

The Impact of Learning Design in Teaching English Language at Secondary Classroom

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Abstract: *Constructivist learning has emerged as a prominent approach to teaching during this past decade. The work of Dewey, Montessori, Piaget, Bruner, and Vygotsky among others provide historical precedents for constructivist learning theory. Constructivism represents a paradigm shift from education based on behaviourism to education based on cognitive theory. This paper represents the importance of constructivist approach in "learning designing" rather than planning of teaching for English Language. Recently constructivism is viewed as one of the focused issue in educational context, as it illustrate learner progress by indicating a connection between the division of information, high lights how one can use different types of knowledge to conceptualize and put into practice, it helps to keep track of one's progress in directing specific functions. A range of ICT based learning activities are underpinned by constructivist learning theory. Seymour Papert has argued that by learning computer programming, students learn how to think and learn for themselves. The primary aim of the study was to study the effect of constructivist approach of teaching on the learning of English Language on Higher Secondary School Students. The study consisted of 120 students of class XI from different Schools of West Bengal. Mainly we can say that teaching have been traditionally administered through the traditional method using Lesson Plan but at the advent of the 21 st Century, researchers sought to find a more or rather convenient means of teaching using Learning Design in the light of ICT. In this paper the researcher would try to compare and contrast the impact of Lesson Plan and Learning Design in respect of cognitive development among the students of Higher Secondary Schools in West Bengal. In the traditional classroom the main teaching model is direct instruction, meaning that the teacher's vital role in the classroom is to diffuse knowledge to pupils and students must directly grip information presented by the teacher through Lesson Plan. (Rosenshine & Stevens, 1986; Good and Brophy, 1991). There is growing agreement in many countries that students need more than rote subject matter understanding to succeed in this rapidly-changing world: instead, they need to be skilled at collaborating, constructing deep subject-matter knowledge, solving real-world problems, using information and communication technologies (ICT) in powerful ways, and a host of other "21st century skills" that traditional schooling models rarely promote. LD helps teachers build opportunities for students to develop these skills in their classroom. This paper focuses on Comparative analysis of student performance in Lesson Plan and Learning Design. A correlational analysis of LP and LD in teaching method is used. To avoid research biasness the researcher has taken two schools each from rural and urban areas by delimiting the population. The population of this research is students of class xi of West Bengal and the sampling procedure is Stratified Random sampling. The data is collected by using the structured questionnaire. Pearson-correlation and t-test was used for the analysis. Result showed a positive correlation in the scores of students, it is therefore concluded that, if the teacher use LD in teaching English then their performance will be enhanced. Therefore we can say that use of ICT in Teacher Education is very much effective and it is also beneficial for all the teacher-educators in respect of cognitive development.*

Key Words: *Constructivism, Learning Design, Achievement, Cognitive Development.*

I. INTRODUCTION

Constructivism is first of all a theory of learning based on the idea that knowledge is constructed by the knower based on mental activity. Learners are considered to be active organisms seeking meaning. Constructivism is first of all a theory of learning based on the idea that knowledge is constructed by the knower based on mental activity. Learners are considered to be active organisms seeking meaning. Constructivism is founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world consciously we live in. Each of us generates our own "rules" and "mental models," which we use to make sense of our experiences. Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences. Constructions of meaning may initially bear little relationship to reality (as in the naive theories of children), but will become increasing more complex, differentiated and realistic as time goes on. Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences. Constructions of meaning may initially bear little relationship to reality (as in the naive theories of children), but will become increasing more complex, differentiated and realistic as time goes on. a constructivist teaching strategy is based on the belief that students learn best when they gain knowledge through exploration and active learning. Hands-on materials are used instead of textbooks, and students are encouraged to think and explain their reasoning instead of memorizing and reciting facts. Education is centered on themes and concepts and the connections between them, rather than isolated information.

Constructivism Learning Theory

Constructivism learning theory is a philosophy which enhances students' logical and conceptual growth. The underlying concept within the constructivism learning theory is the role which experiences-or connections with the adjoining atmosphere-play in student education. The constructivism learning theory argues that people produce knowledge and form meaning based upon their experiences. Two of the key concepts within the constructivism learning theory which create the construction of an individual's new knowledge are accommodation and assimilation. Assimilating causes an individual to incorporate new experiences into the old experiences. This causes the individual to develop new outlooks, rethink what were once misunderstandings, and evaluate what is important, ultimately altering their perceptions. Accommodation, on the other hand, is reframing the world and new experiences into the mental capacity already present. Individuals conceive a particular fashion in which the world operates. When things do not operate within that context, they must accommodate and reframing the expectations with the outcomes.

The role of teachers is very important within the constructivism learning theory. Instead of giving a lecture the teachers in this theory function as facilitators whose role is to aid the student when it comes to their own understanding. This takes away focus from the teacher and

lecture and puts it upon the student and their learning. The resources and lesson plans that must be initiated for this learning theory take a very different approach toward traditional learning as well. Instead of telling, the teacher must begin asking. Instead of answering questions that only align with their curriculum, the facilitator in this case must make it so that the student comes to the conclusions on their own instead of being told. Also, teachers are continually in conversation with the students, creating the learning experience that is open to new directions depending upon the needs of the student as the learning progresses. Teachers following Piaget's theory of constructivism must challenge the student by making them effective critical thinkers and not being merely a "teacher" but also a mentor, a consultant, and a coach.

Instead of having the students relying on someone else's information and accepting it as truth, the constructivism learning theory supports that students should be exposed to data, primary sources, and the ability to interact with other students so that they can learn from the incorporation of their experiences. The classroom experience should be an invitation for a myriad of different backgrounds and the learning experience which allows the different backgrounds to come together and observe and analyse information and ideas.

The constructivism learning theory will allow children to, at an early age or a late age, develop the skills and confidence to analyze the world around them, create solutions or support for developing issues, and then justify their words and actions, while encouraging those around them to do the same and respecting the differences in opinions for the contributions that they can make to the whole of the situation. Classroom applications of constructivism support the philosophy of learning which build a students' and teachers' understanding.

Constructivist Learning Design

The "Constructive Learning Design" emphasizes these six important elements:

Situation,
Groupings,
Bridge,
Questions,
Exhibit, and
Reflections.

These elements are designed to provoke teacher planning and reflection about the process of student learning. Teachers develop the situation for students to explain, select a process for groupings of materials and students, build a bridge between what students already know and what they want them to learn, anticipate questions to ask and answer without giving away an explanation, encourage students to exhibit a record of their thinking by sharing it with others, and solicit students' reflections about their learning.

This brief overview above indicates how each of these six elements integrate and work as a whole, but all need further explanation:

1. Situation: What situation are you going to arrange for students to explain? Give this situation a title and describe a process of solving problems, answering questions, creating metaphors, making decisions, drawing conclusions, or setting goals. This situation should include what you expect the students to do and how students will make their own meaning.

2. Groupings: There are two categories of groupings: A. How are you going to make groupings of students; as a whole class, individuals, in collaborative thinking teams of two, three, four, five, six or more, and what process will you use to group them; counting off, choosing a color or piece of fruit, or similar clothing? This depends upon the situation you design and the materials you have available to you. B. How are you going to arrange groupings of materials that students will use to explain the situation by physical modeling, graphically representing, numerically describing, or individually writing about their collective experience. How many sets of materials you have will often determine the numbers of student groups you will form.

3. Bridge: This is an initial activity intended to determine students' prior knowledge and to build a "bridge" between what they already know and what they might learn by explaining the situation. This might involve such things as giving them a simple problem to solve, having a whole class discussion, playing a game, or making lists. Sometimes this is best done before students are in groups and sometimes after they are grouped. You need to think about what is appropriate.

4. Questions: Questions could take place during each element of the Learning Design. What guiding questions will you use to introduce the situation, to arrange the groupings, to set up the bridge, to keep active learning going, to prompt exhibits, and to encourage reflections? You also need to anticipate questions from students and frame other questions to encourage them to explain their thinking and to support them in continuing to think for themselves.

5. Exhibit: This involves having students make an exhibit for others of whatever record they made to record their thinking as they were explaining the situation. This could include writing a description on cards and giving a verbal presentation, making a graph, chart, or other visual representation, acting out or role playing their impressions, constructing a physical representation with models, and making a video tape, photographs, or audio tape for display.

6. Reflections: These are the students' reflections of what they thought about while explaining the situation and then saw the exhibits from others. They would include what students remember from their thought process about feelings in their spirit, images in their imagination, and languages in their internal dialogue. What attitudes, skills, and concepts will students take out the door? What did students learn today that they won't forget tomorrow? What did they know before; what did they want to know; and what did they learn? Educational Precedents Each of these six elements of our constructivist learning design has educational precedents. These precedents provide a theoretical framework for a constructivist learning design.

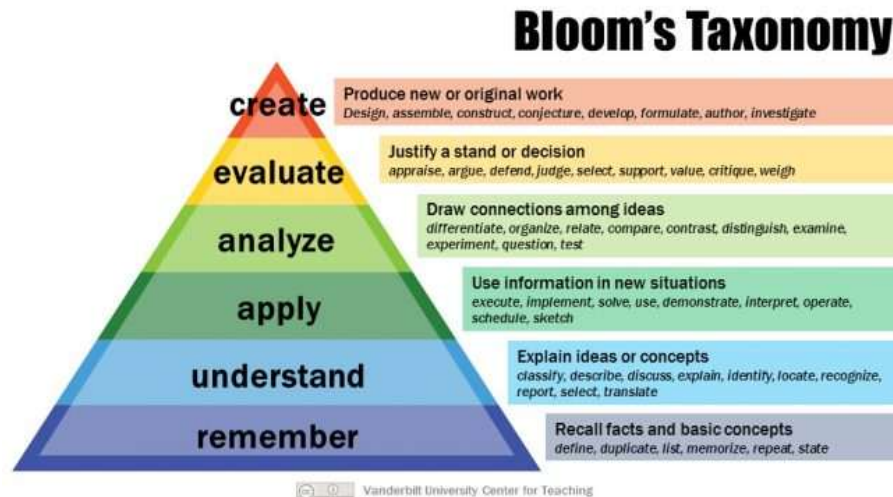
Assessment: Assessment becomes an integral part of every step in this learning design. Teachers design the situation based on their assessment of students' learning approaches, interests, and needs. Teachers design a process for groupings based on their assessment of materials of available and desired mixture of students. Teachers design a simple assessment of what students already know as a bridge to what they want students to learn. Teachers design questions to assess student understanding of the concepts, skills, or attitudes they are trying to learn. Teachers arrange an exhibit for students to record what they thought and submit it to others for assessment. Teachers arrange for reflections about what students' have learned and their internal process of representations as a context for self-assessment of individual learning.

Applications: The planning approach we are proposing is based on actively engaging students in situations that involve collaboratively considering their own explanations for phenomena, resolutions to problems, or formulation of questions. Students are asked to actively construct their own knowledge by making meaning out of the situation by themselves with support and guidance from the teacher. Teachers organize the situation and then provide encouragement and questions to groups of students who are trying to construct and to display their own explanations. The constructivist approach can be adapted to any subject area or curriculum by involving students as active participants

in making meaning instead of passive recipients of information given to them by the teacher. This approach can be incorporated into 45 or 50 minute class periods to teach a particular concept, skill, or attitude. When referring to student learning we deliberately use the phrase "concepts, skills, and attitudes" to convey different dimensions of knowledge. The accepted educational language described by current NCATE accreditation standards is "knowledge, skills, and attitudes." This implies that skills and attitudes are something different than knowledge or that knowledge is merely a collection of facts or information. Constructivist learning implies an initial concern with what knowledge is and how knowledge is actively constructed by the learner. Advocates of constructivism agree that acquiring knowledge or knowing is an active process of constructing understanding rather than the passive receipt of information.

Bloom's Taxonomy and Constructivism

The use of Blooms Taxonomy to provide focus for the delivery of education and meeting educational objectives is a commonly used structure. The taxonomy can aid developing curriculum learning objectives, assessments and activities to align and scaffold education delivery. Organising levels of expertise of Bloom's taxonomy categorises and orders from simple to complex and from concrete to abstract, and cover the learning objectives in the cognitive, affective and sensory domains.



“This connection between the ‘teaching objectives’ (what lecturers say they want to do) and their ‘teaching activity’ (what they actually do) – a lack of relationship between intention and performance. This unrecognised contrast between intent and the effects of teaching is often expressed as a distinction between the formal and the hidden’ curriculum” (Entwistle et al, 1971, pg. 12).

For the Educator

- What are the aims of the education?
- What level of knowledge and understanding is expected of the student?
- Scaffolding towards critical thinking.
- Guides and aligns type of assessment.

For The Student

- What is expected of me (what educators want students to know)?
- What am I going to develop by attending this course?
- Are values, attitudes, and interests affected?
- To understand and use concepts, to demonstrate particular skills.

The updated taxonomy by Krathwohl (2002) using the knowledge and cognitive domains states that “the Taxonomy of Educational Objectives is a scheme for classifying educational goals, objectives, and, most recently, standards. It provides an organizational structure that gives a commonly understood meaning to objectives classified in one of its categories, thereby enhancing communication”

The National Curriculum Framework (NCF) 2005

In education constructivism has become an appealing alternative to traditional process-product educational practices because it seems to address the criticisms of current educational practices, and it promises to deliver higher levels of literacy, multiple forms of literacy, self-reliance, cooperation, problem-solving skills, and satisfaction with school. Constructivism implies a new kind of pedagogy where the emphasis will be more on what students do than what teachers do, and where there will be performance assessment of student learning rather than standardized achievement testing (Elmore, 1991b; Resnick and Klopfer, 1989; Weinberg, 1989).

In the traditional classroom the main teaching model is direct instruction, meaning that the teacher's vital role in the classroom is to diffuse knowledge to pupils and students must directly grip information presented by the teacher (Rosenshine & Stevens, 1986; Good and Brophy, 1991). This process has been based on information processing theory (Rumelhart, 1980). The student's role is reception and compliance (Ausubel, 1963, 1968). In this model the teacher's performance in front of students is critical, and in many school districts teachers are evaluated for their ability to establish "effective" eye contact, use different kinds of questions, pause in explanations to allow pupil reflection, use of a variety of concepts, and redirect student question, and so forth a process of disassembling knowledge into small bits for students to comprehend.

Presumably in the constructivist classroom it should be much different, where students, instead of the teacher, organize information, explore the learning environment, conduct learning activities, and monitor their own learning. Constructivism requires teachers to focus on depth of understanding and to assume a supporting or "reflective" role while students construct meaning for themselves and engage in critical thinking and problem solving. The approach of behaviorism, focus on the desired changes in the behavior of students through drill and

practice. Therefore, the main theme in testing the achievement of students remain the cognitive thinking based questions and creativity, reasoning, analytical thinking of students was not judged or was not given due importance.

Teacher can use different pedagogies as per the need of child and content like 'learner –centered' pedagogy means giving primacy to learners' experiences, their voices and their active participation. This pedagogy involves/requires a teacher to plan learning in keeping with the children's psychological development and interest, responding to their physical, cultural and social preferences and needs. School pedagogic practices, learning tasks and text we creates for learners tend to focus on the socialization of the children and on the 'receptive' features of children's learning. Children's voices and experiences generally do not find expression in the class room. Instead teaches need to nurture and build on their active and creative capabilities –their inherent interest and abilities for the fullest and possible development. Participation of the students in the learning activities organized by school is powerful and corrective strategies. It helps the teachers to meet their own ends. True participation starts from the experiences of both learners and teachers when children and teachers share their experiences without any fear and reflect on them, provide opportunity to learn about others who may not be the part of their own social reality. If children's experiences are to be brought into the class room, it is inevitable that issues of conflict will need to be addressed. To use conflicts as pedagogic strategy is to be enable children to deal with conflict and facilitate awareness of its nature and its role in their lives.

Need and Significance of Study

The traditional notion of English teaching, which intends to make individuals to gain the identity in communication depends on a teacher centered instruction, which grounds the belief that the best teaching occurs in a quiet teaching environment, where the teacher symbolizes the wisdom and the authority. Such a teaching notion abstracts the teacher from the classroom, uses the course book as only teaching material and requires the learners to study on their own. Though the eliminations of the traditional teaching are apparent, nowadays some skills such as updating, practicing, criticizing and analysing the knowledge are gaining importance. The constructivist theory which plays an important role in the field of education recently arouses the interests of the experts in the field of language teaching in terms of designing a curriculum which enables the students to learn through practicing, problem solving and decision-making. The present study was carried out to see the effect of constructivist problem based learning approach on academic achievement of level-IX students. The present study is a significant research as it emphasizes on student's autonomy, acceptance of student's involvement, effective dialogues between students and teacher and students and students in the form of discussion related to the various concepts of problem solving. It has been observed during the review of the literature that a very limited work has been carried out in the field of language particularly in English Primary level with regard to constructivist approach. The areas so far explored had been science, math etc. Thus, the researcher in the present study tried to implement the constructivist approach in language teaching particularly in English Teaching at primary stage.

II. METHODOLOGY

The study consisted 60 students of class IX from Rampurhat Girls' High School. Two types of teaching learning process was adopted. First the students were taught English Language with different dimension using lesson plan in the classroom. After that in another day the researcher adopted constructivist method using learning design as per the plan. The teacher acted as a facilitator of learning both inside and outside the classroom. It is fairly to mention here that teacher also discussed with the students about the way they have learned and taught by the facilitator in the class.

A Self-made achievement test in English subject was administered on all the students in the sample. The purpose of the teaching in traditional classroom situation was to examine the students' prior knowledge in order to provide a baseline for the research. The teaching with learning design used to measure the students' academic performance after organizing the teaching based on constructivism approach.

Objectives

1. To identify learner's difficulties in English learning at Secondary level.
2. To study the effectiveness of the constructivist based approach on the learners' achievement.
3. Comparative analysis between the achievement test taken after teaching with Lesson Plan and Learning Design

Hypothesis

H₀1 : There would be no significant difference in achievement test scores between the male and female students that is taken after teaching with lesson plan.

H₀2 : There would be no significant difference in achievement test scores between the male and female students that is taken after teaching with learning design.

H₀3 : There would be no significant difference between the result of achievement tests taken after teaching with lesson plan and after teaching with learning design.

Data Collection

For conducting the study, data had been collected in one phase. 60 students of class XI was taken the sample of this study. The researcher had taken achievement test two times: one after teaching English Language using traditional Lesson Plan and another using learning design in constructivist approach. In order to take achievement test the researcher had taken five areas (Comprehension, Writing, Punctuation, Pronunciation, Reading and Word Fluency)

III. ANALYSIS AND INTERPRETATION

To identify learner's difficulties in English at Secondary stage.

The Investigator attempted to identify five broad areas of learners' difficulties. These areas were

- Comprehension,
- Writing,
- Punctuation,
- Pronunciation,
- Reading and Word Fluency.

Table 1: Difficulties identified in the Areas of English Language in Traditional Classroom (Teaching with Lesson Plan)

S.No.	Areas	Areas wise Items	Difficulty faced in no of items	Percentage of Difficulties
1	Comprehension	20	16	80%
2	Writing	15	12	80%
3	Punctuation	10	4	40%
4	Pronunciation	12	5	41%
5	Reading and Word Fluency	18	10	56%
TOTAL	Overall Difficulties	75	47	62%

Interpretation: It may be seen from table -1 that students of Secondary level have more difficulties in the Comprehension i.e.80 %, the next area of difficulties is writing i.e. 80% whereas in punctuation and pronunciation the difficulty was 40% and 41% respectively. The last observed area of difficulty was Reading and Word Fluency. i.e. 56%. Whereas overall difficulty in pretest was recorded 62%. Therefore it can be concluded that a number of items on Comprehensions and Writing could not be solved by a majority of students. Therefore it was a baseline of the study to give students pedagogical inputs to enhance their basic concepts in language.

Table 2: Gain in Achievement in % in the Areas of English Language in Constructivist Classroom (Teaching with Learning Design)

S.No.	Areas	Areas wise Items	Difficulty faced in no of items	Percentage of Difficulties
1	Comprehension	20	10	50%
2	Writing	15	10	66%
3	Punctuation	10	3	30%
4	Pronunciation	12	3	25%
5	Reading and Word Fluency	18	10	55%
TOTAL	Overall Difficulties	75	36	48%

Table-2 : reveals that after using constructivist approach of teaching through Learning Design, it was observed that the group gained tremendous improvement in English language. The score in Table no 2 is evident that only 48% difficulty was recorded in their constructivist class. Therefore the class taught through Learning Design has been able to minimize its difficulty in various concepts of English language.

Table 3: Marks of male and female students in the Achievement test taken after teaching with Lesson Plan

	FEMALE	MALE
Mean	28.23333333	28.93333
Variance	9.21954023	13.58161
Observations	30	30
Pooled Variance	11.40057471	
Hypothesized Mean Difference	0	
df	58	
t Stat	-0.802934829	
P(T<=t) one-tail	0.212645286	
t Critical one-tail	1.671552762	
P(T<=t) two-tail	0.425290573	
t Critical two-tail	2.001717484	

Interpretation:

The mean score for achievement test for female is 28.23 as compared to the mean score of male student 28.93 in the traditional classroom where teaching is conducted using lesson plan. The $P(T \leq t)$ two-tail value is 0.425 (>0.05) and t-value is not significant. Therefore the null hypothesis that there is no significant difference between the scores of male female students in the achievement test taken after teaching with lesson plan is accepted.

Table 4: Marks of male and female students in the Achievement test taken after teaching with Learning Design

	MALE	FEMALE
Mean	36.73333	36.03333333
Variance	10.47816	9.067816092
Observations	30	30
Pooled Variance	9.772989	
Hypothesized Mean Difference	0	
df	58	
t Stat	0.867221	
$P(T \leq t)$ one-tail	0.194697	
t Critical one-tail	1.671553	
$P(T \leq t)$ two-tail	0.389395	
t Critical two-tail	2.001717	

Interpretation:

The mean score for achievement test for female is 36.73 as compared to the mean score of male student 36.03 in the constructivist classroom where teaching is conducted using learning design. The $P(T \leq t)$ two-tail value is 0.389 (>0.05) and t-value is not significant. Therefore the null hypothesis that there is no significant difference between the scores of male female students in the achievement test taken after teaching with learning design is accepted.

In this respect the researcher reach up to the decision that there must be difference between the teaching teaching process i.e. teaching with lesson plan and teaching with learning design and it it must seen in the marks of the achievement test but there is no effect left different on the male and female students.

Table 5: To study the effectiveness of the constructivist based approach on the learners' achievement.

	Achievement Test 1	Achievement Test 2
Mean	28.56666667	36.38333333
Variance	11.33446328	9.731920904
Observations	60	60
Pooled Variance	10.53319209	
Hypothesized Mean Difference	0	
df	118	
t Stat	-13.19174408	
$P(T \leq t)$ one-tail	2.85459E-25	
t Critical one-tail	1.657869522	
$P(T \leq t)$ two-tail	5.70918E-25	
t Critical two-tail	1.980272249	

Interpretation:

The mean score for achievement test 1 means which is taken after teaching with lesson plan is 28.56 as compared to the mean score of Achievement-test 2, which is taken after teaching with the help of learning design is 36.38 The $P(T \leq t)$ two-tail value is 5.70918E-25 (<0.05) and t-value is highly significant.

Therefore the null hypothesis that there would be no significant difference between the result of achievement test taken after teaching with lesson plan and after teaching with learning design is rejected.

The result clearly indicates that constructivist teaching approach with the help of Learning Design brings highly significant difference in the learners' achievement in Secondary level classes which at the important phase of cognitive development. The findings of the study revealed that constructivism has emerged as a learner-centered approach. The problem based learning approach of constructivism made learning an active process, enhanced students' engagement and raised-up the achievements of students in English.

IV. CONCLUSION

The students taught by using constructivist methods in learning design were also found to have a deeper comprehension of the learning process and outcomes, and as a result, became more critical than those in traditional classes. Several studies indicate that constructivist teaching is beneficial to developing students' perceptions of learning, in terms of independence in learning, coherence of concepts, and cognitive engagement (Chang 2005b; Elby, 2001). It is important that we should deliberately think about how to effectively teach our students. The implications of constructivism approach for how teachers teach and learn to teach are enormous. If our efforts in reforming education for all students are to be successful, we must give attention on students. Emphasis on student-centered learning may well be the most important contribution of constructivism.

This study found that innovative challenges might emerge when the teacher tries to eliminate weaknesses. While real-life examples seemed to be appreciated by most of the students, a few were concerned about the standard of the course, the completeness of interpreting the phenomena, and the coverage of the topics. Secondary level is very vital as after that they are going to choose the main stream of their future education. In this respect in secondary level English as a foreign language must be teaching in a new, lively, attractive way where the student can participate and apply their knowledge. Therefore we can conclude that teaching with constructivist approach is very scientific and useful. In this sense to make our teaching scientific and the whole teaching-learning process attractive Learning design we have to adopt.

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BIOGRAPHY



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