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# Investigating the Zone of Proximal Development in Spoken Data from the Classroom

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## Abstract
The educational process has form several social processes to add value to the community and its needs. The process aims to create good people in all their personal aspects, physical, mental, psychological and social through the modification of human behavior within the goals of the curricula content. The techniques of teaching arose from a desire to facilitate a better language learning process. Several other new techniques and methods were developed based on theories of learning and teaching (Ellis, 1999). In this regard, the present study examines data from classroom interaction to discuss the of zone of proximal development as the paper is designed to deal with spoken language analysis, the research utilizes primary source of data.

**Keywords:** Proximal development; Spoken data.

## 1. Introduction
The educational process has form several social processes to add value to the community and its needs. The process aims to create good people in all their personal aspects, physical, mental, psychological and social through the modification of human behavior within the goals of the curricula content.

The techniques of teaching arose from a desire to facilitate a better language learning process. Several other new techniques and methods were developed based on theories of learning and teaching (Ellis, 1999). In this regard, the present study examines data from classroom interaction to discuss the of zone of proximal development in order to identify its goals in facilitating a better language learning process.

## 2. Literatures Review
*The Zone of Proximal development* (sometimes abbreviated ZPD) was developed by Soviet psychologist and social constructivist Lev Vygotstk (1896-1934). Vygotsky argued that learning and mental development need to be viewed as a social process: it is through the interactions we enter into with other members of our culture, particularly those more knowledgeable or proficient, that we make sense of the world and learn new (usually culturally and socially specific) ways of seeing, doing and being. Thus patterns of interaction between teachers and students (not dissimilar to parent-child interaction) can be a powerful resource in scaffolding students' learning of language as well as their learning about and through what is termed as ZPD.

ZPD caught the attention of scholars who have interest in language learning and teaching because of the importace of the technique in helping language teachers to achieve target of their instruction, in addition to ensuring that all students are progressing at an appropriate pace.

Literature on the Zone of Proximal Development indicate that it is a prominent theory that appeared in the 21st century in learning and teaching. It is related to constructivism that focuses on the mental process for the learner and cognitive growth. The theory was built on the works of Piaget (1970), a Swiss developmental psychologist and philosopher who specialized on child cognitive studies.

Piget's approachs like the ZDP technique emphasizes the importance of active involvement of learners in constructing knowledge for themselves and building new ideas or concepts based upon current knowledge and past experience. Piaget states that children are creative and construct their own knowledge. Piaget identifies four stages of human knowledge as a model of his theory:

*(1)The sensorimotor stage:* begins from the birth of children until the end of the second year. It is the period that the child knowledge limited to his/her sensory perception and involuntary activities.

*(2)The preoperational stage* begins from the second year to the sixth. During this period, children begin to use language and they can't think logically, they represent things by images and words. They have difficulty taking the viewpoint of other people.

*(3)The concrete operational stage* begins from the end of seven to the twelfth. In this period, Piaget believed that in this stage children begin to think logically about the objects. They identify thinks according to several features and divided them according to its dimensions such as, shape and size.

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*(4)The formal operation stage* begins from the age of twelfth to auldthood. Learners in this stage become concerned with hypothetical, the future, and ideological problems.

From that, we can say that the essential theme for Piaget's work constrates on acquisition humans of knowledge and how it develops from the beginning of their life. He uses a method that deals with observation to collect information about thinking progresses.

Based on Piaget's model, the zone of proximal development (ZPD) has had a substantial impact in a variety of research areas, among them developmental psychology, education, and applied linguistics. The most frequently referenced definition of the ZPD is:

> *"the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers"*
> (Vygotsky, 1978).

The ZPD has intersted educators and psychologists for a number of reasons. One of them is the notion of assisted performance, which, although not equivalent to the ZPD, has been the driving force behind much of the interest in Vygotsky's research. Another compelling attribute of the ZPD is that in contrast to traditional tests and measures that only indicate the level of development already attained, the ZPD is forward-looking through its assertion that what one can do today with assistance is indicative of what one will be able to do independently in the future. In this sense, ZPD-oriented assessment provides a nuanced determination of both development achieved and developmental potential.

The story of the ZPD concept begins with Vygotsky's genetic law of cultural development. Vygotsky's well-known formulation is that:

> *Any function in the child's cultural development appears twice, or on two planes. First it appears on the social plane, and then on the psychological plane. First it appears between people as an interpsychological category, and then within the child as an intrapsychological category. This is equally true with regard to voluntary attention, logical memory, the formation of concepts, and the development of volition. . . . [I]t goes without saying that internalization transforms the process itself and changes its structure and functions. Social relations or relations among people genetically underlie all higher functions and their relationships.*
> (Vygotsky, 1978).

Based on the Vygotsky (1978), assertion, learning made through social interaction between the tutor (parent or teacher) and the child through verbal instructions then the child use these instruction to regulate or assist his/her performance. Vygostky also gave an important emphasize on the language because it is the means that child using for expressing what in his mind, and he also concentrated on the importance of assisting children through different ways of teaching.

In simple terms, the zone of proximal development (ZDP) is used to understand how assistance is related to language development. ZDPs are evident whenever one learner is enabled to do something by the assistance of another that he or she would not have been able to do otherwise. Vygotsky (1978), defines the ZDP as:

> *'the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers'.*

From the review of previous studies on ZPD, we notice that ZPD is a multi-facet model especially on the scaffolding and negotiation for meaning in the second language classroom. There also is need to revisit the relation of scaffolding and negotiation for meaning in second language teaching interaction in order to adequately deal with the data of the study.

## 2.1. Scaffolding

Creating contexts for linguistic and academic learning in the ZPD occurs in part through the scaffolding of social interaction. Scaffolding is closely related to the ZPD. In fact, it is only within the ZPD that scaffolding can occur. As we saw above, working in the ZPD means that the learner is assisted by others to be able to achieve more than he or she would be able to achieve alone.

Scaffolding refers to the detailed circumstances of such work in the ZPD. According to David Wood, scaffolding is tutorial behavior that is contingent, collaborative and interactive (Wood, 1988). Behavior is contingent when an action depends on (i.e. influences and is influenced by) other actions. It is collaborative when the end result, whether it is a conversation or the solution to a problem, is jointly achieved. And it is interactive when it includes the activity of two or more people who are mutually engaged.

## 2.2. Scaffolding as Structure and Process

The original idea of scaffolding comes from the work of Jerome Bruner, who defines scaffolding as follows:

> *"a process of 'setting up' the situation to make the child's entry easy and successful and then gradually pulling back and handing the role to the child as he becomes skilled enough to manage it."*
> (Bruner, 1983).

Bruner's notion of scaffolding was developed in the 1970s in the context of an intensive investigation of six infants (ages 7-18 months) over a period of 10 months, as they and their mothers played games. The researchers focused particularly on the game of 'peekaboo', which was played frequently over the entire period. The game

consists of an initial contact, the establishment of joint attention, disappearance, reappearance and re-establishment of contact. These are the obligatory features of the 'syntax' of the game, whereas other features, such as vocalizations to sustain the infant's interest, responses to the infant's attempts to uncover the mother's face, etc. are optional. These 'non-rule bound' parts of the game are an instance of the mother providing a 'scaffold' for the child (Bruner, 1975).

In pedagogical contexts, scaffolding has come to refer to both aspects of the construction site: the supportive structure (which is relatively stable, though easy to assemble and reassemble) and the collaborative construction work that is carried out. Indeed, if we think only of the support structure without focusing on the actual construction work, then such a reservation is justified. Most importantly, then, the dynamics between the scaffolding structure and the scaffolding process must be kept in mind. The process is enabled by the scaffolding structure, and a constant evaluation of the process indicates when parts of the scaffolding structure can be dismantled or shifted elsewhere.

In education, scaffolding can be thought of as three related pedagogical 'scales'. First, there is the meaning of providing a support structure to enable certain activities and skills to develop. Second, there is the actual carrying out of particular activities in class. And, third, there is the assistance provided in moment-to-moment interaction.

# 3. Negotiation for Meaning in SL Classroom

Various scholars have different views on the term negotiation for meaning. It can be defined as an activity that occurs when the listener signals to the speaker that the speaker's message is not clear and the speaker and the listener work linguistically to resolve the impasse (Pica, 1992). Scholars like Long (1996), Ellis (1999), and Mackey *et al.* (2000), attribute the concept to linguistic efforts to resolve communication failure between speaker and the addressee. Long (1996), asserts that 'communicative trouble' can lead learners to recognize that a linguistic problem exists, switch their attentional focus from message to form, identify the problem and notice the needed item input.

Foster and Ohta (2005), dedicate their research on negotiation for meaning in second language classroom. In the research, they assert that the negotiation for meaning in interaction between non-native speakers working together on a classroom task is common and well-promoted practice in communicative language teaching. Negotiation for meaning is an effective tool to track communication breakdown and the interactional adjustment that occurs in the course of negotiation for meaning facilitates language acquisition because it connects input, internal learner capacities, particularly selective attention, and output in productive ways (Long, 1996).

Beyond negotiation for meaning in the L2 classroom, peer interaction is also common where learners help one another as they interact (Brooks, 1992; Donato, 1994; Ohta, 1995;1997;2000a;2000b;2001). Collaboration is an important part of what happens when learners interact with one another. Ohta (2001), found that adult learners of Japanese in their first two years of language classes interact with each other with a variety of pair interactive task.

## 3.1. The Purpose of the Study

The central theme of this paper is to analyse classroom EFL data to identify forms of language learning involving the Zone of Proximal Development (ZPD) with the following purposes:
1. To discuss the concept of the zone of proximal development.
2. To identify how teaching in the zone can benefit students and teachers.
3. To locate the ZPD for students and use it to distinguish instruction.
4. To identify certain strategies that assist teachers to apply this concept.

## 3.2. The Research Questions

As indicated in the purpose of the study, the paper seeks to analyze classroom data to identify the operation Zone of proximal development (ZPD) and its related models such as scaffolding and negotiation for meaning in the classroom interaction. The paper sets out to address the following research questions:
1. Does the teacher use the Zone of proximal development (ZPD) in the classroom?
2. Do the students respond to this strategic interaction?

# 4. Methodology

As the paper is designed to deal with spoken language analysis, the research utilizes primary source of data. The data is generated by means of recording a normal English classroom session which was transcribed, coded and classified for evaluation and analysis.

## 4.1. Participants

The participants of this study are students of undergraduate EFL learners Languages and Literature Department, Suleyman Demirel University, (SDU) and their teacher who is an English native speaker. The researchers recorded the whole class session to enable them to capture data that reflect focused areas of the study. They sought the permission of the class teacher to be in the class during the recordings in order to be observants and take notes about the required data.

## 4.2. Data Analysis and Discussion

Vygotsky (1978), defines the zone of proximal development as:

*"the distance between the actual development as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers".*

The classroom interaction provides opportunities for ZPD especially when teachers and learners exchange meaning with each other in typical second language classrooms which lead to what known as zone of proximal development (ZPD) in Vygotsky (1978) as reflected in the data extract1 below.

## Extract 1

5. TR: Will you remember what November 5$^{th}$ is?
6. There is remarkable event to be rememberd in the every 5$^{th}$ of November, have you heard this before?
7. ST:   yes Hocam
8. TR: You heard it before?
9. ST: Yes, I can remember on the 4$^{th}$ November
10. TR: We are talking about November 5$^{th}$ not 4$^{th}$ November.
11. ST: Ok Not 4$^{th}$, the 5$^{th}$ November.
12. TR: Yes the 5$^{th}$ of November that was yesterday, what is it?
13. ST: I don't know.
14 TR: You don't know?
15. Alright, Ok! Someone will come to give a brief talk as guest speaker about November 5$^{th}$.

We can see that in lines 5, 10 and 12 the teacher is assisting the learners through stimulating questions as in 5. In 10 and 12 the assistance is in the form of giving background information. The action of the teacher is aimed to bridge the noticeable gap that he discovered and which he felt that the learners can do without his assistance. For the teacher, this means knowing the students' level of development in order to provide the appropriate instructional activity, the teacher also mediates and guides the performance of the students until they can function without his assistance.

As indicated in the review of literature above, the principle of ZPD is to ensure adequate level of support and assistance that can enhance learning and teaching. The students, during their learning within the zone of proximal development, will be able to explore the principle of scaffolding and negotiation for meaning since learning cannot be efficient independently without their teacher's assistance.

The data shows typical case of scaffolding as illustrated in extract 2 below:

## Extract 2

17. TR: We are going to think about coherence again, and we're going to talk about describing Personality.
18. There are a lot of words that you need to learn to describe people and describe how people are they; what we look at it today (…….Coughing…..)
19. TR: What is this question asking you about? (……coughing….) sorry
20. ST: Personality
21. TR: Right, your personality.
22. And to ask about a question about appearance, what question do you have to ask?
23. STs: How do you look like?
24. How are you
25. What do you want?
26. TR: so you get three questions there.
27. With your partner discuss these questions.

The data involve in the study is naturally occurring data which Labov (1970) terms as a no control sample of data, the elicitation of the data provided in extract 2 above shows that the teacher assisted the learners by building scaffolding from lines 17 to 19. That helps the student to respond appropriately as in line 20 and subsequently provide desired examples of task in line 23, 24, and 25 as requested by the teacher in 22.

The negotiation for meaning which is associated with effective managing classroom interaction is used to check communication breakdown in language teaching and learning. As stated earlier, the negotiation for meaning studies are typically focused on instance of communication failure more particularly in an interaction between teacher and learners especially when the learner is not fully competent in the second/foreign language of their learning (Brooks, 1992). In solving the communication problem either due to misunderstanding of the basic topic in the classroom interaction. Learner often resorts to seek his/her teacher assistance through negotiation for meaning in order to address the communication. Typical of such a gesture can be seen in extract 3 below:

## Extract 3

75. TR: OK. We talk about coherence last week.
76. What is coherence?
77. ST: is it word for logical order between sentences?
78. TR: That is part of it. How sentences join together.
79. Anything else?
80. ST: Unity
81. TR: Unity ok that we take it before.
82. Coherence has two things: It is how to join sentence together. And also
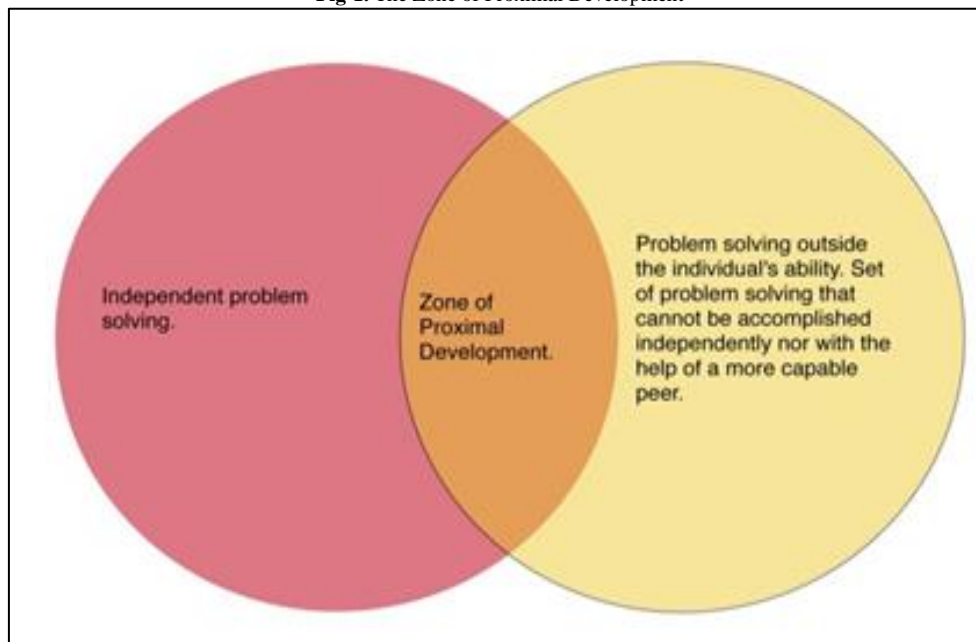
83. ST: Meaning and organization

In the above extract 3 in line 75, the question by the student is a case of negotiation for meaning with specific aim to seek for assistance of the teacher to have correct defination of the term coherence.

# 5. Conclusion

The study of the ZDP in this paper indicates a reflection of social life in individual learning development where the two levels for development are interaction with each other in learning from birth. According to Vygotsky's theory, learning precedes maturity and through interaction the child transmits from which is called the actual develop level to potential develop level; he states that "the activity itself is not developing the child; in order to realize the activity, the child engages in actions that serve to develop the psychological functions needed for that activity. The new-formation is product, not a prerequisite, of an age period" (Chaiklin, 2003; Vygotsky, 1998).

The classroom data discussed in the study has demonstrate that the existence of *Level of potential development* (which is referred to what the learner is not able to do by himself but he/she is able to do with the adult help or with a more capable peers) in normal language teaching and learning. The other level of learning which is called *the level of actual development* refers to the independent level. It includes skills a student has already proficient and can perform independently. From our discussion, the concept *zone of proximal development* can be captured based on the schema in figure 1 below: (Hausfather, 1996).

**Fig-1.** The Zone of Proximal Development



To get more clarification for the figure above, the red circle is problem solving that the learner is capable of. That means, the learner's actual and potential development. The yellow circle shows the problem solving that the learner cannot do it independently. The overlap area indicates the learner is capable of solving with help of more capable persons where the learning should be focused.

In view of this therefore applying ZPD in second/foreign language teaching and learning will motivate and create effect learning atmosphere in the interest of knowledge deriven language aquisation and learning.

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## Appendix
### Transcription of Teacher Talk From Classroom Data

1. TR:  Ok! Good morning everybody
2. STs: Good morning
3. TR: Right today, we are going to describe personality.= I move
4. TR: At 10 o'clock, we are going to have a special event; we have a guest speaker who will talk about cultural topic on yesterday November 5th.
5. TR:  Will you remember what November 5th is?
6. There is remarkable event to be remember in the every 5th of November, have you heard this before?
7. ST:   yes Hocam
8. TR: You heard it before?
9. ST: Yes, I can remember on the 4th November
10. TR: We are talking about November 5th not 4th November.
11. ST: Ok Not 4th, the 5th November.
12. TR: Yes the 5th of Novemnber that was yesterday, what is it?
13. ST: I don't know.
14. TR: You don't know?
15. Alright, Ok! Someone will come to give a brief talk as guest speaker about November 5th.
16. TR: Today, we are going to first of all review what we have done last week;
17. TR: We are going to think about coherence again, and we're going to talk about describing Personality.
18. There are a lot of word that you need to learn to describe people and describe how people are they; what we look at it today (…….Coughing…..)
19. TR: What is this question asking you about? (……coughing….) sorry
20. ST: Personality
21. TR: Right, your personality.
22. And to ask about a question about appearance, what question do you have to ask?
23. STs: How do you look like.
24. How are you
25. What do you want
26. TR: so you get three questions there.
27. With your partner discuss these questions.

28. STs ………………. inaudible noise
29. TR: Rabiat could you sit next this person please?
30. Respond to the question
31. ST: Merhaba
32. TR: could you say it in English please.
33. ST_ you're welcome
34. TR: Right, this is why we need pairs and partners.
35. So we form A-B, A-B, A-B; If you're A put your hand up and B put your hand down.
36. Who is there? A's stand up and face this direction and all A's come here and must of you go there. Ask each of your partners a question
37. TR: ok B stand up ok and face A
38. ST$_A$: I would like to draw your attention to my issue
39. ST$_B$: Ok please
40. TR: Ok it is ok
41. Right, so ask these three questions to your partner and get a response
42. TR: Karen what do you like?
43. ST: What's type of question?
44. TR: what do you like?
45. ST: I like to travel in airplane and erm and make friend
46. TR: Ok, good the question. Is like is what you like usually?
47. ST: No
48. TR: Usually is an adjective. What do you look like?
49. ST: Err I am tall. I am 6.1 feet tall. I am black hair brunette. Err my physical appearance is,
50. I am not fat, thin, and normal.
51. TR: ok, right. is thin a positive word?
52. ST: No
53. TR: what is positive word of the thin?
54. ST: Slim
55. TR: yeah, slim.
56. TR: tell me about your interest please
57. ST: I am smiling every time.
58. TR: Do you have the question.
59. Tell me about your interest?
60. ST: OK I like reading and watching TV, err playing volleyball that's all.
61. TR: Ok right, what about personality adjective you have there?
62. You spoke to several people; what adjective you use to describe a personality.
63. Let give single one word; let go round the class and see how far we can get. Ok
64. Let start up there Personality adjective please.
65. ST: I am patience and humble
66. TR: just one
67. ST: I am modest
68. ST: I am reliable
69. ST:  I am genius
70. ST: I am fragile
71. TR: who is fragile?
72. ST: I am punctual
73. TR: Are you punctual.
74. Right. You know good number of words to describe personality.
75. TR: OK. We talk about coherence last week.
76. What is coherence?
77. ST: is it word for logical order between sentences.
78. TR: That is part of it. How sentences join together.
79. Anything else?
80. ST: Unity
81. TR: Unity ok that we take it before.
82. Coherence has two things: It is how to join sentence together. And also
83. ST: Meaning and organization
84. TR: Yeah! The meaning, How cohere your meaning.
85. You know is difficult sometime to explain your meaning clearly.
95. Therefore coherence consists of two things; that are meaning and organization.