# An Evaluation Of The Use Of Active Learning Pedagogy In L2 Classrooms: A Study Conducted At Graduate Level In Bahawalpur

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#### ABSTRACT

Active learning approach is acknowledged now a days as a popular way to change the teacher centered traditional classroom settings into the modern student centered approach to learning. The present study was conducted to assess the use of this modern approach of Active Learning in English language classrooms of Bahawalpur. A self-designed questionnaire was developed to know about teachers' attitude to active learning, the extent of the practice of this methodology in language classrooms, and the factors which obstruct the use of this method. The questionnaire was distributed among 25 teachers. The data was collected and analyzed statistically as well as qualitatively. Findings were discussed; conclusions were drawn in the context of the research questions; and finally recommendations were offered to improve the situation. The results disclosed that teachers of Bahawalpur have positive attitude towards active learning, but they do not practically apply this method in their classrooms because of the lack of proper training and the unavailability of resources.

**Keywords:** Active Learning, student centered approach, social constructivism, task based teaching, active learning pedagogy

#### **INTRODUCTION**

The world today is swamped with novelty and complexity of knowledge to an implausible extent. The richness and diversity of knowledge is even increasing more with each passing day at an enormous speed. This knowledge-driven world largely depends upon making meaningful

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decisions on the part of the instructors and educationists about how to transfer the tons of information to its inhabitants in the most productive ways. In the earlier times, when only a limited knowledge was there to impart, traditional lecturing method was most popular among teachers; and it was adequate enough to meet the educational needs of the time. On the contrary, in the current times this method has proved to be simply inadequate to fulfill the requirements of the huge volume and diverse natures of knowledge to be transferred. In the context of this new learning environment and the ever changing educational needs, the active learning approach has become a well-accepted teaching method in comparison with traditional teaching methodologies; as this method is believed to have the capability of infusing students with a sense of self-discovery, self-responsibility, learning through inquiry and a power of critical thinking. Active learning promotes student centered learning environment where learners are provided the opportunities and guidance for a relatively independent ways of learning; and hence making the time for the formal verbal instruction provided by the teacher in the shape of a traditional lecture.

#### LITERATURE REVIEW

#### Active learning

Active learning is defined as learners "doing something and thinking about what they are doing" (Bonwell & Eison, 1991, p. 5). It refers to engaging students in different classroom tasks and activities which require their physical and mental activation. According to this approach, learning becomes more meaningful when it is actively performed as compared to when it is passively received through verbal instruction. Active learning approach is formally a product of late twentieth century, but the foundations of this approach are found in the ancient times, more prominently in ancient Greece. These basics can be traced in the teachings of Confucius and Socrates. Much later Spinoza, a 17<sup>th</sup> century philosopher, professed that knowledge exists in the exploitation and manipulation of concepts rather than the transmission of facts. The more significantly popular man in this context is John Dewy (1859-1952) who propagated his theory of 'learning by doing' (Dewy, 1933).

#### **Theoretical Perspectives**

According to Cooperstein and Weidinger (2004), the active learning approach is based upon the theory of constructivism. The theory of constructivism was evolved from different learning theories in the 20<sup>th</sup> century. The most commonly acknowledged exponents of this theory are Jean Piaget, John Dewy, Lev Vygotsky, Maria Montessori, and David A. Kolb. The constructivist assume that learners learn best when we engage them in activities. They believe that learners' cognitive potentials and mental faculties are triggered best through their active engagement in the learning tasks.

#### **Types of Constructivism**

There are two types of Constructivist views: cognitive constructivism and social constructivism. Cognitive constructivism defines learning in terms of mental development while social constructivism explains learning as an outcome of social experience.

#### **Cognitive Constructivism**

Piaget's theory of cognitive constructivism explores how cognitive abilities are developed in children. This theory expounds that humans cannot be transferred or given information as it is, which they understand, apply and utilize. Rather, humans themselves have to construct their own knowledge. It is through experiences that they build every type of knowledge by creating schemas (mental models) in their brains. These schemas or mental representations are liable to get modified, altered, enlarged, made more sophisticated or even distorted when exposed to each upcoming newer experience.

#### Social constructivism

Social Constructivism is based upon Vygotsky' (1978) theory of learning and development. Vygotsky (1978) focuses upon learning from others. He emphasizes the importance of social context in learning. The aforementioned theory is presented in the form of the theory of ZPD, i.e. Zone of Proximal Development. Piaget (1970) asserted that development is used as a tool which assists learning to take place. On the Contrary, Vygostsky (1978) in his theory of ZPD propounds that learning and development coexist in equal footing together in a sequence. His ZPD theory introduces and explains two other terms besides ZDP: these are ADL and PDL. ADL, according to him, refers to a child's actual development level (ADL), while PDL represents his potential development level (PDL). ADL means the level at which the learner has the ability to perform or work out something quite independently on his own, hence the learner's abilities that are already developed are included in ADL. PDL is the level at which the learner is unable to perform or act something alone; he can neither do it even in the presence of some external help; but he might have the potential to do it later sometime in his life. Hence, PDL includes the abilities that have not yet matured but may be matured later. The difference of ADL and PDL is the ZPD. ZPD shows the level of learner's development at which his abilities are beginning to mature under someone's assistance. It means that learner is able to do something with someone's help. Hence, it includes the abilities which are under the process of maturation.

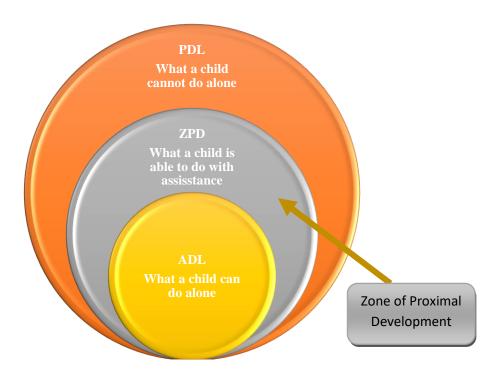


Figure 1: Vigotsky's Theory of Zone of Proximal Development (1978)

Hence, in the context of education the role of teacher attains a greater significance as it is they who can provide proper and sufficient help to activate students' potential abilities. This is where active learning comes to the front.

# **Active Learning Techniques or Strategies**

Paulson and Faust (2010) maintain that by the active learning approach, we mean all those activities which are planned and incorporated by a teacher in his classroom to develop student centered learning. Rotenberg (2005) believes that classroom activities are the essence of active learning. To quote his own words, "To make knowledge active, one must acquire it through an activity" (p. 28).



# Self-Assessment

Self-assessment is one of the key strategies for active learning. It facilitates students to become autonomous in their learning process by enabling them to regulate and monitor their progress in L2 learning (Harris, 1997).

#### Learning through Problem Solving

Problem based Learning involves a cyclic task of solving problems related to the course contents. It starts with an imprecise, vaguely structured problem at hand, which is derived from real world situations. Learners are exposed to this problem and are asked to work out a desired solution to this problem. Learners might do it alone, in pairs or even in groups (Weiss, 2003).

#### **Discovery Learning**

Adler (1982 cited in Bonwell and Eison 1991:3) asserts that this type of learning is triggered by assigning students certain assignments which might include a question to answer, a concept to explain, an observation to share or a problem to solve. Students work in a self-dependent way to accomplish the task, and subsequently draw conclusions and inferences thereon (Bruner, 1961). The teachers play the role of setting problems in front of students and providing feedback.

#### **Conceptual Framework of Active Learning Strategies**

According to Bonwell and Eison (1991), the conceptual framework for the practical implementation of the techniques of active learning can be explained in terms of a continuum which involves three levels in terms of the complexity of tasks to be performed. Beginning with

the simple tasks or the strategies of low complexity, this continuum moves through the moderate complexity tasks, and finally ends with the tasks or strategies of higher complexity. As is shown in the figure 2.6 below:



Figure 3: The Active Learning Continuum (Based upon Bonwell and Eison, 1991)

Each level of the continuum consists of a subset of various activities. Neither of these levels should be considered better than the other as all of these levels have their relative significance depending upon the context of language teaching and learning.

# **Activities to Engage Students**

Here, we will discuss some of the techniques that can make students active in second language class. For example, Paulson and Faust, 2010; Hazzanetal, 2011; Wilke, 2002; Dias, 2011; and De Bogart, 2009 have discussed the following techniques for an effective application of active learning pedagogy. The techniques are presented with the ascending order of complexity. Initially, the simple and easy to perform exercises are presented.

#### **Exercises for Individual Students**

These are the activities which involve students in individual performance. Such exercises are of simple nature, as they do not disrupt the regular course of the lesson, e.g. one-minute paper, daily journal, affective response etc.

#### **Question/Answer Sessions**

Questioning is the most commonly used technique of urging and stimulating students to be active receivers of knowledge. This strategy is also helpful to immediately test and measure students' success in learning a particular content which has or has not been directly taught by the teacher. This makes students constantly involved in class.

#### **Quiz/Test Questions**

In this questioning technique, the students are asked and guided to generate questions for class quizzes or tests, or to set questions for examination. This activity makes the students more mature in their concepts as they are instructed to formulate question concerning the course material.

#### **On-the-spot Feedback**

One of the methods of using this technique is to show content related flash cards to students and ask them questions about the word, diagram, picture, or a flowchart displayed on the card.

# **Application Activity**

After the instructional content (e.g. an essay, short story etc.) or a certain concept has been presented to the whole class, the teacher instructs the learners to apply this concept to their real life context. Each student individually ponders over the concept and tries to relate it with or apply it on the instances of his own life-experiences. When each student has reflected sufficiently on the problem or issue, the teacher instructs them to share their ideas with one another in pairs. Subsequently, each student's application of the concepts is discussed in front of the whole class and conclusions are drawn at the end.

# **Role-playing**

Bonwell and Eison (1991) explain that Simulations or Role playing activities are organized by dividing the learners into small groups (i.e four to five students in each group). These groups are then assigned the task to highlight the salient features and themes of the text or the delivered lecture by acting out in the form of a role play or simulation. The teacher might only guide the participants in planning a scenario to act out. This type of active learning strategy is most suitable to improve learners' everyday spoken skills in the second language.

# Importance of Active Learning in Language Teaching

The evidence of the importance of active learning is traced even from the days of ancient Greece. Sophocles, 5<sup>th</sup>. B.C. (quoted in Bonwell and Eison, 1991:3) assumed, "One must learn by doing the thing, for though you think you know it-- you have no certainty until you try". Moreover, a 50 years research on the teachers' teaching practices and learners' learning process produced a number of principles for teaching a second language. Two of these principles correspond to the importance of active learning in classroom in the form of actively engaging students in learning and promoting cooperative and collaborative environment through group activities. (Chickering and Gamson,1987).

Guneyli (2008) conducted a research on the impact of active learning strategies on 39 5<sup>th</sup> grade Turkish learners' reading comprehension skills in their native language. The participants of the sample were divided into two groups: experimental and control group. The students' reading comprehension proficiency in their native language was measured by using The Test of Turkish Reading comprehension Skills. The pre-test of students' L1 reading comprehension skills demonstrated no significant difference between the scores of Experimental and control group which implied that both the groups were initially having a similar level of academic success. Later, following the designed methodology, the experimental group was taught through various active learning strategies while traditional approach was used to teach the control group. Finally, both the groups attempted a posttest based upon Turkish reading comprehension skills. The results demonstrated a strongly significant difference between both groups' achieved scores. The academic success level of the experimental group was greatly increased through active

learning instruction. This group was able to understand the L1 text beyond the level of mere knowledge to critically analyzing the content and properly applying the given information.

Moreover, Bhatti (2020) observed the pedagogical patterns used in teaching English in religious institutes of Pakistan. His study recommended that the learners of religious institutes learn English more effectively if they are taught through task based and activity based approach as compared to the lecture-based method.

# **RESEARCH MTHOLDOLOGY**

Qualitative and quantitative methodology was designed for the research.

#### **Research Sample**

The sample of the study consisted of 25 experienced English language teachers randomly selected from different Boys and girls Govt. Colleges of Bahawalpur.

# **Research instrument and procedures**

A self designed questionnaire for teachers was used as a research instrument. Different reliable research sources were consulted in the formulation of the questionnaire to avoid any kind of problematic issues concerning the reliability and validity of the research. The major source includes Karamusta faoglu,Costu and Ayas (2006).

Questionnaire consisting of five parts or sections was distributed among participants to be filled in. Section A consisted of one open ended and two close ended questions (item 1-3). The first question was especially designed to know if the teachers were aware of the term active learning. The next two questions aimed to know about their thoughts and attitude to teacher centered and student centered language teaching methods.

Part B comprised five close ended questions (item 4-8) to evaluate their positive or negative attitude towards the applicability of active learning in language classroom.

Part C, having three questions (item 9-11), was supposed to judge the teachers' use of general student centered activities in class and their effectiveness. In Part D (item 12-13), teachers were asked specifically about the techniques of active learning they use in their teaching. The last part, Part E (item 14-16), also included three open ended questions about the applicability of active learning approach within available resources of their respective institute, their suggestions to perform student centered teaching, and their perceived barriers and obstacles in the use of active learning approach.

# DATA ANALYSIS AND FINDINGS

Out of the total 25 questionnaires, 20 were filled in by the teachers. The response could not be gotten from the rest five of the teachers. Depending upon the nature of items in the questionnaire, collected data was analyzed quantitatively and qualitatively.

#### Table 1:

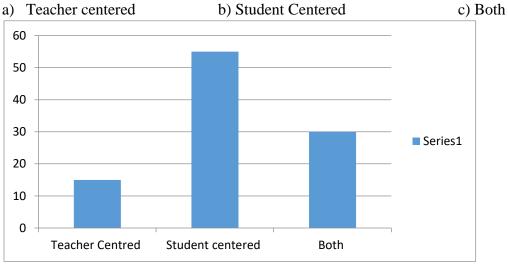
Gender		Teaching Experience			Teaching Materials		Class Population		
Μ	F	0-5	6-10	10-15	Text	Others	Less than	20-40	More
		years	Years	years	books	also	20		than 40
					only				
8	12	2	7	11	8	13	0	2	18

As illustrated by the table above, 20 teachers, 8 males and 12 females participated in the research. Two teachers had less than 5 years experience; 7 teachers' experience was between 6 & 10 years; and 11 teachers' experience ranged between 10-15 years and even more. 8 teachers told that that they used only text books as their teaching materials, while 13 said that they also used materials other than the text book. Concerning class population, it was disclosed that 18 teachers' class population was more than 40, i.e. a large class size, while only 2 teachers' class population was between 20 and 40. None of the teachers' class size was below 20.

# Part A: Frequency of participants' thoughts about teacher centered and student centered approach

Item no. 1. What do you think is meant by student centered or active learning approach in language teaching?

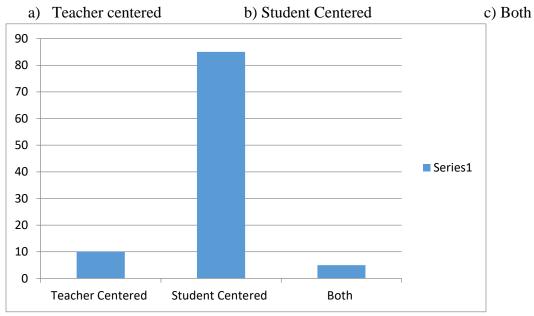
Most of the participants were quite unfamiliar with the term active learning; a few of them (almost 8) were able to define student centered approach; 3 of them defined active learning; and 9 participants were totally ignorant of any of these terms. This shows a large ratio of teachers' ignorance/ unawareness of the new methodology of active learning.



Item 2: Which of the following methods motivates you to apply in the teaching learning process?

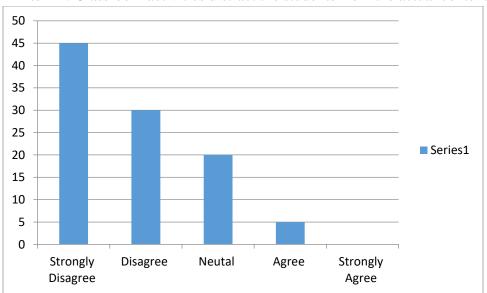
15% of the participants replied in favor of teacher centered approach; 55% were motivated to use student centered method; and the rest 30% of the participants were motivated to use both of the methods. This shows that most of the teachers are motivated to use student centered approach.

Item 3: Which of the following methods do you think is difficult for you to implement in your language classroom?



85% of the participants thought that student centered methodology is difficult to be used. 10% stated that teacher centered is difficult, while the other 5% stated that both methods are difficult.

#### Part B: Teachers' Attitude towards Active Learning

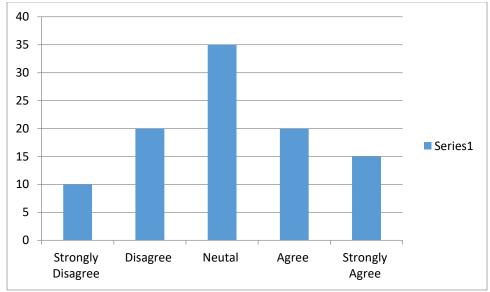


Item 4: Classroom activities distract the students from the actual content of the lesson.

45% participants strongly disagreed with the idea that classroom participation distracts the students from actual content of the lesson. 30% disagreed; 20% were neutral on this issue, 5%

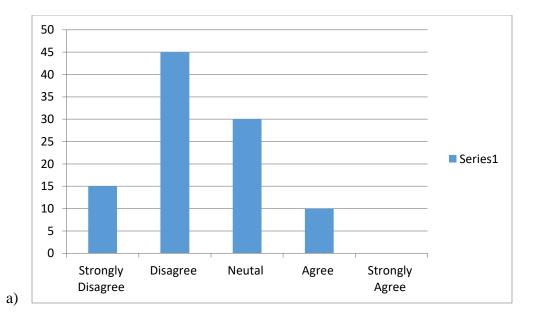
agreed and 0% strongly agreed. This shows an overall positive attitude of the participants towards active learning methodology.

Item 5: It is preferable to teach language through problem solving and critical thinking than focus on formal grammatical instruction.

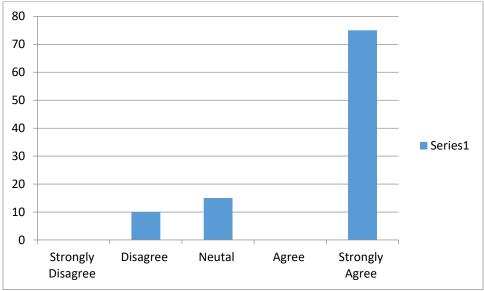


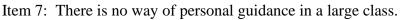
10% participants strongly disagreed; 20% disagreed; 35% remained neutral in their response; 20% agreed; and 15% strongly agreed. Most of the participants remained neutral in response of item no. 5 because of the unawareness of critical thinking and problem solving. The rest of the participants were generally not in favour of problem solving and critical thinking techniques. They were more in favour of grammatical instruction.

Item 6: the teachers should present to the students all of the course materials during the lesson, and should not rely on students' learning on their own.

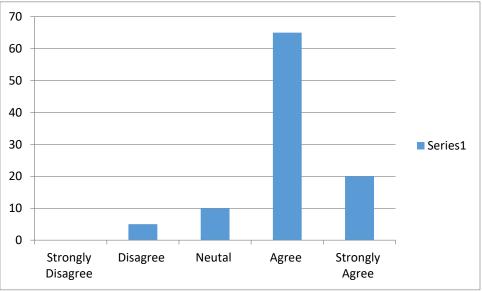


15% strongly disagreed; 45% disagreed; 30% were neutral; only 10% agreed; and 0% strongly agreed. It means that most of the participants agreed with the concept of students self study; almost one third of the participants are not sure of the importance of students' autonomous self study. Even some of them were not in favour of the idea that students should be given chance of self study.

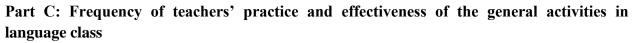


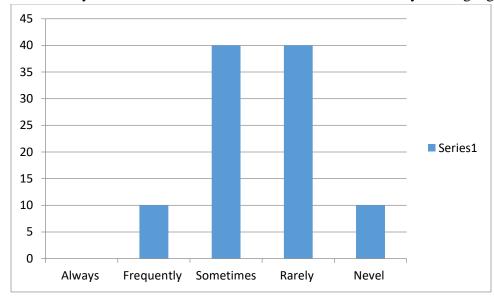


0% strongly disagreed; 10% disagreed; 15% were neutral; 0% agreed; and 75% strongly agreed. This implies to the positive attitude of the participants towards active learning. Item 8: Learning in large class reduces learning efficiency.



0% strongly disagreed; 5% disagreed; 10% were neutral; 65% agreed; and 20% strongly agreed. This implies to the positive attitude of the participants towards active learning.

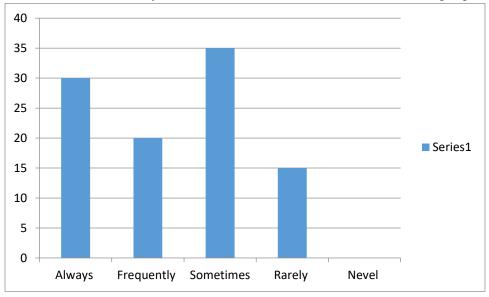




Item 9: Do you conduct different student centered activities in your language classroom?

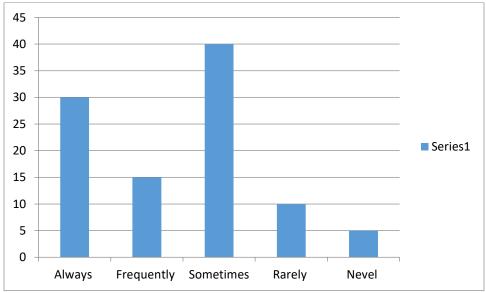
As the above table shows, most of the teachers sometimes or rarely conducted activities in their language class. It means the frequency of classroom activity is very low.

Item 10: Do these activities make your students motivated and interested in language class?



The analyzed data showed that most of the participants were satisfied with the effectiveness of the classroom activities whatever they conducted.

Item 11: To what extent do you think these activities help students to communicate in their real life situations?



The analyzed data showed that most of the participants were satisfied with the communicative effectiveness of the classroom activities.

Item 12: Rate the importance of the following methods and techniques in language classroom:

Teaching Methods and Activities	Level of importance %			
	Level 1	Level 2	Level 3	
Brain storming	-	25	75	
Role playing	30	50	20	
Demonstration	-	75	25	
Organizing a classroom debate	35	30	35	
Using Audio- Visual materials	90	10	-	
Individual study	-	60	40	
Group working	5	45	50	
Using multi-media	40	15	45	
Using Concept Mapping	-	-	-	
Using Concept Framework	-	-	-	
Using students games	-	55	45	
Work sheet	-	30	70	
Expressing/ oral presentations	-	80	20	
Question-answer method	60	20	20	
Taking notes	-	-	-	

Table 2:Frequency of the level of importance of the activities

When Table examined, it was seen that more than half of the teachers claimed that brain storming, using audio visual aids, group working, and question-answer method were useful teaching methods for students' understanding. Besides these, more than half of the teachers admitted that the methods such as role playing, demonstration, individual study, student games, models and analogies, expressing and taking notes were useful at a second degree. They commented nothing about, using concept framework, concept maps and note taking.

Item 13: How often do you use the following methods and techniques in your classroom?

Teaching Methods and Activities	Always	Frequently	Sometimes	Rarely	Never
	%	%	%	%	%
Brain storming			20	20	60
Role playing			10	5	85
Demonstration		40	30	20	10
Organizing a classroom debate		-	-	15	85
Using Audio- Visual materials				10	90
Individual study		45	45	10	
Group working		55	20	25	
Using multi-media				10	90
Using Concept Mapping					100
Using Concept Framework					100
Using students games					100
Work sheet			55	45	
Expressing/ oral presentations	10	75	15		
Question-answer method	75	25			
Taking notes			65	10	25

Most of the teachers declared that they have never used brain storming, concept mapping, concept framework, student games, work sheet, models and analogies during their teaching. It is determined that organizing a classroom debate, expressing, oral presentations, question-answer method and taking notes were the methods they often use in their classrooms. Besides, nearly half of them declared that they sometimes use the methods such as learning through research, individual study, and group working and learning through exploration during teaching.

# Part E: Open Ended Questions

Item 14: keeping the available resources of your institute in mind, do you believe that active learning methods can be used? Give reasons.

Most of the teachers disclosed that due to the unavailability of the resources, it is very difficult, almost impossible, to apply active learning approach in their classrooms. A few of the teachers opined that although resources are not available, still active learning methods can be applied through a wise planning of the lesson on the teachers' side.

Item 15: what are your suggestions to perform student centered teaching?

The following responses were given by the participants:

Teachers should be properly trained through workshops

Most of the teachers proposed that active learning teaching can only be implemented through teacher training programs and workshops. They suggested that teachers should be given knowhow of student centered activities and their uses. Further generalized suggestions were:

- ✤ There should be an ideal class size
- Resources should be made available
- \* Activities should be conducted on students' group level as well as on individual basis
- Teachers should adopt abrupt questioning method in class to keep the students involved in the lesson

Item 16: What do you think are the factors which obstruct the use of active learning techniques in the classroom?

The participants' answers fall under the following categories:

- The unavailability of resources (audio-visual aids and modern equipments)
- Energy crisis in Pakistan
- ✤ Large class size
- ✤ Lengthy syllabus and less amount of time available
- ✤ Carelessness and non-seriousness in studies on the part of the students
- Students' lack of confidence and hesitation which does not let them come to the front to participate in activities
- Lack of awareness and proper training on the part of teachers concerning the use of active learning techniques
- Teachers do not know how to design a lesson/lecture based on students' classroom activities.

# CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

The following are the conclusions drawn from the analysis of the collected data:

- English language teachers of Bahawalpur lack awareness of active learning methodology.
- Teachers of Bahawalpur have mixed ideas about student centered and teacher centered methodology in language teaching. Most of them think that both of the methods are essential in language teaching; and these methods should alternatively be used according to the requirement of the situation.

- English language teachers of Bahawalpur have an overall positive attitude towards active learning, although they are not consciously aware of the techniques and terminologies of this modern approach. Still some of the teachers have certain misconceptions about the effectiveness of different classroom activities.
- Despite their positive attitude to active learning methodology, English language teachers of Bahawalpur do not practically use this approach in class. Only few activities (almost none) are conducted in class.
- Large class size, lengthy syllabus, less amount of time available, lack of resources, energy crisis, students' irresponsibility and unwillingness to learn, and lack of teachers' awareness and training are some of the factors which obstruct the use of active learning methodology in language learning classrooms of Bahawalpur.

With reference to the above mentioned conclusions, the research questions of the present study can be answered thus:

- 1. English language teachers of Bahawalpur have positive attitude towards active learning methodology.
- 2. Active learning approach is not practically being used in English language teaching of Bahawalpur. Only a few of the activities of minor nature are being used, and those also, to a very small extent.
- 3. English language teachers of Bahawalpur perceive that Large class size, lengthy syllabus, less amount of time available, lack of resources, energy crisis, students' irresponsibility and unwillingness to learn, and lack of teachers' awareness and training are some of the factors which obstruct the use of active learning methodology in language learning classrooms of Bahawalpur.

# Recommendations

Keeping in view the aforementioned conclusions of the present study, the following recommendations are put forward by the researchers:

- Teacher training programs and workshops on active learning should be conducted on a large scale. Each of the language teacher should be given chance to participate in these workshops. Teachers should be made aware of all upcoming modern approaches to language teaching.
- Government should try to equip the educational institutes with modern equipments of teaching, e.g. multimedia, overhead projector; computer etc. rooms should be large and comfortable so that they can allow the performance of various activities.
- Most of the teachers blamed the unavailability of resources. Resources should be made available, but teachers should also be trained for effective lesson planning based on classroom activities which do not require costly materials.
- Syllabus should not be lengthy; more emphasis should be given on language performance and creativity than on content knowledge.
- Class size should be small (between 20& 40) wherever possible.

#### References

- Ada, W.W. (2009). Computer supported collaborative learning and higher order thinking skills:
  A case study of textile studies. Interdisciplinary Journal of E-Learning and Learning Objects,
  5, 145-167. Retrieved from http://ijello.org/Volume5/IJELLOv5p145-167MA657.pdf
- Adebe, T. T., Davidson, L. M., & Biru, F. (2012). The Role of Instructors in Implementing Communicative Language Teaching Methodology. Research on Humanities and Social Sciences. Vol.2, No.3. ISSN 2224-5766(Paper) ISSN 2225-0484(Online). Retrieved from www.iiste.org on Setember 30, 2013.
- Anastasi, C. (1957) Attitude of in-service and pre-service primary school teachers Journal of Education Psychology 36, 3, 1-5, July. Astin, A. (1993). What matters in college? San Francisco: Jossey-Bass.
- Barkley, E.F., Cross, K.P., & Major, C.H. (2005). Collaborative Learning Techniques: A handbook for College Faculty. San Francisco, CA: Jossey Bass.
- Bhatti, Z. I. (2020). The English Language Teaching in Religious Institutes of Pakistan jahan-etahqeeq, Vol.3 (1) 1-10 ISSN Online 2709-7617
- Bloom, B. (1956). A Taxonomy of Educational Objectives. Handbook 1: Cognitive domain. New York: McKay.
- Bonwell, C. C. & Eison, J. A. (1991). Active Learning: Creating Excitement in the Classroom. ASHE-ERIC Association for the Studies of Higher Education Report No. 1. Washington, DC: The George Washington University, School of Education and Human Development. Retrieved from <u>http://www.oid.ucla.edu</u> on March 29, 2013.
- Bradley, A. (1995) Nation's teacher feeling better about jobs, salaries, survey, findings. Journal of Education 15, 14, 8-16, March.
- Brody, M. (2009).Participatory Action Research: Informing Pedagogy and Research in Higher Education. Montana State University, Bozeman, Montana
- Bruner, J.S., Goodnow, J.J. and Austin, G.A. (1956), A Study of Thinking, Wiley, New York, NY.
- Bruner, J.S. (1961), "The act of discovery", Harvard Educational Review, Vol. 31, pp. 21-32.

Bruner, J.S. (1968), Toward a Theory of Instruction, Norton, New York, NY.

- Chamot, A.U. and O'Malley, J. M. (1994). The CALLA Handbook: Implementing the Cognitive Language Learning Approach. Reading, MA:Addison Wesley.
- Chance, P. (2005). Learning and Behaviour: Active Learning (5th edition). New York: Wadsworth Publishing.
- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. The Wingspread Journal, 9 (2), 3-7. See also AAHE Bulletin, March 1987.
- Cooperstein, S. E. & Weidinger, E. K. (2004). Beyond active learning: a constructivist approach. The Emerald Research Journal. Vol. 32. No. 2. pp. 141-148. © Emerald Group Publishing Limited. ISSN 0090-7324. DOI 10.1108/00907320410537658
- Dahlgren, M.A. (2003). PBL through the Looking-Glass: Comparing Applications in Computer
- De Bogart, W., G., V. (2009). Active Learning Pedagogy: A new teaching methodology for a new generation of teachers. Nakhon Sawan Rajabhat University.
- Demirel, Ö. (2003). Eğitimde Program Geliştirme (Developing Education Curriculum) (5. Baskı). Ankara: PegemA Yayıncılık.
- Dewey, J. (1897). My pedagogic creed. The school journal. LIV(3): 77-80.
- Dewey, J. (1933). How We Think: A restatement of the relation of reflective thinking to the educative process. Boston: D.C. Heath.
- Dias, M. (2011). Teaching Lounge: Strategies to Teach for Active Learning. Center for University Teaching. Teaching and Learning Support Service, Uottawa.
- Dori, Y. J., & Herscovitz, O. (1999). Question-posing capability as an alternative evaluation method: Analysis of an environmental case study. Journal of Research in Science Teaching, 36, 411-430.
- Duch, B. J., Groh, S. E., and Allen, D. E. (2001). The Power of Problem-Based Learning. Sterling, VA: Stylus.
- Engineering, Psychology and Physiotherapy. Intl. J. Engr. Education, Vol. 19, No. 5, 2003, pp. 672–681.
- Etkina, E. and Van Heuvelen, A. (2001). Investigative Science Learning Environment: Using the processes of science and cognitive strategies to learn physics, in Proceedings of the 2001 Physics Education Research Conference, 17-21.

- Faust, J. L., & Paulson, D. R. (1998). Active learning in the college classroom. Journal on Excellence in College Teaching, 9 (2), pp 3-24. California State University, Los Angeles.
- Gage, W. A. (1963). The practice implications of constructivism. SEDLetter IX(3).
- Güneyli, A. (2008). The Impact of Active Learning Approach On Improving The Reading Skills In Native Language Teaching. Journal of Language and Linguistic Studies:Vol.4, No.2, October 2008.
- Harris, M. (1997). Self assessment of language learning in formal settings. ELT Journal. Vol. 51, No. 1. January, 1997. pp 12-20. © Oxford University Press.
- Hazzanetal, O. (2011). Guide to Teaching Computer Science: An Activity-Based Approach. Springer-Verlag London Limited. DOI10.1007/978-0-85729-443-2\_2.
- Johnson, P. A. & Green, B. (2011). Actively Pursuing Knowledge in the College Classroom. Journal of College Teaching & Learning: Vol. 8, No. 6. pp 17-30. November, 2011.
- Karamustafaoglu, S., Costu, B. & Ayas, A. (2006). Turkish chemistry teachers' views about an implementation of the active learning approaches in their lessons. Asia-Pacific Forum on Science Learning and Teaching, Volume 7, Issue 1, Article 2.
- Kolb, A. Y. & Kolb, D. A. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. Academy of Management Learning & Education, 2005, Vol. 4, No. 2, 193–212.
- Lathrop, L. Vincent, C. & Zehler, A. (1993).Special Issues Analysis Center focus group report: Active learning instructional models for limited English proficient (LEP) students. Volume 1: Findings on active learning. Volume 2: Transcript of Focus Group Meeting.
- Marchant, G. J. (1992) Attitudes towards research based effective teaching behaviours. Journal of International Psychology 19, 2, 7-16, April.
- Mayer, R.E. (1987), Educational Psychology: A Cognitive Approach, Little, Brown, Boston, MA.
- Meyers, C. and Jones, T.B. (1993). Promoting Active Learning, Strategies for College Classroom. San Francisco: Jossey-Bass Publishers.
- Moore, T.R. (2006) Active Learning: Motivating Students to Learn
- Özışık, A. (1997). "İlköğretim 6. Sınıflarda Türkçe Öğretiminde Yeni Teknikler Kullanarak Metin Anlamayı Geliştirme" (Developing Text Understanding By Using New Methods in

Turkish Teaching of Primary Education 6. Class) (Yayımlanmamış Yüksek Lisans Tezi, Marmara Üniversitesi, İstanbul.

- Paulson, D. R. and Faust, J. L. (2010). Precollege Science Education. California State University, Los Angeles.
- Philips, D. C. & Soltis, J. F. (2005). Öğrenme: Perspektifler. (Learning: Perspectives) (Çev: Durmuş, S). Ankara: Nobel Yayın Dağıtım.
- Piaget, J. (1970). The Science of Education and the Psychology of the Child. NewYork: Grossman.
- Piaget, J. (1977). Problems of equilibration. In Appel IMH, Gulberg(Eds.)., Topics in Cognitive development, Volume.1: Equilibration: Theory, Research and application, Plenum Press, NY: 3-13
- Resnick, L.B. (1987). Education and learning to think. Washington, D.C.: National Academy Press.
- Revell, A., & Wainwright, E. (2009). What makes lectures —unmissable? Insights into teaching excellence and active teaching. Journal of Geography in Higher Education, 33(2), 209-223.
- Rotenberg, R. (2005). The art and craft of college teaching: A guide for new professors & graduate students. Chicago, II: Active Learning Books.
- Rusbult, C. (2007). Active-Learning Theories (constructivism) and Teaching Strategies for Effective Instruction. Retrieved on April 12, 2013 from http://www.asa3.org.
- Saban, A. (2004). Öğrenme Öğretme Süreci (Learning Teaching Process) (3. Baskı). Ankara: Nobel Yayın Dağıtım.
- Şahinel, M. (2003). Etkin Öğrenme (Active Learning). Ankara: PegemA Yayıncılık.
- Silberman, M. L. (1996). Active Learning: 101 Strategies to Teach Any Subject. Boston: Allyn & Bacon.
- Spencer, J.A., and Jordan, R.K. (1995). Learner-Centred Approaches in Medical Education. BMJ (British Medical Journal), Vol. 313, 1996, pp. 275–283.
- Van Amburgh, J. A., Delvin, J. W., Kirwin, J. L. & Qualters, D. M. (2007). A Tool for Measuring Active Learning in the Classroom. American Journal of Pharmceutical Education. 2007 October 15; 71(5): 85.

- Vygotsky, L. S. (1978). Chapter 6: Interaction between Learning and Development. In M. Cole,V. John-Steiner, S. Scribner, & E. Souberman (Eds.), Mind in society: the development of higher psychological processes (pp. 79-91). Harvard University Press.
- Vygotsky, L., S. (1978). Mind in society: Development of higher psychological processes. Edited by Cole, M., John-Steiner, V., Scribner, S., Souberman, E. Cambridge, MA: Harvard University Press.
- Weimer, M. (2002). Learner-Centered Teaching: Five Keys Changes to Practice. USA: Jossey-Boss.
- Weiss, R. (2003). Designing Problems to Promote Higher-Order Thinking. In D.S. Knowlton and D.C. Sharp, eds., Problem-Based Learning in the Information Age, New Directions for Teaching and Learning, #95, San Francisco: Jossey Bass, Fall 2003, pp. 25–30.
- Wilke, R., R. (2002). The Effect of Active Learning on Student Characteristics in a Human Physiology course for Nonmajors. Advanced Physiological Education. 27: 207-223.
- Woods, D.R., (1994). Problem-Based Learning: How to Gain the Most from PBL. Waterdown.
- Zohar, A., & Dori, Y. J. (2003). Higher order thinking skills and low achieving students Are they mutually exclusive? The Journal of the Learning Sciences, 12(2), 145-182.
- Zweck, J. (2006).Strategies to promote active learning in math/stat discussion sessions.Retrieved 7<sup>th</sup> July, 2008 from

http://www.math.umbc.edu/~zweck/TATrain/ActiveLearning Strategies.pdf