

The Effect of Self Assessment on Learners' Engagement in Problem- Based learning EFL Context.

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Abstract:

The development of learners' engagement is increasingly getting the interest of the researchers because of its positive effects on learners' success. This research study aimed to check the effect of self assessment on students' engagement in problem- based learning EFL class. It relied on Fredericks et al. (2004)'s conceptualization of engagement as a meta-construct, involving cognitive, affective, and behavioral engagement. The research is conducted on 45 secondary school learners who were assigned a problem-based authentic activity. The learners were asked to assess the PBL activity they solved by applying the criteria of self-assessment. and complete A 4 point Likert scale engagement self-reports to identify their engagement before and after doing self-assessment. The learners' responses were analyzed through descriptive statistics. The results showed that the learners were more engaged cognitively, affectively, and behaviorally after assessing their works. So, the findings

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suggest that the use of self-assessment in problem-based learning context can boost learners' cognitive, affective, and behavioral engagement in EFL classes.

Key words: self-assessment, meta-construct engagement, problem-based learning, EFL class

1-Introduction:

Enhancing students' engagement is one major concern of educators and curricular conceivers, as a range of research studies provide evidence suggesting the positive effect of engagement on achievement and on the reduction of dropout rates (Fredricks, 2004). Besides, teachers prefer working with engaged students, and they perceive the value and the effect of the efforts they expend in engaged classes. Therefore, the educational authorities and researchers are always seeking for the means and the factors that better engage the students.

The research findings in teaching/ learning field support the view that problem-based learning (PBL), which is based on constructivism (the new paradigm of teaching and learning), is one crucial approach that helps learners to be engaged in the classroom. In fact, the recurrent, forceful results about the effect of this approach reveal that students's consideration of learning is more motivating, engaging, and pleasing within PBL classes (eg, Hmelo Silver, 2004; Lieberman, Stroup Benham, Peel & Camp, 1997; Mackinnon, 1999). In addition, one of the main principles for designing good problems in PBL is to make sure they are authentic, motivating and engaging learners' involvement (Jonassen & Hung, 2015, p. 25) and the condition to facilitate learners' development of flexible knowledge which is an essential objective in problem based learning is to '[get] learners engaged with a breadth of conceptual ideas during a problem-based learning tutorial' (Jonassen, 2011

cited in Hmelo silver, 2015, p43). So, engagement serves as a principle and outcome in PBL implementation. But the question that comes to our mind is whether the design of authentic engaging problem-based activities is sufficient to attract the attention of learners and involve them in learning.

Though PBL is found to be an engaging method of teaching, it requires a set of appropriate strategies in implementation and a set of essential characteristics to respect in order to reach its positive effects. The students responsibility for their learning is one central prerequisite in PBL (Hmelo Silver, 2015, p.9), which needs learners' engagement and the use of self-assessment is one activity in the process of PBL (Hmelo Silver, 2015, p.9), which is closely linked to this necessary prerequisite. Indeed, several researchers' assertions about self-assessment and its main function are linked to learners' autonomy and responsibility (eg, Dolchy & al., 1999; Leach, 2012; Ashraf & Mahdinezhad, 2015). The importance of self-assessment also lies in the reinforcement of 'self reflective nature of learning' and in the intensification of 'a range of metacognitive processing skills' (Savery, 2015, p. 9), which are, in turn, essential to the development of learners' responsibility.

Our reflection on the previous statements and assumptions about PBL requirements and self-assessment function in relation to these requirements, namely the learners' responsibility, directed our attention to think about researching the effect of self-assessment on learners' engagement in order to check whether we can consider it not only as a learning task in PBL process which leads to the development of the learning responsibility but also as a condition within PBL context to foster students' engagement that is believed to be a predictor of academic success (Newman, 1992). Hence, our aim in this study is to investigate the effect of self-assessment on secondary-school learners' engagement in the EFL classroom after implementing a PBL

authentic activity and to check whether it affects every dimension of learners' engagement. To reach this, we formulated three research questions that will guide this research study. The questions are the following:

- Does self assessment affect learners' behavioral engagement?
- Does self assessment affect learners' emotional engagement?
- Does self assessment affect learners' cognitive engagement?

To answer the aforementioned research questions, we will first identify the concepts of PBL learning and self -assessment and the assumptions about them, explain the conceptualization of engagement on which our research is based, and clarify the need to rely on engagement components that are linked to task use. Then, we will present the methodology we have followed in light of the chosen perspective about engagement and the context of our study and display the results obtained from the learners' responses concerning every engagement component composing our framework of analysis. Finally, we will discuss the results in relation to the provided literature and chosen assumptions about engagement and draw a general conclusion about the effect of self- assessment on each dimension of learners' engagement.

2. Problem-Based Learning: Definitions and Assumptions:

Problem-based learning, as its name suggests, is an approach of learning which centers on problems. The major aim of PBL is ' to enhance learning by requiring learners to solve problems', and its main assumption is that learning takes place when numerous daily encountered problems are solved (Barrows & Tamblyn, 1980, p.1). Jonassen and Hung (2015, p.25) asserted that 'learning [in PBL] is stimulated by the problem and applied back

to solve the problem'. They added that 'without an intention to learn, which is provided by problems, meaningful learning seldom occurs'. So, the learners who are experiencing the most meaningful learning are those who are involved in problem-based learning. The choice of problem is based on authenticity and connectedness to profession or work in actual world (Barrows, 2002). Thus, the learners enrolled in PBL classes will be well prepared to real life problems that they may encounter in their career or in their daily life, in general.

PBL is also identified as 'a constructivist, student-centered approach to learning' (Hodges, 2015, p. 131), and a 'very engaging, motivating and involving form of experiential learning' (Savery, 2015, p.9), through which 'students must have responsibility for their own learning' (Savery, 2015, p. 8). Indeed, PBL requires 'learners to self- direct their learning in order to determine what they know and do not know about the problem' (Jonassen & hung, 2015, p.17). So, the emphasis is put on students learning rather than on teacher's instruction and the learners are expected to be motivated and engaged in their learning process. Ben Yacob et al. (2000) asserted that PBL 'engages students in learning through student-to student and student- to teacher interactions' (cited in Hodges, 2015, p. 133). These sorts of interaction, following Hodges' assertion, "*create a complex learning environment that support key student-centered learning practices that include peer-driven instruction, active, as well as inquiry-based learning*". However, the central role of learners within PBL is not only apparent in their learning process but also in their assessment. Indeed, self -assessment is an important feature of PBL that the learners are required to take into consideration during the learning process to expend their benefits from PBL.

3. Problem-Based Learning and Self-Assessment:

Self assessment is generally understood as the learners' capacity to evaluate their learning performances and their success in achieving the learning objectives. Boud (1986) characterized it as the "*involvement of students in identifying standards and/ or criteria to apply to their work and making judgments about the extent to which they have met these criteria and standards*" Therefore, self-assessment helps learners to take responsibility in their assessment and direct their learning through judging the quality of their work and identifying their strengths and weaknesses on the basis of a set of selected criteria and standards. In PBL, self-assessment is viewed as an important aspect to consider when implementing lessons and problem tasks. Savery (2015, p.9) asserted that 'self and peer-assessment should be carried out at the completion of each problem and at the end of each curricular unit'. Thus, the activity of self-assessment should be incorporated to the process of PBL after finishing the resolution of problem-based authentic activities given by the teacher and implemented through the use of assessment criteria identified with the contribution of the learners.

4. Definition of Student Engagement:

In spite of the growing interest in student engagement, the conceptualization of this notion varied from one researcher to another. In this study, we will draw on Fredricks, Blumenfeld and Paris (2004)'s conceptualization of students engagement as a multidimensional construct that encompass behavioral, emotional, and cognitive engagement. The choice of this conceptualization is sustained by the argument advanced by these authors who claimed that the three factors involved in engagement 'are dynamically interrelated within the individual; they are not isolated processes'

and that ‘the fusion of behavior, emotion, and cognition under the idea of engagement is valuable because it may provide a richer characterization of children than is possible in research on single components’ (Fredricks & al., 2004, p. 61).

However, the study of students’ engagement requires the definition of each component in order to identify the constructs that compose each one, hence increasing our understanding of engagement as a whole. But before providing any definition about the mentioned types of engagement, we should first define engagement in academic work since this study is concerned with the effect of one academic work (self assessment given as a task for the learners) on learners’ engagement. Also, there is a relationship between the definition of academic work and the different definitions provided by different scholars about each type, and our choice of any particular definition depends on that relationship that exists between them. So, in the following lines, we will first identify academic engagement; then, we will provide the definition of each type of engagement.

4-1- Academic Engagement:

Besides out-school factors, such as ‘family, community, culture, and educational context’, Fredericks et al. (2004) identified in their review article two other types of factors that can influence engagement: school level factors and classroom context, in which this study is inscribed. The use of tasks or activities is one factor that characterizes classroom context. A task is the academic work the learners are expected to do during instructional time. In this respect, Newmann et al. (1992) affirm that “*academic work consists of the tasks, usually specified by teachers, that students are asked to undertake in order to master the knowledge, skills, and crafts that serve as the instructional objectives of schooling*” Thus, engagement in academic work can be defined

as the individual's active involvement in a particular task or activity for the purpose of mastering a particular skill and knowledge or achieving specified instructional objectives. This definition reflects Russell et al. (2005, p. 1)'s identification of engagement as 'energy in action, the connection between person and activity' (Cited in Fredericks & McColskey, 2012, p. 766). Besides, it emphasizes the point that the definitions on which to focus in order to choose the components of every type of engagement should be congruent with the context of this study; that is to say, the components should match the effects the chosen task or activity may have on learners and not the effects of other factors, such as the effect of school level factors.

4.2. Behavioral Engagement:

There are three familiar ways of defining behavioral engagement (Fredericks & al., 2004). The first definition involves "*positive conducts*", *such as following the rules and adhering to classroom norms, as well as the absence of disruptive behaviors such as skipping school and getting in trouble*" (Finn, 1993; Finn, Pannozzo & Voelkl, 1995; Finn & Rock, 1997 cited in Fredericks & al., 2004, p. 62). In the second definition, we perceive one construct which is 'participation in school-related activities such as athletics or school governance' (Finn, 1993; Finn et al., 1995 cited in Fredericks & al., 2004, p. 62). In the third definition, which is based on the perspectives of some other authors, namely Birch and Ladd (1997), Finn et al. (1995), Skinner and Belmont (1993), Fredericks et al. assumed that "*engagement concerns involvement in learning and academic tasks and includes behaviors such as effort, persistence, concentration, attention, asking questions, and contributing to class discussion*" (Fredericks & al., 2004, p. 62). Departing from the previous definitions and clarifications, the definition of behavioral engagement that seems appropriate to this study is the last one as it contains

items which are directly related to the effect of task interaction time, unlike the other definitions which are more about the respect of classroom / school norms and rules or involvement in school activities.

4.3. Emotional engagement:

On the basis of Connell and Wellbom (1991), Skinner and Belmont (1993)'s theoretical framework, Fredericks et al. (p. 63) asserted that 'Emotional engagement refers to students' affective reactions in the classroom, including interest, boredom, happiness, sadness, and anxiety'. Other researchers, such as Finn (1989) and Voelkl (1997), conceived it as 'identification with school' and some others assess it through the measurement of 'emotional reactions to the school and the teacher' (Lee & Smith, 1995; Stipek, 2002 cited in Fredericks & al., 2004, p. 63). In this study, relying on Fredericks et al.'s assertion about emotional engagement appears more suitable since their definition involves constructs that can be considered as a result of emotional reactions or feeling of learners after doing the task. The other definitions, however, involve emotions in relation to school or people at school, which are out of our concern.

4.4. Cognitive Engagement:

Cognitive engagement is defined on the basis of two varied literatures. According to Frederick et al. (2004, pp.64-65), 'One group specifically highlights a psychological investment in learning; another targets cognition and emphasizes strategic learning'. In this study, we relied on the identification of cognitive engagement as investment in learning, which consists of 'being thoughtful, strategic, and willing to exert the necessary effort for comprehension of complex ideas or mastery of difficult skills' (Corno & Mandinach, 1983 ; Fredricks et al., 2004 ; Meece Blumenfeld, & Hoyle, 1988

cited in Fredricks & McColskey, 2012, p. 764). This conception involves three qualitative aspects that can be used in order to identify the learners' cognitive engagement.

5. Methods for Measuring Engagement:

Fredericks and McColskey (2012, pp. 765- 768) identified different methods used to assess student engagement in the classroom, including student self-reports, teacher ratings of students, experience sampling, interviews, and observations. Every method has advantages and disadvantages, and the choice of one method instead of another to assess engagement depends on the aim of the researcher and the conditions set to carry out the research study.

5.1. Experience sampling:

Experience sampling consists of 'electronic pagers or alarm watches' held by individuals 'for a set time period' (Fredricks & McColskey, 2012, p. 766). Learners answer self report questions about their position, tasks, and cognitive and emotional reactions. Through the use of this method, the researchers can '*collect detailed data on engagement in the moment rather than retrospectively (as with student self-report), which reduces problems with recall failure and the desire to answer in socially desirable ways*' (Hektner et al., 2007 cited in Fredricks & McColskey, 2012, p. 766). It can also be used to accumulate data on disparities in engagement through periods and varied circumstances (Fredricks & McColskey, 2012, p. 766), but this method has also disadvantages. One remarkable disadvantage which is mentioned by Fredericks and McColskey (2012, p. 766) is that it needs devoting time for the participants.

5.2. Interviews:

Engagement in school can also be assessed by using interviews that vary from structured to semi structured. Interview methods have the advantage of offering perceptions about the causes of variation in degrees of engagement and assist in grasping the reasons behind the engagement of some learners and the withdrawal of others (Fredricks & McColskey, 2012, p. 766). However, the value, strength, and nature of answers are affected by what the interviewer knows, his abilities and his predispositions. Also, the interests about being socially desirable represent a problem within interview techniques (Fredricks & McColskey, 2012, p. 766).

5.3. Observations:

Observational methods are used to assess engagement at individual and classroom level (Fredricks & McColskey, 2012, p. 766). In addition to their use in research studies, “ *these techniques have been used by school psychologists to screen individual children in both typical and special needs populations, especially those at risk for disengagement and academic failure*” (Shapiro, 2004 cited in *ibid*). The problem with these methods is that they can take time in use. Moreover, in order to have an exact view about the learners’ behavior, the observers need to gather data in different academic situations. Furthermore, the reliability of observational methods becomes an issue without an appropriate training (Fredericks & McColskey (2012, p.767).

5.4. Student Self-report:

According to Fredericks and McColskey (2012, p.765), ‘self-report survey measures are the most common method for assessing student engagement’. This method consists of providing learners with items revealing a range of engagement features and choosing the answer that highly represent

them (2012, p.765). Appleton et al. (2006) and Garcia and Pintrich (1996) contended that ‘*One of the arguments for using self-report methods is that it is critical to collect data on students ‘subjective perceptions, as opposed to just collecting objective data on behavioral indicators, such as attendance or homework completion rates...*’ (Cited in Fredericks & McColskey, 2012, p.765). Besides, the usefulness of self-report methods appears in the assessment of emotional and cognitive engagement that are indirect and not deduced from observable behavior. In addition, they are mostly effective and easily administered in classroom (Frederick & McColskey, 2012, p.765). Self reports, however, cannot reveal the learners occurring behavior or used strategy as their answers are possibly not honest in some circumstances, like when they are distributed by the teachers without anonymity (Frederick & McColskey, 2012, p.765). So, to avoid this problem, teachers should insure anonymity when administering self-reports.

5.5. Teacher Ratings of Students:

The last cited method used in order to assess student engagement is teacher checklists or rating scales. A set of ‘teacher rating scales include items assessing both behavioral and emotional engagement’ (Skinner & Belmont, 1993 cited in ibid, p.766) and some others mirror ‘a multidimensional model of engagement (i.e., behavioral, emotional, and cognitive)’ (Wigfield et al., 2008 cited in ibid). The usefulness of this methodology is manifested in cases where self-reports are not easily completed because of reading demands and children’s insufficient literacy abilities (Fredericks, 2004, p.766).

Departing from the clarifications and the details provided about every method of engagement measurement and by following the conditions under which this study is planned to be conducted, the method that appears suitable

to assess learners engagement is self reports method. In fact, the secondary school learners chosen to conduct this study are supposed to have quite sufficient literacy skills to understand the items of every type of engagement and respond responsibly with awareness. Besides, this method helps to show the learners emotional and cognitive engagement from their perspectives and not from the perspectives of the observer or the teachers. Also, the lack of material, such as electronic pagers, and the time set to do this research study, which is limited to just one session for the application of just one PBL activity, led to the exclusion of other methods of measurement from our choice.

6. Methodology:

The aim of the research study was stated in the introduction along with a brief summary of the methodology used to investigate the effects of learners' self-assessment on their engagement. This methodology part provides further details about the participants involved in the study and the procedures used to collect data and analyze them.

6.1. Participants:

The participants involved in this study was a sample of 45 secondary-school learners enrolled in second year scientific stream class and their teacher of English language who is instructing in light of PBL. The class included 31 females and 14 males aged between 16 and 18 years.

6.2. The Research Procedure:

The research was carried out in the afternoon in one PBL session which lasted one hour and a half, and the approach used to obtain data was a quantitative approach. The participants were assigned a PBL authentic writing task based on one second year EFL program unit implemented by their

English language teacher. Then, they were given the engagement self- reports to respond anonymously to a set of engagement items after finishing the PBL assigned task and getting a clear explanation about the purpose and the importance of those self- reports by the researcher. The learners handed the self -reports they have completed; then, they were asked to self assess their written productions by relying on the criteria they formulated together with their teacher on the basis of the objectives they have already identified and discussed in the classroom during lesson implementation. Towards the end of the session and after finishing their self -assessment, the participants received other self-reports to complete for the second time. At the end of the session, they gave back the completed self-reports to the researcher.

6.3. Instrument of Measurement:

The instrument used for data collection in this study was self-reports with four point Likert scale ranging from strongly disagree to strongly agree. The construction of this instrument was done on the basis of Fredericks et al. (2004)'s assumption about engagement which takes into consideration three dimensions: behavioral, affective, and cognitive dimensions. However, the items that constitute each dimension were derived from the definitions provided by different authors and already validated as questions in some scales, such as Patrick, Skinner and Connell (1993), Skinner and Belmont (1993), Skinner, Welborn and Connell (1990), Skinner, Zimmer Gembeck, and Connell (1998)'s scales. The items were selected, as mentioned before, on the basis of the aim and context of this study that is the effect of self-assessment, given as a task after implementing a problem based activity in one English session, on secondary-school learners' behavioral, emotional, and cognitive engagement. So, the distributed self-reports involved three subscales

representing the three dimensions of engagement; each dimension comprises from three to six items.

6.4. Data Analysis :

The collected data was analyzed through descriptive statistics by using excel, and reported in three tables representing the frequency (f), the percentages (%) of the learners' answers about every item constituting the distributed self-reports before and after applying self assessment, that is before treatment and after treatment. The analyzed answers were summarized into two categories: the positive answers with agree and strongly agree points reported in agree columns and the negative answers including disagree and strongly disagree points reported in disagree columns. The items were presented in three tables that report the findings in the results part and discussed in relation to the difference (D) between the first percentages and the last percentages of learners' responses.

7. Results:

The results of learners engagement self-reports, which were completed for the purpose of investigating the effect of learners' self assessment on their behavioral, cognitive, and affective engagement, are collected and analyzed in relation to the guiding questions posed earlier, which are does self assessment affect learners' behavioral engagement? Does self assessment affect learners' emotional engagement? Does self assessment affect learners' cognitive engagement? The results are reported in order of appearance of these three research questions and presented in tables that reflect the frequencies and the percentages of learners' responses about every dimension and every indicator of engagement before treatment and after treatment.

Table1. Learners’ Behavioral Engagement before and after Applying Self -Assessment

		Before treatment				After treatment				D in %
		Agree		Disagree		Agree		Disagree		
		f	%	f	%	f	%	f	%	
Behavioral Engagement	I expend efforts to complete tasks	30	66,66	15	33,33	39	86,66	6	13,33	20,00
	I participate	22	48,88	23	51,11	38	84,44	7	15,55	35,56
	I concentrate	34	75,55	11	24,44	41	91,11	4	08,80	15,56
	I am attentive	32	71,11	13	28,89	41	91,11	4	8,89	20,00
	I ask questions	20	44,44	25	55,55	38	84,44	7	15,55	40
	I contribute to class discussion	22	48,89	23	53,33	37	82,22	8	17,78	33,33

Table one represents the learners’ behavioral engagement before and after applying self assessment that is before treatment and after treatment. It shows the learners’ positive and negative responses about every item, including their expended efforts, participation, concentration, question asking, and contribution to class discussion. The comparison of the results shows that the number of the learners who are behaviorally engaged increased after their involvement in self-assessment, and the increase is noticed with

every aspect composing the behavioral dimension. We notice that the percentages of the positive responses vary between 82, 22 % and 91, 11%, that is the majority agree and the majority are behaviorally engaged. These percentages which are obtained after learners' involvement in self-assessment mark positive changes that vary between 15, 56 % and 40 %. The lowest percentages (15, 56 % and 20%) that mark a positive change are noticed in the answers that show learners' concentration and attention after doing self assessment. The highest remarkable changes, however, are noticed in the responses about the learners' contribution to class discussion, participation and asking of questions. Therefore, the previous findings suggest that self-assessment affect positively the learners' behavioral engagement and influences positively every aspect composing this dimension of engagement.

Table 2: Learners' Emotional Engagement before and after Applying Self-Assessment

		Before treatment				After treatment				
		Agree		Disagree		Agree		Disagree		
		f	%	f	%	f	%	f	%	
Emotional engagement	I am interested	28	62,22	17	37,78	41	91,11	4	8,89	28,89
	I am bored	8	17,78	37	82,22	4	8,89	41	91,11	8,90
	I am happy	28	62,22	17	37,78	36	80,00	9	20,00	17,78
	I am sad	2	4,44	43	95,55	2	4,44	43	95,55	00,00
	I am anxious	8	17,78	37	8222	8	17,78	37	82,22	00,00

Table two represents the learners’ emotional engagement before and after applying self -assessment. The results shown in this table reveal that the percentages of the participants who feel happy and are interested in learning increased approximately by 18% and 29% respectively in comparison to the first results, whereas the percentage of the learners who feel bored decreased by 8,90%, from 8 learners to 4 learners. Concerning the percentage of learners who feel anxious and sad, though it was not high (4, 44%), it remained the same after applying self-assessment. The previous finding lead to the assumption that self -assessment has a positive effect on learners’ emotional engagement, but it has no effect on their anxiety and sadness.

Table 3: Learners’ Cognitive Engagement before and after Applying Self -Assessment

		Before treatment				After treatment				D in %
		Agree		Disagree		Agree		Disagree		
		f	%	f	%	f	%	f	%	
Cognitive engagement	I am thoughtful	26	57,78	19	42,22	36	80,00	9	20,00	22,22
	I am strategic	26	57,78	19	42,22	36	80,00	9	20,00	22,22
	I expend necessary efforts to understand complex ideas and master difficult skills	28	63,64	16	36,36	38	86,36	6	13,64	22,72

Table three is about the learners' cognitive engagement before and after the application of self -assessment. The comparison of the collected data reveals that the percentages of the learners who are thoughtful and strategic incremented in the same way, from 57, 78% to 80 %, thus marking a positive change with a difference of 22, 22 % after treatment. The learners who expended efforts to understand difficult ideas and master difficult skills also increased to mark the positive change with the percentage which is practically the same with the percentages of the two previous items. Therefore, these findings suggest that self -assessment has also a positive impact on learners' cognitive engagement.

8. Discussion:

The aim of the present study was to explore the effect of self-assessment on secondary school learners' engagement. We were mainly interested in checking whether the task of self -assessment implemented in PBL context affects the learners' engagement at the level of behavior, emotion, and cognition. To attain this goal, we relied on Fredericks, Blumenfield and Paris (2004)'s identification of engagement as a multidimensional construct, which is constituted of behavioral, emotional, and cognitive dimensions. We investigated the engagement of secondary school learners from a scientific stream class enrolled in second year, and the investigation took place in a classroom setting in the afternoon during the English language session, which lasted one hour and a half.

Our findings provide the evidence that self -assessment has positive effects on learners' engagement. The positive effects have been noticed at the level of their behavioral, emotional, and cognitive engagement, i.e., every dimension of learners engagement is affected positively by the

implementation of self-assessment. However, the effect varied from one dimension to another and from one component of every dimension to another component. For example, the significant change in behavioral engagement is noticed in the learners' contribution to class discussion, participation, and asking of questions, with percentages that vary between 22, 22% and 33, 33%. The lowest change (15, 56%) in percentages is noticed in the responses about the participants' concentration and attention. This can be explained by the fact that the percentages of learners who pay attention and concentrate before doing self assessment were already high (71, 11% and 75, 55%), and that the selected PBL task given to learners seems very engaging.

Concerning the learners' emotional engagement, the change revealed after applying self-assessment is quite remarkable, mainly at the level of their responses about their happiness and interest (17, 78% and 28, 89% respectively). Concerning the other items involved in emotional engagement, such as feeling bored, sad, and anxious, the change noticed is minor in comparison to the other items. For instance, the number of the learners who feel bored decreased from eight to four whereas those who feel sad and anxious remains the same (two learners) after applying self-assessment. This could be explained by the presence of other factors that affect negatively their psychological state. So, the learners' emotional engagement is affected by the involvement of learners in self-assessment, but the effect that self-assessment has on learners' emotional engagement is less significant than the effect it has on their behavioral engagement.

Speaking about the learners' cognitive engagement, the percentages of the participants who were thoughtful and strategic changed with 22,2 2%. They were 57, 78% before applying self-assessment and changed with the same rate to reach 80% after doing self assessment, that is the majority of

learners became thoughtful and strategic after implementing self-assessment. The majority of learners also make efforts to reach understanding and mastery of skills. Indeed, the change in percentages is significant as it reached more than 22% though it was more than 50% before involving learners in self-assessment. Therefore, self assessment affects positively every aspect of learners' cognitive engagement; that is to say, it helps them to become thoughtful, strategic and urge them to expend efforts to overcome problems of comprehension and reach mastery of difficult skills inspite of the quality of the PBL activity, which is already revealed to be very engaging in learners' responses that exceed in most of the items half percent before using self-assessment.

Conclusion:

The present study aimed at investigating the effect of self assessment on learners' cognitive, behavioral and emotional engagement in problem-based learning EFL context through the use of self-reports. The findings of the study revealed that self-assessment has a positive effect on each dimension of learners' engagement and almost on every aspect constituting every dimension, but the remarkable effect is noticed at the level of learners' behavioral engagement, namely with the components that reinforce the notion of learner-centered problem based learning, such as participation, contribution to class discussion, and the asking of questions. Thus, from the pedagogical perspective, the findings of this study suggest that more serious attention and consideration is expected to be attributed to self-assessment in the context of EFL teaching, which is occurring in problem- based learning context. They can also lead to the assumption that self-assessment should be considered not only as an activity that characterizes PBL process but also as a necessity to maximize the learners' engagement and achievements. However,

it is worth mentioning that the current study has been based on one tool of measurement to collect data about the learners' engagement in one class and one session with the use of just one PBL activity. Hence, other tools of measurement are recommended to be used with different groups, across different settings, and with the use of a multitude of PBL activities to reinforce the results of this study and show how learners' engagement is really impacted by self-assessment.

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