in mathematics subject at higher secondary level/pre-college level. Recently they have completed their 10<sup>th</sup> grade schooling education.

### Results and Discussion

After test and interview stages, a number of errors in problem solving were recorded as [1-3] shown in pi graph;

- i) Processing errors (P.E)----- 60.2 %
- ii) Comprehension error (C.E) -----24.6%
- iii) Encoding error (E.E)-----11.9%
- iv) Verification error (V.E)----- 3.3%

It was clear from above results that approximately 85% errors occurred during the comprehension and processing phases. Whereas, remaining approximately 15% errors occurred during encoding and verification.

Major types of errors were found as;

- i) Transforming/transitioning the word problems into algebraic language-----  
56.8%
- ii) Doing wrong arithmetic operations-----13.6%
- iii) Wrong use of parenthesis-----18.3%
- iv) Wrong selection of methods-----11.3%

### Sample Problems

Problem 1:- A man spends 96% of his income and saves Rs.525. What is his income?

Problem 2:- Perimeter of a triangle is 91cm; length of its sides is  $\frac{x+1}{2}$  cm,  $\frac{x+1}{3}$  cm, and  $\frac{x+1}{4}$  cm. Find the length of each side.

Problem 3:- The sum of four consecutive even numbers is 140. Find the numbers.

Problem 4:- Solve by factorization,  $x^2+2x+1=0$

Problem 5:- Solve,  $\frac{x+2}{x-2} + \frac{x-2}{x+2} = \frac{5}{2}$

### Error Causes

- a) Transitioning of word problems into algebraic expression/equation.
- b) Constructing the conditional expression or equation.
- c) Lack of logic-ability in solving algebraic problems.

- d) Lack in understanding the word problems.
- e) Language problem.
- f) Arithmetic operations errors misconceptions.
- g) Sign(s) errors while doing arithmetic operations.
- h) Ignoring the parenthesis used.
- i) Misunderstandings/misconceptions in solving the exponential expressions.
- j) Lack of distinguishing ability between constants and variables/unknowns.
- k) Mixing-up of different formulae.
- l) Having no knowledge or lack of basic knowledge of algebra.
- m) Most of the students can't distinguish if algebraic expression contains numbers instead of variables, such as,  $(a + b)^2$  and  $(1200 + 8)^2$ .
- n) Some most common errors are computational errors, misunderstanding, signs dropping, and carelessness, lack of attention that may occur due to the motivation and psychological factors.

After conduction of tests and interviews of a group of students, it was suggested that most of the students of high school made transitional/transformational errors. But the case was totally different with the higher secondary school mathematics students. They preferably used algebraic method rather than arithmetical methods. These students acknowledged that algebra is easier as compared to arithmetic's. While interviewing most of the higher secondary school level students answered that algebraic methods are easier if their teacher uses these methods in the classrooms which may be much influential on their students. Some of the students showed trends towards algebraic skills those have good background of algebra. Hence, results may be much effective from the structure of texts books being taught, curriculum requirements, teacher's availability and their trends towards algebraic methods, students practicing of the new methods learnt in algebra and could be many other factors.

In this research study it is concluded that there is no one theory which may give answers regarding all the errors. The students belonged to different ability levels. Some of them applied algebraic methods efficiently and others showed inefficiency. There may be many factors which influence the learning approach of the algebraic students. e.g., basic mathematics arithmetic's operations skills, cognitive approach, historical factors, environment of the class, students participation in the algebra class, teacher's methodology and historical and cultural factors etc. Therefore, it is of much importance to use different approaches while studying or teaching algebra.

This is also noted while studying and interviewing that we can't defer from the importance of the teachers regarding the deeper knowledge of the subject to the matter as well having an insight into its student's level and thinking. Teachers should be aware

about the basic ideas which are to be taught; also they must think over the problems and misunderstandings faced by their students while learning complex methods and word problems semantics, because algebraic problems have different structures. So same method of teaching may not be effective for the better learning of every student. Mathematics teachers should develop transitional skills of the students from arithmetic to algebra and vice versa. Of course students having strong abilities in symbolic and logical representations skills showed better results. Indeed students having good skills in solving problems of algebra must be appreciated for their broad vision of thinking and methodology of problems.

### **Conclusion**

No doubt, algebra is difficult in learning as well as in teaching but getting skills in the basic rules and properties strengthens the algebraic conceptualization and its understandings. As students of algebraic faces problems in interpreting the word problems from syntactic form into semantic. Students should be given strong basic knowledge of algebra in the lower classes so that their vision could be broadened by adopting different methods as being noticed during this research by some high mental level regarding algebra knowledge. Researchers could analyze those varieties of methods and then may be implemented for the improvement of less skilled and weaker students.

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## **Iranian Higher Educational System and its Socio-Political Impact in 21<sup>st</sup> Century**

**Ghulam Shabir**\*

**Ghulam Safdar**\*\*

**Syed Raheem Abbas Shah**\*\*\*

**Muhammad Asim**\*\*\*\*

### **Abstract**

*This article attempts to highlight Iranian higher educational system focusing upon admission criteria, university entrance exam, structure, supervision and its domestic and international ranking. Policy of Iranian government regarding higher education in 21<sup>st</sup> century and its impacts on the society are also discussed here. Islamic revolution of Iran 1979 broke up academic relations among America and Iran. In 1980, through Iran's Cultural Revolution of Ayat-ulllah Khumaini, a totally new system for higher education was designed and implemented. This system has now delivered to Iran: a status of 40<sup>th</sup> number in science productions and first number in scientific growth in all over the Middle East in 21<sup>st</sup> century.*

**Key Words:** Higher Education, Socio-Political Impact, Iran, Cultural Revolution.

### **Introduction**

Iranian higher education policy in 21<sup>st</sup> century has its roots back from the Cultural Revolution of Iran (1980-87). After Islamic Revolution in 1979, Iran has revised its higher educational system through announcing Cultural Revolution in 1980 (Fallahi, 2012). The purpose of this step was to remove all the eastern or western non-Islamic impacts on higher education and to make it according to the teaching of Islamic Shia sect. officially; this step was called "Cultural Revolution" by the government. All the universities were closed for three years for redesigning all the syllabus according to

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\* Chairman, Department of Media Studies, The Islamia University Bahawalpur, Pakistan.

E-mail: [ghulam.shabir@iub.edu.pk](mailto:ghulam.shabir@iub.edu.pk)

\*\* M.Phil. Scholar, Department of Media Studies, The Islamia University of Bahawalpur

\*\*\* Lecturer Government Postgraduate College, Bhakkar,

\*\*\*\* Lecturer Government Postgraduate College, Asghar Mall, Rawalpindi.



the teachings of Islam, even there were engineering, biology or subjects regarding humanities. This step captured jobs of many skilled teachers, professionals and technocrats who were leftists that became the reason of huge loss for Iran's economy (Fallahi, 2012).

The step toward closing universities was started after Friday prayer with Ayatullah Khomeini's speech in which he said that:

*"We are not afraid from military or economic sanctions, but we are afraid from the westernized universities and the socialization of our youth on the patterns of East or West (Fallahi, 2012)"*

His comments regarding westernization in universities were the signal of starting attacks on leftists by his supporters. Its beginning was started from the attack on Tehran Teachers Training College on same evening, which continued in other universities of all over the Iran with converting them the combat zones. The next day brought new attacks in Shiraz University, Mash'had University and Isfahan University, that led confrontation also in the universities of Rasht and Ahvaz. Almost 20 people lost their lives in such attacks. So, universities had closed in all over the country for two years since completion of the process of Islamization (Fallahi, 2012). After closing of universities on June 12, 1980, Ayatullah Khomeini issued his letter about this step, stating that:

*"The requirement for Cultural Revolution which is an Islamic issue and demand of the Muslim nation has been recognized for sometimes but so far no effective effort has been made to respond to this need... which every now and then become evident and the Muslim nation are worried that God forbidden the opportunity is missed and the culture remains the same as the time of the corrupt regime. Continuation of this disaster... would deal a heavy blow to Islamic Revolution and Islamic Republic and any indifference towards this vital issue would be great treason against Islam and the Islamic country (Fallahi, 2012)."*

A committee was established for changing all the subjects including engineering and humanities, into coated out with Islam. So many courses were deleted with declared those "the fake courses" like music. There were also so many changes in the subjects of political science, economics, psychology, law, sociology and education.

After Cultural Revolution, Qom city became a center for theocratic knowledge. All the religious institutes in Qom city had been affiliated with the public universities and all the leftist teachers were sent here for delivering them the religious education (Fallahi, 2012).

In 21<sup>st</sup> century, this cultural council is working same as in its initial period. There has been a debate on more strictness over universities, its administration and students bodies in 2006. Several scholars declaring this a try to imposing second Cultural Revolution. This has also a result of dismissing several expert teachers again from several universities, and replacing them with such faculty which is in favor of governmental theocratic ideas (Elliott, 2010).

In the article 2 of Iranian Constitution, clause 2 emphasizes public awareness and socialization, clause 3, focuses upon free education for everyone at all the levels and specially facilitation and promotion of higher education, and clause 4 encouraging researchers with establishing new research institutes. There are several public and private universities and research institutes in Iran. Ministry of Science, Research and Technology supervises all the non-medical public universities, while Ministry of Health and Medical Education supervises all the medical universities since 1986 (Ministry of Science and Technology Iran).

### **Objectives of the Study**

The objectives of the study are to know about the educational standard of Islamic Republic of Iran in the world and Middle East especially in Islamic World. Moreover, the aim of this study is to explore Iranian female participation in education, Iranian universities status in the world, science production, Cultural Revolution and socio-political impact of Islamic Republic of Iran in the 21<sup>st</sup> century.

### **Research Methodology**

The research is based on theoretical and historical descriptive, analytical and qualitative methods. The data is collected from books, research journals, newspapers, internet, interviews, and personal visit of Iran in which attending several seminars, workshops and training classes including visiting several universities and Research Centers in Qom and Tehran.

### **Literature Review**

Fallahi (2012) provides historical and ideological background of Iranian higher education since 1979 while Elliott (2010) describes Iranain higher educational policy and its trends in 21 century. The consitution of the Islamic Republic of Iran (1979) highlights the constitutional supervisions that are showing the official motives of supporting and promoting research and higher education in all over the country.

Nadjmabadi (2012) describes the ideology and politics in higher education after Islamic Revolution of 1979 in Iran that was totally related purely to the Shia Islam. Similarly, Spilsbury (2012), Rabiipour (2010), Soofi (2011), Latchem (2010) and Bahramitash (2011) emphasize the higher education structure of Iran and its levels with methods, merits, demerits and ranking.

### **Ideology and Politics in Higher Education after Islamic Revolution**

Islamic revolution of Iran in 1979 broke up academic relations between America and Iran. In 1980, through Iran's Cultural Revolution of Ayat-ullah Khumaini, a totally new system for higher education was designed and implemented. According to critics, Iranian Cultural Revolution and Islamization in 1980 coarsely affected research in the fields of science and technology, but according to 2011 survey, Iran has 40<sup>th</sup> number in science productions and first number in scientific growth in all over the Middle East (Nadjmabadi, 2012).

In the end of Iran-Iraq war 1980-88, several new universities were established in all over the Iran which offered several programs from graduation to doctoral, in several fields, but there was more emphasis on medical and veterinary education. Now, the strength of university students was increased six times more than the Shah's overthrown time. Although, an entrance exam "Kankoor" regarding getting admission for higher education in Iran is still under criticism (Nadjmabadi, 2012).

### **University Entrance Exam "Kankoor"**

Kankoor, Kankur or Konkour (کنکور) are the Persian words, used for the Iranian University Entrance examination, which is actually taken from French word "Concours". Due to limited resources and space, like other countries, Iran has also a criteria of passing Kankoor for getting admission in universities. Although, critics argue that this one is a reason of stopping an access of talented and skilled students for the university education regarding becoming professional (Spilsbury, 2012).

In each month of June, all the high school graduates who want to get admission for higher education appear in this nationwide centralized entrance exam. This entry test is just for getting admission in public universities. Due to limited seats, in 2011, just 150,000 students could get admission out of 1.4 million participants of this entrance exam (Spilsbury, 2012). There is only one reason for huge number of participants in this test, and that reason is of free education in all the public universities of Iran. On the other hand, Azad University (private university, established in 1982) charges high fees, and a second largest university of the world regarding having 1.5 million enrolled students. Usually those applicants get education here that can pay such high fees and also demand for high status in the society along with job (Rabiipour, 2010).

Kankoor test comprises all the subjects which have been taught in high schools such as mathematics, science subjects, Islamic studies, foreign languages, etc.,. It has multiple choice questions from all these subjects. Total time for this test is 4.5 hour (Spilsbury, 2012). Ministry of Science, Research and Technology established a separate organization, which is called “Education Evaluation Organization”. This has a duty to conduct and evaluate the entrance exam in all over the country (Rabiipour, 2010). The basic purpose of this test is not only to judge the academic skills of a student, but its essential aim is to evaluate student’s commitment regarding ideology of the revolution. There is evaluation of academic score including checking student mind-set towards society and politics as well as loyalty with the Islamic Government (Rabiipour, 2010).

In 1990s, government introduced the policy to prefer native students for local universities. This selection criteria breaks up the trends towards migration in the large cities for getting higher education (Rabiipour, 2010). Another criticism on this test is on its style of having multiple choice questions. Critics argue that there are memory based questions in entrance exam of several countries, but in Iran, multiple choice questions eliminate number of talented students from the list of public universities students (Rabiipour, 2010).

Another criticism is that the graduates from Tehran University or other high ranking universities have more chances of job than the local university students. Several organizations and companies also prefer graduates from such high ranking universities. So, every student want to get admission in such high ranked universities but Kankoor is the basic hurdle due to localization as well as quota system introduced by the government (Rabiipour, 2010).

### **Designing of Iranian Higher Education System**

Professor Jahan Bakhsh Associate Professor Religious Studies, Queen’s University said, “To design any better policy or system, comparative study is compulsory. Therefore, to design Iranian educational system, there had been a deep comparative study among American, British and French educational systems. And, Iranian educational system is more similar to the French educational system”.

### **Iranian Higher Educational Structure**

After getting higher secondary education (called “Dabirestan” in Persian) either students go for technical education (equivalent to U.S baccalaureate degree) for two years, or go for pre-University course (called “Peesh-danishgah” in Persian, equivalent to U.S SAT Exam certificate) for one year, and at the end of year, they have right to appear in the Kankoor exam. After passing Kankoor exam, students get a degree of GCE/A-Level or international baccalaureate (Soofi, 2011).

After passing Kakoor exam and getting A-Level degree, student is eligible for getting admission in bachelor degree (called “Karshenasai” in Persian) for four years. In all the public universities, students do not pay any fee due to free education policy of the government, while in Islamic Azad University; students are forced to pay high fees (Soofi, 2011). Master degree (called Karshenasai-e-Arshad in Persian) is started after getting bachelor degree and completed within two years. Iran has some most renowned universities in the Middle East like Tehran University, Tarbiat-e-Mударis University and Sharif University which are also in top 1,000 universities of the world. Similarly, Isfahan University of Technology, Shaheed Beheshti University of Tehran, Shiraz University, Amirkabir University of Technology Tehran and Firdosi University of Mash’had are some prominent universities for higher education in Iran (Soofi, 2011).

Doctoral Program PhD (called Karshenasai-e-Arshad-Napayvastah or Doctora in Persian) is started after getting Master degree, and completed almost within three years (Soofi, 2011).

### **Universities in Iran**

There are three types of universities in Iran:

- 1) Islamic Azad University is a private university but it is bounded to follow the rules and regulations of the government. It has a campus in each city of Iran where admission can be gotten on self-finance base. According to 2012 fee schedule, per year fee is 15 million Tooman (تومان) which is near about 1.2 to 1.3 million Pakistani rupees.
- 2) Payam-e-Noor University is established for those students who can get higher education in 2<sup>nd</sup> time. Usually, businessmen and employees get admission in this university.
- 3) Public universities have been established usually in each big city.

According to Iranian higher education organization “Islamic World Science Citation Center (ISC)”, Iranian top ranking universities and higher educational institutes are:

University of Tehran, Sharif University of Technology, Amirkabir University of Technology, Tarbiat-e-Mударis University, Iran University of Science and Technology, Yazd University, Shiraz University, Isfahan University of Technology, Firdosi University of Mash’had, Shahid Beheshti University, University of Tabriz, K.N.Tusi University of Technology, University of Isfahan, University of Urmia, University of Mazandaran, Shahid Chaman University of Ahvaz.

According to The Times Higher Education Supplement world ranking for 2008, there are only two universities in Iran which got rank among top 400 universities of the

world. These universities are the University of Tehran and the Sharif University of Technology.

### **The office of Educational Minister**

In Iran, the office of Educational minister (وزیر آموزش و پرورش یا وزیر فرهنگ علوم) (و قناعی رئیس جمهور) is allocated on the will of Iranian President (رئیس شورای) to that person who is educationist or specialist in educational management. But, his appointment is subjected to be gotten vote of confidence from the National Assembly (مجلس شورای). If he fails in getting vote of confidence, president will appoint any other person for this office that will get vote of confidence in the next sitting of National Assembly.

### **The office of Vice Chancellor (رئیس مدرسه یا رئیس موسسه)**

Only that person will be eligible for getting the office of vice chancellor whose specialization is in the field of administration. As for any governmental office in Iran, graduation in administration is must, similarly, either there will be any educational minister (رئیس آموزش) or principal or vice chancellor (رئیس مدرسه یا رئیس موسسه) of any university, graduation in “Educational Administration (مدیریت آموزشی)” is compulsory. But, his other qualification determines his pay scale.

### **Teachers Pay Scale**

Ministry of Education determines the salaries of all the teachers according to their educational record. Besides this a teacher is taught in a school or university, his degrees are considered regarding determining his salary. Even he is a school teacher but has earned his PhD degree; his salary will be according to the level of PhD degree holder teacher. Similarly, more than one master degree holder teacher will get extra pay on his each master degree even he teach in a school or any other institute at any level.

### **Educational Reforms**

Iran has almost same educational policy after Ayatullah Khomeini's Iran's cultural revolution 1980, but in fourth Five Year Development Plan (2005-2010), there was recommendation of upgrading curriculum at all the levels, and there was more concentration towards labor market oriented education and training (Soofi, 2011). But, according to 2012 educational reforms, pre-university year will now be replaced with an extra educational year in elementary school. There is also a planning on concentration on the subjects of research and knowledge production. Teacher will also be a facilitator and guide in this new educational system (Soofi, 2011).

Some other goals of 2012 educational reforms are that higher educational level must be globalized. Making strong believer of one God, Education must be for all, Parents should be involved in educational system for look after their children and

Educational system must be more efficient than today. In this way Iran must have highest standard in education in this region (Soofi, 2011).

### **Online and Distance Education**

Internet facility is available in almost all over the country. According to 2008 policy of government, government is trying to equip all the schools, colleges and universities with modern computer labs and online research facilities (Latchem, 2010). Payam-e-Noor University is a distance learning university of Iran, established in 1987. This university is working under the supervision of Ministry of Science, Research and Technology (Latchem, 2010).

### **Socio-Political Impacts in 21<sup>st</sup> Century**

When we observe impacts of Iranian higher education system in 21<sup>st</sup> century, we analyze that 60 percent of Iranian women get university education in the fields of science and engineering, while 70 percent of Iranian women are associated with the teaching or other fields of educational sector. This growth has been more increased after Iranian Islamic Revolution of 1979 (Bahramitash, 2011). UNESCO has a world report through conduct a survey that Iran has highest female ration than the male regarding enrolling at primary level in all our the world among sovereign nations (Bahramitash, 2011).

Similarly, Iranian higher education system in 21<sup>st</sup> century is competing international standards. Its universities, at one end, are following Islamic laws and principles in their ways of teaching, and on the other end, are following the quotation of Imam Khumaini when he said:

*“Iran must be a leader in the field of science and technology in the up-coming 20 years in Middle East” (Nadjmabadi, 2012).*

Although, there are so many critics on higher education system of Iran, but overall analysis shows that Iranian people are satisfied from their higher education system. 60% women of overall population are getting higher education while more than 70% women are associated with the field of teaching. Such figure is an answer of all those critics which propagate about banned higher education for Iranian women (Bahramitash, 2011).

### **Conclusion**

The above discussion concluded that Iran Higher Education System has greater Socio-Political impact in 21<sup>st</sup> century. Iran has an old and rich civilization with an

educational background. Its roots of academic developments can be found back from the 2500 BC. Since then, Iran has generated several internationally recognized scholars, scientists, poets, artists and historian. Persian civilization has its deep impacts also on those territories which were formally the part of Persian Empire but now the sovereign countries like Egypt, Turkey, Iran, Afghanistan, India and Pakistan.

Iranian modern higher educational system has its roots back in the 1851 under the Pehlavi dynasty, but after Islamic Revolution of 1979, under Iranian Cultural Revolution of 1980 by Ayatullah Khumaini, Iran has totally changed its educational system. Now, there is totally free education from primary to doctorate in public universities, but admission criteria is based on entrance test, called Kankoor, is still under the criticism due to its structure and limited resources of public universities. On the other hand, as Iran has number one status in female induction in educational sector, Iran has also a status of number one regarding scientific growth, 40<sup>th</sup> number in science productions, top ranked universities of Middle East and two universities, University of Tehran and Sharif University of Technology among top 400 universities of the world.

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## **Educating Pakistani Housewives with reference to their Spoken English Wants**

Naveed Ahmad \*

Qamar Khushi\*\*

### **Abstract**

*In addition to necessities, learners intend to learn for their subjective needs referred to as “wants” in literature. This research attempts to analyze educated housewives’ spoken English “wants” in Pakistani society. The purpose of the research is to collect empirical evidences in the context. As a tool, a questionnaire was constructed having various items related to spoken English. The questionnaire comprised close questions. Sample population was educated housewives in a typical urban locality of Pakistan. Data was analyzed quantitatively. The findings reveal housewives’ own perceptions regarding their “wants”. To socialize, and to speak with children at home, appear to be priority in spoken English situations, but majority of the housewives also agreed that they want to speak English in future academic, professional and travelling (abroad) situations. The research is significant: stakeholders i.e. syllabus and materials’ designers, researchers and policy makers can benefit from the findings to design and recommend spoken English courses for housewives as a step to empower women.*

**Keywords:** Gender Empowerment, English Education for Housewives, Needs Analysis, Spoken English Course, Syllabus Design

### **Introduction**

Pakistan is an under developed country that requires transaction in society. One major area, in this context, is gender inequalities. Esch (2009) asserts that we get empowerment when we see language as a symbolic tool for the exercise of authority. Through critical language awareness, we can take control of the multiple ways in which we participate in society. For transformation, women need to be empowered. English language plays a major role in empowerment, especially in countries having colonial heritage. English is a tool that equips a person with skills to enjoy status, power, and personal, professional and academic accomplishments.

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\*Department of English, Bahauddin Zakariya University Multan

Women, especially housewives, in Pakistan often report that they intend to enhance their English language skills so that they could become more effective in their roles as mothers, job seekers, social beings, international travelers and learners. Moreover, adequate English language skills provide them greater entertainment opportunities like reading, socializing through social media, and watching English films etc.

Empirical evidences are available suggesting that even after having compulsory education in academic programs, Pakistani learners competence in real life situations falls short of the mark with reference to English language skills due to Grammar Translation Method (GTM) that prevails in most educational institutions in Pakistan. See, for example, Ahmad (2011). To address this problem, various studies have been carried out. However, Pakistani housewives' subjective needs, i.e. *wants* as the term has been introduced by Hutchison and Waters (1987), have never been recorded so far. To fill this gap, we carried out the present research, limiting ourselves to the educated Pakistani housewives' spoken English *wants*.

### **Research Procedure**

Our observation and discussions with our women friends, family members, colleagues and acquaintances led us to hypothesize that housewives want to speak English to: 1) communicate in English with their own children at home for making them effective in their future roles, create a good image of their personality in society through socialization 2) seek jobs in future 4) improve their capabilities for further studies, and 5) to travel abroad with confidence.

In this research, we tested the hypothesis, and further investigated priorities given to the above mentioned 5 situations. To test the hypothesis and investigate priorities, we generated the following research questions:

1. Do you want to speak English with children at home?
2. Do you want to speak English to socialize?
3. Do you want to speak English for securing a job?
4. Do you want speak English to improve your capabilities for further education?
5. Do you want to speak English for traveling abroad?

Each question was followed by a scale: *Strongly Agree, Agree, Somewhat Agree, Don't Agree, and Don't Know*. Our target audience was educated housewives. These subjects represented typical urban educated housewives because the research site was the city of Multan. Through random sampling, data was collected from various

parts of the city. The questionnaire was distributed to 200 housewives. The returned number of questionnaires was 165. Data was analyzed quantitatively.

## **2. Literature Review**

The significance of needs analysis is emphasized in English for Specific Purposes (Hutchinson & Waters, 1987; Basturkmen 2006) and English for Academic Purposes (Jordan, 1997). Needs analysis can be defined as, “the systematic collection and analysis of all relevant information necessary to satisfy the language learning requirements of the students within the context of the particular institutions involved in the learning situation” (Brown, 1995 ).

The main sources for needs analysis are the learners, people working or studying in the field, ex-students and documents relevant to the field, clients, employers, colleagues and ESP research in the field (Dudley-Evans and St John, 1998). We can gather information about learners’ needs through different sources such as questionnaire, analysis of authentic spoken and written texts, discussions, structured interviews, observations and assessments (Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987; Robinson, 1991).

A significant question in relation to needs analysis is how the notion of ‘need’ is to be conceptualized. Definition of needs differ depending on the purpose of analysis but all ESP authors and researchers take the learner as a focus of analysis. Deutch(2003) argues that the analysis of needs can be effective if the academic language needs are accurately defined and seek utmost specificity within the specific target use .

According to Brindley (1989) there are objective and subjective needs. Objective need is derivable from factual information about the learner, use of language in daily communication, current language proficiency and language difficulties. Subjective need refers to cognitive and affective needs in learning such as personality, confidence, attitude, wants and expectations in learning.

Hutchinson and Waters (1987) identify two types of needs: target needs and learning needs. The target need refers to what the learner needs to do in the target situation and the learning need refers to what the learner needs to do in order to learn (p.54). They further subcategorize target need into (1) necessities; what the learner has to know in order to function efficiently in the target situation, (2) lacks; the divergence between necessity and what the learner already knows, (3) wants; what the learner actually wants to learn or what they feel they need. The learner's "wants" may or may not match those perceived by the teachers or course designers (pp.55- 57). The learning need is equated to the route of learning. This is related to issues such as how learners learn the language, why they learn it, what resources are available to help them learn

(pp.62-63). This study adapted the Target-Situation Analysis approach since it is more appropriate for the objectives of the study which is to investigate the English Language needs and wants of educated Pakistani housewives.

### **Data Analysis and Findings**

The following are the findings with reference to all the five research questions. For each research question, analysis relating to all the five (Strongly Agree, Agree, Somewhat Agree, Don't Agree, and Don't Know) options has been presented first. Next, the three agree options i.e. *Strongly Agree, Agree, Somewhat Agree* is merged into one: *Agree*. And hence, comparative analysis between *Agree* and *Don't Agree* is presented along with the data on *Don't Agree* option. Details are as under:

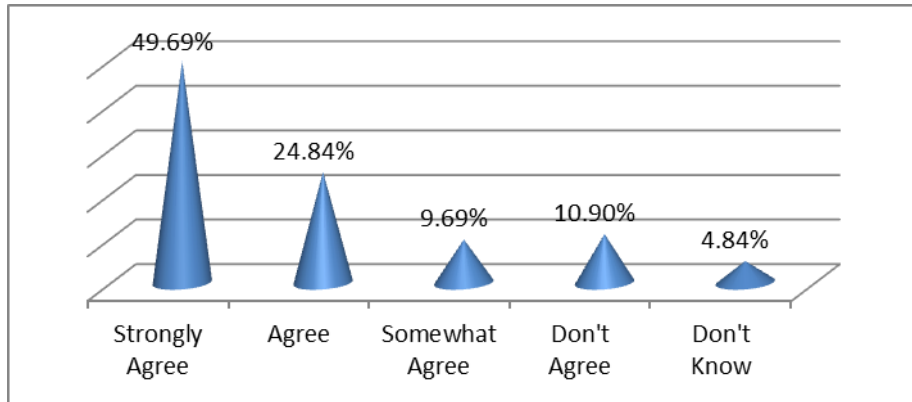
#### **1. Do you want to speak English with your children at home?**

The analysis revealed that out of the total of 165 returned questionnaires, 49.69% (N=82) housewives said that they *Strongly Agree* to speak English with their children at home, whereas 24.84% (N=41) opted for the option *Agree*. Similarly, 9.69% (N=16) housewives mentioned that they *Somewhat Agree* in the context. On the other hand, 10.90% (N=18) housewives revealed that they *Don't Agree*. The ones who mentioned that they *Don't Know* were 4.84% (N=8). The following Table 1.1 and Graph 1.1 also depict this information.

**Table .1.1:** *Housewives' perceptions regarding their "wants" to speak English with children at home*

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Somewhat Agree</i>	<i>Don't Agree</i>	<i>Don't Know</i>
Respondents	49.69% (N=82)	24.84% (N=41)	9.69% (N=16)	10.90% (N=18)	4.84% (N=8)

**Graph 1.1:** Housewives’ perceptions regarding their “wants” to speak English with children at home

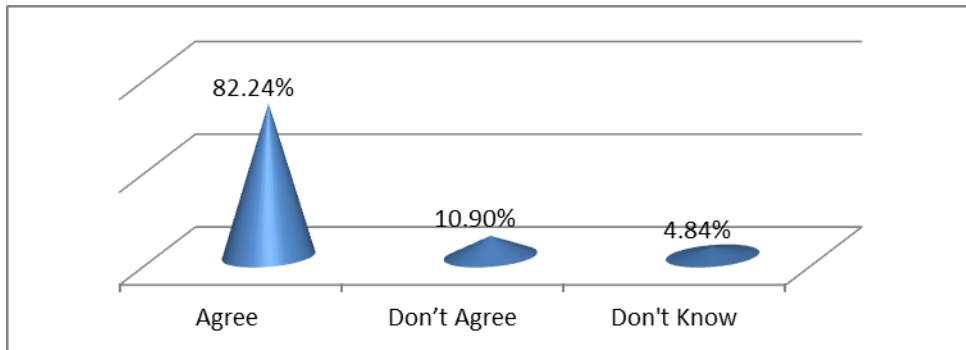


Next, collapsing the averages into two broad categories, *Agree* and *Don't Agree*, 84.24% (N=139) subjects mentioned that they *Agree* to have adequacy in spoken English so that they could speak English with their children at home, whereas 10.90% (N=18) revealed that they *Don't Agree* in this context. 4.84% (N=8) mentioned that they *Don't Know*. See the following Table 1.2 and Graph 1.2:

**Table 1.2:** Housewives’ perceptions regarding their “wants” to speak English with children at home

	<i>Agree</i>	<i>Don't Agree</i>	<i>Don't Know</i>
Respondents	84.24% (N=139)	10.90% (N=18)	4.84% (N=8)

**Graph 1.2:** Housewives’ perceptions regarding their “wants” to speak English with children at home



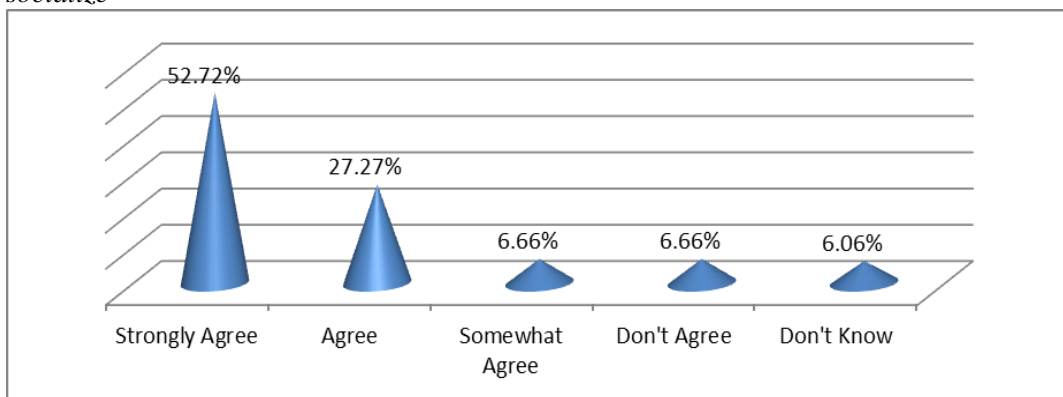
**2. Do you want to speak English to socialize?**

For this research questions, 52.72% (N=87) subjects had a choice for *Strongly Agree*, and the ones who opted to *Agree* were 27.27% (N=45). Further, 6.66% (N=11) pointed out that they *Somewhat Agree*. On the other hand, 6.66% (N=11) went for the option *Don't Agree*. In this case, 6.06% (N=10) subjects mentioned that they did not know as their preferred option was *Don't Know*. See Table 2.1 and Graph 2.1 below:

**Table 2.1:** Housewives' perceptions regarding their "wants" to speak English to socialize

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Somewhat Agree</i>	<i>Don't Agree</i>	<i>Don't Know</i>
Respondents	52.72% (N=87)	27.27% (N=45)	6.66% (N=11)	6.66% (N=11)	6.06% (N=10)

**Graph 2.1:** Housewives' perceptions regarding their "wants" to speak English to socialize

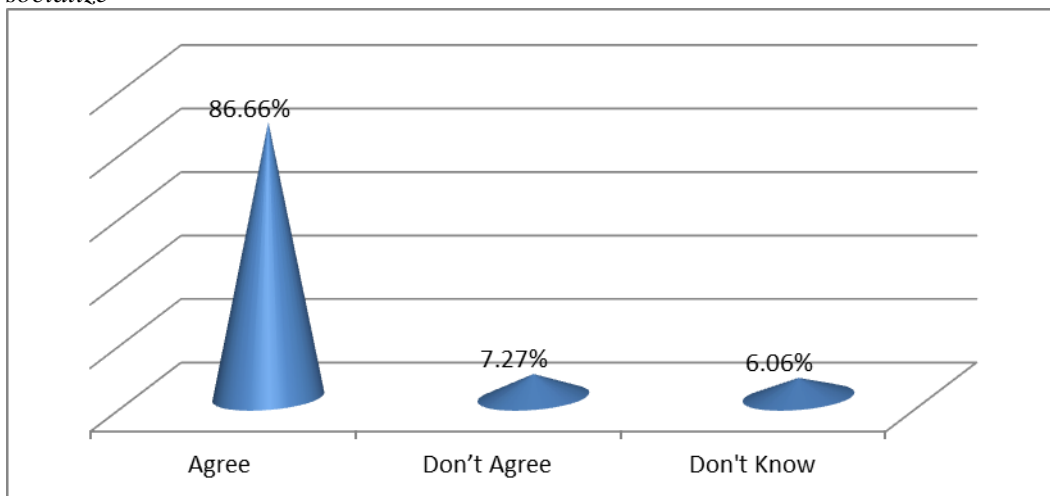


When the three options related to agree options were collapsed onto one, the data revealed that a vast majority i.e. 86.66% (N=143) housewives agreed that they want to speak English to socialize, whereas 7.27% (N=12) women did not agree by opting *Don't Agree*. The women who checked *Don't Know* were 6.06% (N=10). Table 2.2 and Graph 2.2 below are relevant in this context:

**Table 2.2:** Housewives’ perceptions regarding their “wants” to speak English to socialize

	Agree	Don’t Agree	Don’t Know
Respondents	86.66% (N=143)	7.27% (N=12)	6.06% (N=10)

**Graph 2.2** Housewives’ perceptions regarding their “wants” to speak English to socialize



### 3. Do you want to speak English for securing a job?

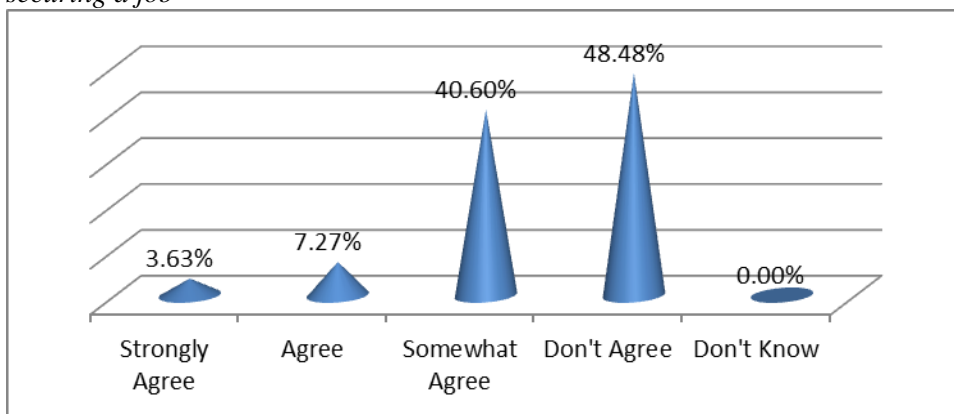
The gathered information with this regard reflected that 3.63% (N=6) housewives strongly agreed that they want to speak English for securing job, whereas 7.27% (N=12) made their choice for *Agree*. Those who opined that they *Somewhat Agree* were 40.60% (N=67). However, 48.48% (N=80) housewives opted to *Don't Agree*. No housewife i.e., 0.00 % (N=0) went for the option *Don't Know*. See Table 3.1 and Graph 3.1 below:



**Table 3.1:** Housewives’ perceptions regarding their “wants” to speak English for securing a job

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Somewhat Agree</i>	<i>Don't Agree</i>	<i>Don't Know</i>
Respondents	3.63% (N=6)	7.27% (N=12)	40.60% (N=67)	48.48% (N=80)	0.00 % (N=0)

**Graph 3.1:** Housewives’ perceptions regarding their “wants” to speak English for securing a job

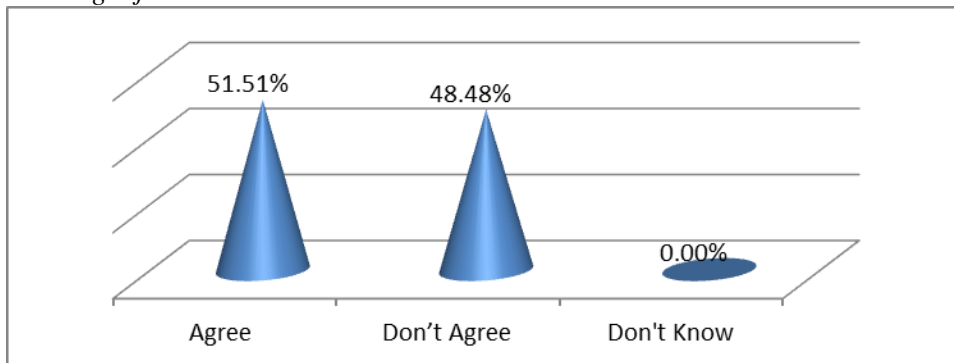


The joint Agree option was checked by the majority i.e. 51.51% (N=85) housewives. On the other hand, *Don't Agree* option was the choice of 48.48% (N=80). In this case, *Don't Know* answers were 0.00 % (N=0) as no housewife went for this option. See Table 3.2 and Graph 3.2 below:

**Table 3.2:** Housewives’ perceptions regarding their “wants” to speak English for securing a job

	<i>Agree</i>	<i>Don't Agree</i>	<i>Don't Know</i>
Respondents	51.51% (N=85)	48.48% (N=80)	0.00 % (N=0)

**Graph 3.2:** *Housewives’ perceptions regarding their “wants” to speak English for securing a job*



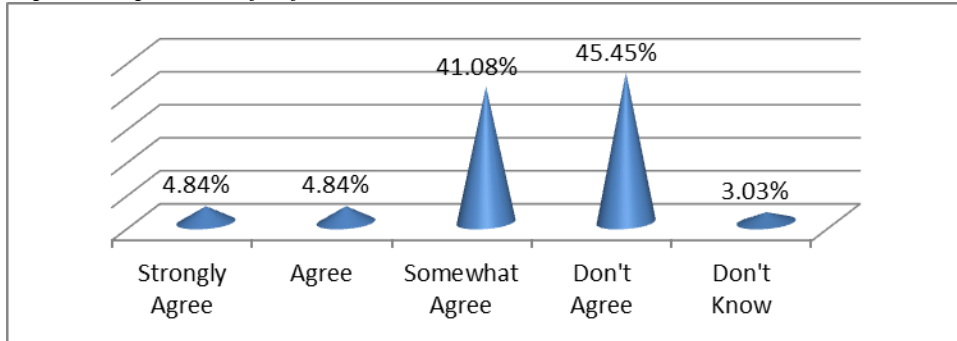
**4. Do you want to speak English to improve your capabilities for further education?**

As far as the above mentioned question is concerned, 4.84% (N=8) subjects reported that they *Strongly Agree*, with further 4.84% (N=8) participants who went for the option *Agree*. Moreover, 41.8% (N=69) had a choice for *Somewhat Agree*. Contrary to it, 45.45% (N=75) housewives said that they *Don't Agree*. The ones who opted for *Don't Know* were 3.03% (N=5). See Table 4.1 and Graph 4.1 below:

**Table 4.1:** *Housewives’ perceptions regarding their “wants” to speak English to improve capabilities for further education*

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Somewhat Agree</i>	<i>Don't Agree</i>	<i>Don't Know</i>
Respondents	4.84% (N=8)	4.84% (N=8)	41.8% (N=69)	45.45% (N=75)	3.03% (N=5)

**Graph 4.1:** Housewives’ perceptions regarding their “wants” to speak English to improve capabilities for further education

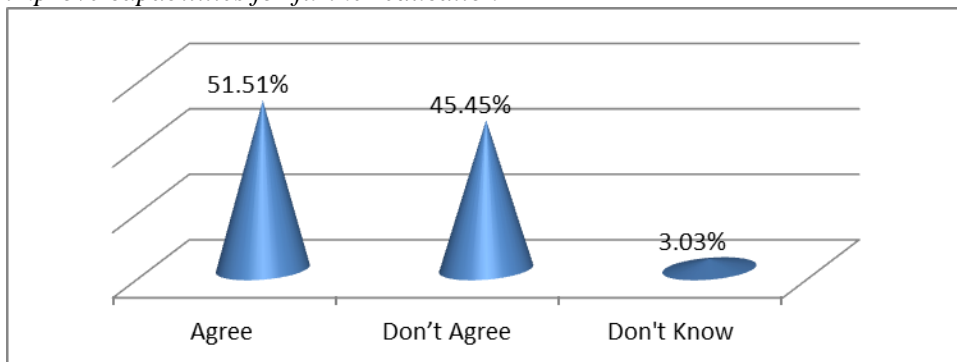


Overall, 51.51% (N=85) housewives’ agreed and 45.45% (N=75) did not. Housewives who said that they *Don’t Know* were 3.03% (N=5). See Table 4.2 and Graph 4.2 below:

**Table 4.2:** Housewives’ perceptions regarding their “wants” to speak English to improve capabilities for further education

	<i>Agree</i>	<i>Don’t Agree</i>	<i>Don’t Know</i>
Respondents	51.51% (N=85)	45.45% (N=75)	3.03% (N=5)

**Graph 4.2:** Housewives’ perceptions regarding their “wants” to speak English to improve capabilities for further education



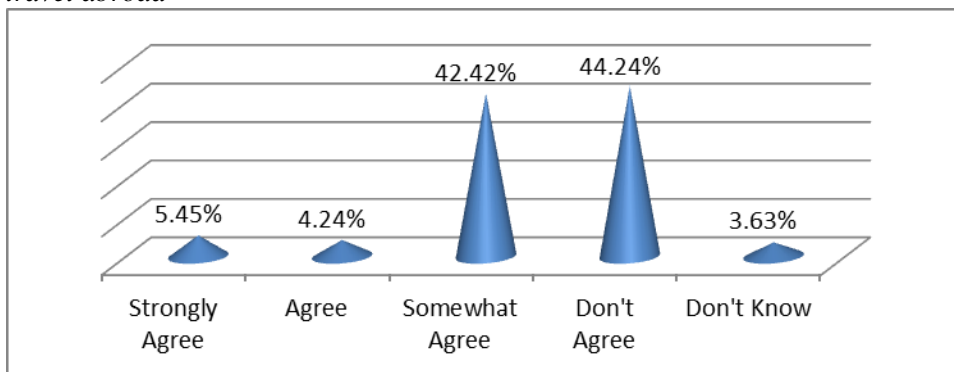
### 5. Do you want to speak English for traveling abroad?

For this, 5.45% (N=9) housewives checked *Strongly Agree*, and 4.24% (N=7) checked *Agree*, with the addition of 42.42% (N=70) who checked *Somewhat Agree*. In contrast, 44.24% (N=73) checked *Don't Agree*. The *Don't Know* option was checked by 3.63% (N=6). See Table 5.1 Graph 5.1 below:

**Table 5.1:** Housewives' perceptions regarding their "wants" to speak English to travel abroad

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Somewhat Agree</i>	<i>Don't Agree</i>	<i>Don't Know</i>
Respondents	5.45% (N=9)	4.24% (N=7)	42.42% (N=70)	44.24% (N=73)	3.63% (N=6)

**Graph 5.1:** Housewives' perceptions regarding their "wants" to speak English to travel abroad

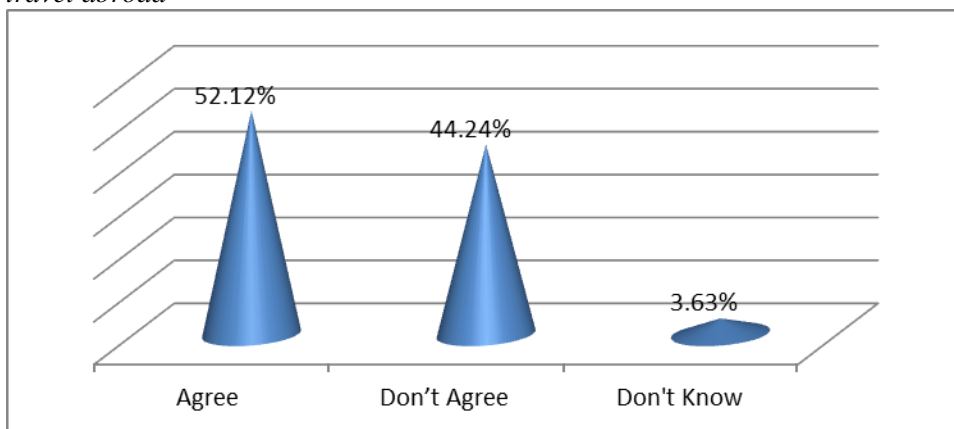


Accumulative analysis that went in favor of agree options (*Strongly Agree*, *Agree* and *Somewhat Agree*) was 52.12% (N=86), whereas the data revealed that 44.24% (N=73) had a choice for *Don't Agree*. The ones who mentioned *Don't Know* were 3.63% (N=6). See Table 5.2 and Graph 5.2 below:

**Table 5.2:** *Housewives’ perceptions regarding their “wants” to speak English to travel abroad*

	<i>Agree</i>	<i>Don’t Agree</i>	<i>Don’t Know</i>
Respondents	52.12% (N=86)	44.24% (N=73)	3.63% (N=6)

**Graph 5.2:** *Housewives’ perceptions regarding their “wants” to speak English to travel abroad*



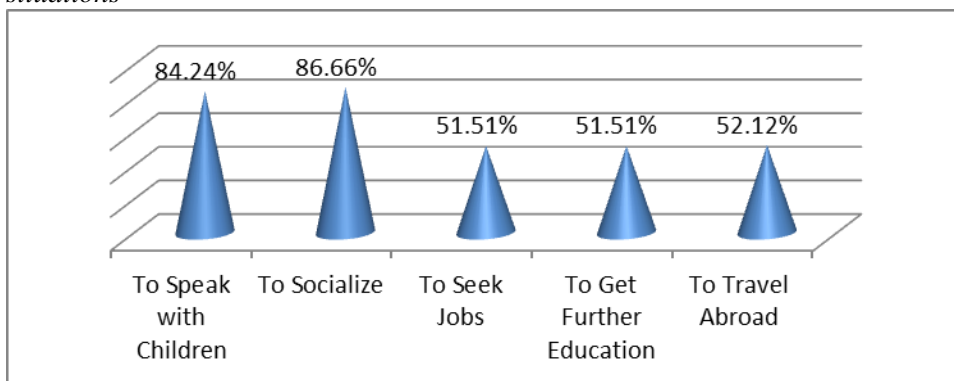
### **Overall Findings**

We investigated why housewives want to speak English adequately. In this context, we hypothesized that housewives want to speak English in order to 1) speak English with their children, 2) socialize, 3) seek jobs, 4) study further, and 5) travel abroad. Our hypothesis is proved because majority (more than 50%) housewives, in each of these five situations, want to speak English. Further, we investigated the relative importance of these situations according to the perceptions of the subjects. Our data analysis revealed that 84.24% (N=139) housewives agreed that they want to speak English with their children, 86.66% (N=143) said that they want adequacy in English in order to socialize, 51.51% (N=85) mentioned that they want it for securing jobs with another 51.51% (N=85) stating that they need competence in spoken English for further education, and 52.12% (N=86) housewives opined that spoken English is required for travelling abroad. This relative importance is depicted in Table 6 and Graph 6 below.

**Table 6:** *Housewives’ perceptions related to relative importance of spoken English situations*

<b>Housewives want to speak English:</b>	<b>Percentage and No. of Subjects</b>
1. to communicate in English with their children at home	84.24% (N=139)
2. to socialize	86.66% (N=143)
3. to seek jobs	51.51% (N=85)
4. to get further education	51.51% (N=85)
5. to travel abroad	52.12% (N=86)

**Graph 6:** *Housewives’ perceptions related to relative importance of spoken English situations*



### **Discussion and Conclusion**

The empirical evidences tell us that the greatest demand for learning opportunities is with reference to situations that relate to socialization because 86.66% (n=143) housewives agreed to the option that they want to speak English to socialize. Next, in line is the situation where housewives would speak English with their children at home as 84.24% (n=139) of the subjects showed their willingness in this context.

Other three situations have almost similar results: majority respondents with averages of a little more than 50% agreed to speak English. When they were asked whether they want to speak English to seek jobs, to get further education, and to travel (abroad): 52.12% (n=86) wanted to speak English to travel abroad, and the housewives who want to speak English for seeking jobs and getting further education are 52.12% (n=86) in each case.

The data reveals that to socialize and to speak English at home are the priorities. This is because of the fact that a certain degree of prestige is attached with spoken English in Pakistani society due to two reasons: 1) colonial heritage, and 2) language of the fast growing western culture of the west. Additionally, practical benefits of speaking English cannot be ignored. Those who wish to speak English with children; they in fact, want to see their children's prosperity by equipping them with tools required in academic and future professionals. Moreover, socialization has its own practical benefits. Though these two situations are prioritized, but academic, professional and travelling situations are also important with reference to speaking English as revealed by majority housewives.

Empowering women in underdeveloped parts of the world is the need of the hour. The research provides useful findings. Textbook writers, course/materials designers can take insights from the findings to produce materials for courses focusing on Spoken English for housewives. Similarly, other stakeholders like policy makers, teachers, researchers and administrators in academia will have similar insights. The findings also give birth to further similar research projects: housewives' needs with reference to other English language skills i.e., reading, writing and listening etc, housewives' discourses etc.

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