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Synthesizing Engagement, Study, and Activation (ESA) with Portfolio Assessment in EFL Classes: Focus on Cognitive Dimensions in the Process of Writing Skills

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Abstract

Applying an appropriate and dynamic method of teaching in EFL instruction is a critical mechanism for engaging, attracting, and accompanying students. Hypothesized as a dynamic platform, the synthesis of Engagement, Study, and Activation (ESA) with portfolio assessment was addressed in this mixed-method-based study to examine its effectiveness with regard to the target students' cognitive dimensions of developing writing skills. To this end, 177 Iranian female students from a public high school participated in an experimental study and completed three data collection instruments, including a think-aloud protocol, a questionnaire, as well as an interview. MANOVA of the quantitative data and NVivo-based qualitative data analyses revealed significantly compatible results. MANOVA showed that synthesizing ESA with portfolio assessment had the highest mean scores for writing skill-oriented cognitive dimensions, followed by the pure ESA application and the control group achievement. Moreover, the pure ESA application had significantly higher mean scores compared to the conventional instructional mainstream in overall cognitive dimension. However, the synthetic mechanism proved to be much more effective than the pure ESA in the overall cognitive dimensions. In line with the quantitative analyses, NVivo-based think-aloud and interview data revealed the nature and process of the effectiveness of the applied synthetic mechanisms in the areas of attention, practicing, thinking, self-correction, and problem solving dimensions, each to a certain degree.

***Keywords*:** ESA, Portfolio-assessment, Cognition, Writing Skill

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INTRODUCTION

Do we know how to teach a language? That's a challenging and then a well-worth considering question. Though people have been teaching for two thousand years or more, some aspects of their teaching are not changed but some are. As far as second or foreign language education is concerned, Harmer (2007) holds that such changes caused the re-examination of past assumptions [including teaching methods] regarding teaching and learning because, based on Celce-Murcia (2001, p. 5), "the lack of flexibility in methods led some applied linguists (e.g., Richards, 1984) to seriously question their usefulness and aroused a healthy skepticism among language educators, who argued that there is no such thing as the best method". This trend has led to the development and application of some approaches during the last decades.

In the continuation and process of this sequence, pitfalls of one approach caused its replacement by another which, according to Harmer (2007), has led to the suggestion and implementation of notions like Engagement, Study and Activation (ESA) in education in general, and in language education in particular. As to this notion, Tomlinson (2013, p. 238) holds that "ESA is a method of how to build students' interest in a topic considered problematic by a teacher in learning. The teacher should know to build and control it too". Thus, the role of the teacher becomes salient on one hand, and in Ayiz's (2014, p. 87) opinion "ESA teaching sequence may benefit the teacher since it helps the teacher try to design the best teaching sequence for a particular purpose of teaching so that the students become more interested in learning and participating". On the other hand, if learners are engaged actively with what they are studying, as Fithria and Ratmanida (2019, p. 161) said, they "tend to understand more, learn more, remember more, enjoy it more and get to be able to appreciate the relevance of what they have learned".

ESA aims to arouse learners' interest and motivation. This triple stage notion involves learners mentally through engagement stage, then in the

course of study stage learners are actively taught, and during the activation stage they not only use language to practice specifically and grammatically, but they use it communicatively (in a role-play, game, discussion, drawing, story…). In the same vein, Vikasari (2019, p. 79) concluded "ESA is an effective way for both (teacher and learner), and it was useful for teachers to assess how good the class is progressing it".

Engagement (E)

Engagement has been defined in many fundamentally different ways. Ben-eliyahu et al. (2018) defined it as one's involvement, focus, participation, and persistence on a task. They have considered three components for engagement: affective, behavioral and cognitive. According to Hiver et al. (2021, p. 2), engagement defines all learning. "Learning requires active involvement on the part of the learner, and action is the defining characteristic of learner engagement". Additionally, Svalberg (2021, p. 39) specifically focuses on academic engagement as the "quality of student's connection or involvement with the endeavor of schooling and with people, activities goals, value and place that compose it". Thus, an engaged learner actively involves in her or his learning. In the same vein, in arguing for the importance engagement, Harmer (2007, p. 52) holds that "students are properly engaged, their involvement in the study and activation stages is likely to be far more pronounced, and, as a result, the benefit they get from these will be considerably greater".

Teaching and learning in EFL classes require active involvement of learners who, as the critical part of learning setting, need to be motivated, to be exposed to language, and to have opportunity of using it in the form of full engagement. As a support, Hiver (2021, p. 87) holds that "engagement defines all learning, and the importance of engagement is not concealed to contemporary researchers who described it as "the holy grail of learning". According to Harmer (2007), 'engagement' is the corner stone of the ESA.

Study (S)

Study stage is the action of attracting students' attention to the construction of language, whether linguistically or pragmatically. It is characterized by Harmer (2007, p. 52) as a set of "…. activities [which] can range from the focus on and practice of a single sound to an investigation of how a writer achieves a particular effect in a long text". He (2010, p. 53) holds that "study activities are those where the students are asked to focus on the construction of something, whether it is the language itself, the ways in which it is used or how it sounds and looks". Arifani et al. (2019) stated, study phase focuses on learning specific materials in order to gain information.

Activation (A)

Activation describes activities through which students use language as freely and communicatively as they can (Harmer, 2007). Students try to use the taught elements or to activate their potential knowledge. Such a free and communicative use of language, according to Harmer (2010), would make what they are doing more like a study activity, where they are expected to focus on the accuracy of specific bits of language, rather than on the message they are trying to convey or the task that needs to be performed. This phase assimilates the third stage of Presentation, Practice and Production (PPP) whereby students use language to talk about themselves, or to make their own original dialogues.

However, none of the parts of ESA can be implemented successfully in the absence of an assessment process since each teaching method and technique is necessarily and commonly followed by a compatible testing or assessment process. Assessment is an ongoing process that encompasses multiple aspects such as students' responses, comments, and the new words through which the teacher can subconsciously assess them (Brown & Abeywickrama, 2010).

Definitely, any teaching-learning process is cyclically interwoven with a respective and compatible assessment alternative. One of the most

popular alternatives in assessment is portfolio. According to Genesee and Upshur (1996, p. 83), a portfolio is "a purposeful collection of students' work that demonstrates their efforts, progress and achievements in a given area". According to O'Malley and Pierce (1996), successful teachers have found that portfolios increase the quantity as well as quality of writing and contribute to students' cognitive development, and they provide a multidimensional perspective on students' growth over the time. But, due to being time consuming, portfolios have got low practicality rating. Nevertheless, according to Brown (2000), the reliability, the washback effect, the authenticity, and the face validity of portfolios remain exceedingly high.

Interestingly, portfolios seem much more feasible, practical, and a user-friendly mechanism with ESA. According to Brown (2003), one advantage of engaging learners through portfolio development is to foster intrinsic motivation and responsibility; thus, such a portfolio-based engagement could contribute to learners' emotional and cognitive engagement and thereby development. In turn, portfolio-based assessment will help a teacher to comprehend the weak points, make feedback exchange possible, and facilitate learners' improvement and progress.

Consequently, portfolio-based assessment initiatives, according to Shohamy et al. (2017, p. 135), "…. have been increasingly used in language teaching and learning contexts, and their potential benefits have been widely promoted". Additionally, an e-version or alternative of portfolio-based assessment " can provide a more flexible, less cumbersome, and longer-term record of a student's development or a program's performance".

When applied in developing language skills, e.g., writing skill instruction and development, portfolios seem highly practical and more pedagogical. In composition scholarship, portfolio is a purposeful and systematic way of storing students' coursework that thereby, according to Lam (2018), students are advised to retain their notes, quizzes, corrections, homework assignments, and examination papers for the purpose of review and reflection during their study periods. These materials are utilized in English proficiency courses and academic writing programs across various

disciplines to facilitate learning, grading, and reporting objectives. As an example, Fathi et al. (2020) incorporated portfolios in the evaluation of writing aligns with the methodologies employed in writing courses, wherein students utilize readings and various informational resources as foundational elements for their writing. Furthermore, they are engaged in the process of revising and resubmitting their work following the feedback provided by instructors or fellow students. Hypothetically speaking, when coupled and synthesized, ESA and portfolio-based assessment can engage leaners in the form of '*double-planedness*' manner; both cognitively and emotionally.

Focusing on the cognitive side of the coin, the importance of connection between cognition and language seems an undeniable point in language learning and teaching. Following the behaviorist paradigm, as Belkhir (2021, p. 3) explains, "The cognitive revolution redirected attention to human thought processes, thinking abilities and reasoning. It has now become impossible to deny the central role of cognition in language learning". Blanchette and Richards (2010) categorized four processes: interpretation, judgement, reasoning, and decision making as cognitive tools, each of which covers cognitive dimensions [focused in this very study] including thinking, practicing, attention, learning, self-correction, and problem solving.

Parameters like ESA, cognition, portfolio-based assessment, teaching and developing language skills, e.g., writing skills, and the like, have separately and individually received prime attention in applied linguistics research, but what seems left intact is, in fact, to approach teaching and developing language skills in an innovative manner; *synergizing teaching method and assessment alternative on one hand, and approaching these issues under unique circumstances and through unique educational channels on the other*. In other words, to realize this approach, incorporation of ESA principles into those of portfolio assessment seems to open new insights and horizons in second language acquisition (SLA) research.

To cast some empirical lights on these issues, this multi-dimensional study investigated the effectiveness of pure ESA and ESA-synthesized with portfolio assessment in relation to cognitive dimensions of EFL learners (in

developing writing ability).

LITERATURE REVIEW

ESA as the Main Method

The founder of ESA as a method, mechanism, or strategy [whatever it can be called, but may be used interchangeably here], Jeremy Harmer (2007) elucidated when the value of language exposure through comprehensive input is recognized, it is tried to blend many approaches and ideas; it should make an opportunity for learners to think about how a piece of grammar works, at the same time how it is used in communicative activities. Additionally, he specified "principled eclecticism" to decrease the risks of disorganized activities without coherence as the result of choosing and using bits and pieces from several theories or methods. Following this, he noted that "most teaching sequences need to have certain characteristics or elements, whether they take place over a few minutes, half an hour, a lesson or a sequence of lessons. These elements are **Engage, Study** and **Activate**" (Harmer, 2007, p. 52).

ESA became so popular among scholars that it motivated them to run numerous researches. Arifani et al. (2020) implemented ESA as a solver of writing difficulties in foreign language learning. They applied this method to "overcome learner boredom and increase interest in participating in writing skills so that learners can actively participate in participating activities" (2020, p. 208). In a bid to verify the results of similar studies, the present study also was conducted to combine ESA with portfolio assessment to investigate cognitive-related dimensions of writing skill development.

Similarly, Hidayah and Harjali (2017) used the aforementioned method to arouse high school students' interest, because they believed a significant number of students exhibited lack of attention and passive demeanor during class participation. In his case study, Ayiz (2014) proved that applying ESA increases students' attention and decreases their boredom. He noted "the students' participation was noticeable proven by their body

languages, verbal participation and language performance when the students were asked to do some instructions" (Ayiz, 2014, p. 97). Some other pertinent studies like the one by Fithria and Ratmanida (2019) focused on the effect of ESA on speaking skills, and one by Giang Huong (2019) evaluated ESA with grammar. Also Vikasari's (2019) research addressed learning ESA-based vocabulary development.

Portfolio Assessment

Implementing a teaching method devoid of assessment seems to be an incomplete circle. It is through assessment that, based on Brown and Lee (2015), teacher and student draw a conclusion on their own performance. Portfolio is one of the most popular forms of alternative assessment which, according to Genesee and Upshur (1996) is a "purposeful collection of students' work that demonstrates to students and others their efforts, progress and achievement in given area" (p. 99). As a valuable mechanism of assessing students' achievement, portfolio, as many scholars acknowledge, enables students to compile their work, facilitate the observation of their progress, and also provides a platform for the exchange of their ideas (Farrah, 2018).

Cognitive Dimensions of Learning

Theoretically, cognition has been in various ways but they have ultimately ended in one common concept: the use of mental process. However, in recent views, the its definition has been expanded. Matlin (2005), noted "cognition concerns the acquisition, storage, transformation, use of knowledge, and includes a wide range of mental processes, namely, perception, memory, imagery, language, problem-solving, reasoning, and decision-making" (cited in Belkhir, 2020, p. 3).

Referring to Ellis (2008), cognitive theories should account for "how learners extract information from input, or how they operate on this information, and the role played by learners' output" (p. , 455). Cognitive process such as learning, attention, memory and decision-making (Brown &

Lee, 2015) identifies brain function. Nitta (2006) defined cognitive characteristics as learning strategies in which activities help language learners with their learning. She added learning strategies are significantly shaped by the unique characteristics of individual learners, contextual elements, and the learner's proficiency level. As a support, the importance of relationship between cognition and language learning has been highlighted in Belkhir's research (2020, p. 1) in which she mentions that "the relationship between cognition and language is useful in understanding the functioning of the cognitive mechanisms underlying any language learning activities, particularly in educational settings".

In an attempt to address the above discussion and claims, the present study as a comprehensive investigation, exclusively, synthesized ESA with assessment, namely, portfolio in relation to developing cognitive dimensions of learning.

PURPOSE OF THE STUDY

The main goal of this paper is to study synthesizing ESA as a dynamic and attractive method with portfolio assessment to investigate the effects of such a synthetic initiative on cognitive dimensions of writing skills among high school students. Obviously, the parameters such as ESA, cognition, portfolio-based assessment, and the instruction and enhancement of language skills, including writing, have been mainly discretely the focus of considerable attention in applied linguistics research. However, what remains is to explore the effects of innovative approaches to teaching and developing language skills. This involves integrating teaching methods with alternative assessment strategies while also considering the unique contexts and educational channels through which these issues are addressed. In essence, it is hypothesized that the integration of ESA principles with portfolio assessment could provide new perspectives and opportunities in the field of second language acquisition (SLA) research.

To address the following research questions, this multi-faceted study

aimed to provide empirical insights into these matters by examining the comparative effectiveness of pure ESA and with portfolio assessment-integrated ESA, particularly concerning the cognitive dimensions of English as a Foreign Language (EFL) learners in the context of enhancing writing skills.

1. Does synthesizing ESA with portfolio assessment-based instruction in EFL classes have any significant effect on Iranian EFL learners' cognitive dimensions? If so, how?
2. Does pure ESA assessment-based instruction in EFL classes have any significant effect on Iranian EFL learners' cognitive dimensions? If so, how?
3. Is there any significant difference between the effect of synthesizing ESA with portfolio assessment-based and pure ESA assessment-based instructions on Iranian EFL learners' cognitive dimensions? If so, how?

METHOD

Participants

The participants were conveniently-selected 177 female students studying in the 9th grade of the Iranian public high school system, who were randomly divided into three groups; namely two experimental and one control. An experimental group was defined portfolio assessment-integrated ESA and other experimental group was exposed to pure ESA, while the control group received the conventional mainstream of writing instruction.

Instrumentation

To achieve the objectives, three instruments were applied: a think-aloud protocol, a questionnaire, and an interview. The think-aloud protocol was used as a platform whereby students were justified to write and record their pre- and post-task thoughts and feelings. The think-aloud protocol was implemented in six phases approximately once in a month. The first five

protocols were implemented in the form of homework. The last one was recorded after an examination. All these contents were translated into English.

Then, a questionnaire based on the extracted codes from the think-aloud protocol was developed. The participants filled out the questionnaire with precision, integrity, and correctness, as a measure of validity, but the items were modified according to Farahian's (2015) writing metacognitive awareness. To pose interview questions, common points of the think-aloud and questionnaire were noticed. Ultimately, five questions were designed to build up the structure of the open-ended interview.

Validity Considerations

According to Maxwell (2021, p. 143) "Validity requires attention to both interpretation (meaning) and use (relevance) of data as well as their consequences". In this regard, the collected data from interviews and questionnaires were interpreted and used in regard of meaning, relevance, and consequences. The entire questions were in line with the research variables to achieve the results. So, validation was assured through the expert judgment of the three sets of data including the Think-aloud protocol, the questionnaire, and the interview on one hand, and the items modification based on Farahian's (2015) writing metacognitive awareness on the other.

Cronbach's Alpha Reliability Indices

The instrument measuring cognitive dimensions was checked in terms validity and reliability measures. As far as the latter is concerned, respective to the reliability aspects, the Cronbach's alpha reliability estimation was run as to the indices for cognitive dimensions and its components as shown in Table 1. The reliability index for overall cognitive dimensions was .945. The reliability indices for the components of the cognitive dimensions were as follows; thinking (α = .791), practicing (α = .686), attention (α = .775), learning (α = .816), self-correction (α = .716), and problem solving (α = .495). It should be noted that Tseng et al., 2006; Dörnyei and Taguchi, 2009; Fryer et al., 2018; and Harrison et al., 2021; believe that .70 is an adequate

Cronbach's alpha reliability index for an instrument. Based on this criterion, it can be concluded that cognitive dimensions and its components enjoyed "adequate" reliability indices; except for practicing and problem solving. However; Vaske et al. (2017) quoted a number of scholars; (i.e. Cortina, 1993; Nunnally & Bernstein, 1994; DeVellis, 2003; Vaske, 2008), believing that a minimum alpha value of .65 is also acceptable. Based on this criterion, it can be concluded that the reliability indices for practicing was also adequate.

Table 1 Cronbach's Alpha Reliability Statistics for Cognitive Dimensions and its Components

	Cronbach's Alpha	N of Items
Thinking	.791	5
Practicing	.686	3
Attention	.775	4
Learning	.816	6
Self-Correction	.716	8
Problem solving	.495	4
Cognitive	.945	30

The reliability index for problem solving which had only four items was .495. Pallant (2016), believes that in case the number items for an instrument are less than 10, one can report the average inter-item correlation. If the average inter-item correlation lies between .20 to .40, it can be concluded that the instrument enjoyed an appropriate reliability index; and that the low reliability was due to the limited number of items. Additionally, inter-item correlational analysis was run. Table 2 shows the inter-item correlations for the four items related to problem solving. The average inter-item correlation was .263. Thus, it was concluded that problem solving enjoyed an appropriate reliability index.

Table 2 Inter-Items Correlation Matrix for Problem Solving

		em19	em20	em23	em29
Correlation	em19	---		Mean = .263	
	em20	.363	---		
	em23	.274	.151	---	
	em29	.260	.235	.297	---

Data Collection Procedure

From the beginning of academic year, the ESA as the target method was employed. Every session a specific engagement based on the content of the lesson was designed. In the study phase, target verbs were taught via PowerPoint, using related pictures and showing the spelling in three steps: 1. Completing the target word by its picture, 2. Dropping certain letters to be filled in the blanks, and 3. Using the words in simple sentences. In activation phase, some tasks were assigned as homework which was collected through their portfolios as well. The respective papers were analyzed and assessed by researchers, the moot points were extracted and offered among the group as feedback in which portfolio assessment was applied.

Students were educated and briefed on how to write their thoughts and to record their feelings as think-aloud protocol gradually. After one month of teaching, they were demanded to write the first think-aloud. Step by step, they became familiar with think-aloud and the assigned papers enriched qualitatively.

Besides collecting think-aloud papers, they were translated into English, then the contents were entered into NVivo, finally some codes were extracted, which were used as the building blocks of the questionnaire. In alignment with Farahian's (2015) writing metacognitive awareness questionnaire, a total of thirty-two questions were derived to form the content of the questionnaire, which was subsequently administered to students. Then, the data were analyzed using Multivariate ANOVA (MANOVA).

Data Analysis

Qualitative Side

Task-based Think-Aloud Protocol Data

This action research, as Ebbutt (cited in Cohen, 2011, p. 345), "is a systematic study that combines action and reflection with the intention of improving practice". For the purpose of this research, a couple of think aloud phases

were defined as: *post-exam think-aloud protocol*, *whilst-learning*, and *post-task* types were conducted. In each phase, the contents of the texts were analyzed entirely; the common points were extracted as well. These extracted contents were entered to NVivo software and were codified.

After giving tasks in the classroom or assigning them as homework, the researcher-teacher asked students to write their thoughts and feelings through think-aloud protocol. The note papers were collected during several sessions. As the papers were originally in Persian, they were translated in English. Then, the contents were analyzed to identify common points. They were entered into NVivo software to extract the codes. As "coding enables the researcher to identify similar information" (Cohen, 2011, p. 559), this coding process was done in three levels, according to Tabibi (2015), coding was categorized as follows: free coding, axial coding, and selective coding.

In the first phase, six tasks were given to students as homework during the academic year. All tasks focused on writing skills i.e. write sentences under the textbook topics. Students were justified to record their think-aloud in advance. The first two tasks encompassed writing about family members and travelling; they were asked to write their think-aloud under their emotions and feelings. One hundred sixty-eight acceptable papers were collected. Ultimately, five questions were established based on the extracted data. Twenty students were selected randomly to attend as interviewees. Their speeches were recorded and after that all recordings were transcribed. NVivo software exported the common codes to analyze and achieve results.

RESULTS

In an attempt to address the objectives of this study, each of the research questions was addressed in the light of the mixed method research (MMR) design.

Quantitative Phase

In a bid to address the effects of synthesizing ESA with portfolio assessment, pure ESA, and conventional method on Iranian EFL learners' cognitive

dimensions, and their components, Multivariate ANOVA (MANOVA) was run. The statistical method of MANOVA, besides its specific assumptions of homogeneity of variances of groups, and homogeneity of covariance matrices, assume normality of the data.

Table 3 shows the skewness and kurtosis indices of normality. Since all values were within the ranges of ±2, it was concluded that the present data did not show any significant deviation from normality. It is important to highlight that the criteria of ±2 were introduced by Bachman (2005), Bae and Bachman (2010), and George and Mallery (2020). Additionally, Zhu et al. (2019) proposed the criteria of ±3. However, Watkins (2021) suggested different criteria for skewness and kurtosis. He believed that skewness values should be less than ±2, while kurtosis indices should be evaluated against the criteria of ±7.

Table 3 skewness and Kurtosis Indices of Normality

		N	skewness		Kurtosis	
Group		Statistic	Statistic	Std. Error	Statistic	Std. Error
ESA & Portfolio Assessment	Thinking	50	-.406	.337	-.555	.662
	Practicing	50	-.195	.337	-.850	.662
	Attention	50	-.963	.337	.152	.662
	Learning	50	-.803	.337	.722	.662
	Self-Correction	50	-.164	.337	-.037	.662
	Problem solving	50	-.424	.337	-.909	.662
	Cognitive	50	-.510	.337	-.580	.662
Pure ESA	Thinking	57	-.152	.316	-.645	.623
	Practicing	57	-.365	.316	-.766	.623
	Attention	57	-1.017	.316	.516	.623
	Learning	57	-.069	.316	-.185	.623
	++Self-Correction	57	-.203	.316	-.642	.623
	Problem solving	57	-.824	.316	-.015	.623
	Cognitive	57	-.255	.316	-.164	.623
Control	Thinking	27	-1.048	.448	1.079	.872
	Practicing	27	-.022	.448	-.433	.872
	Attention	27	-.131	.448	-1.214	.872
	Learning	27	-.853	.448	-.089	.872
	Self-Correction	27	-.262	.448	-.665	.872
	Problem solving	27	-1.222	.448	1.379	.872
	Cognitive	27	-.900	.448	.123	.872

Addressing the First Research Question (Respective Null-Hypothesis)

The first research question trying to see 'if synthesizing ESA with portfolio assessment in EFL classes has any significant effect on Iranian EFL learners' cognitive dimensions or not and if so, how', was addressed on the basis of Multivariate Analysis of Variances (MANOVA) to compare the three groups' means on cognitive dimensions. The main results were followed by post-hoc Scheffe's tests in order to probe the first nine null-hypotheses. Before discussing the results, it should be noted that MANOVA, besides the assumption of normality which was reported in Table 4, has two more assumptions; homogeneity of variances of groups, and homogeneity of covariance matrices. Table 4 shows the Levene's tests of homogeneity of variances. The results indicated that the assumption of homogeneity of variances was not retained on cognitive dimensions [$F (2, 131) = 8.31$, $p < .05$]. But, as noted by Tabachnick and Fidell (2014), one can reduce the alpha level (level of significance) from .05 to .01 to compensate for the violation of this assumption.

Table 4 Levene's Test of Homogeneity of Variances for Cognitive *Dimensions*

		Levene Statistic	df1	df2	Sig.
Cognitive	Based on Mean	9.378	2	131	.000
	Based on Median	8.312	2	131	.000
	Based on Median and with adjusted df	8.312	2	111.721	.000
	Based on trimmed mean	9.286	2	131	.000

Table 5 shows the results of the Box's test of homogeneity of covariance matrices. It is worth mentioning that the Box's tests should be reported at .001 levels; (Tabachnick & Fidell, 2014; Pallant, 2016; Field, 2018). The results (Box' $M = 23.65$, $p > .001$) indicated that the assumption of homogeneity of covariance matrices was retained.

Table 5 Box's Test of Homogeneity of Covariance Matrices for Cognitive Dimensions

Box's M	23.658
F	1.897
df1	12
df2	35324.839
Sig.	.030

Table 6 shows the synthesizing ESA with portfolio assessment, pure ESA, and control groups' means on total cognitive dimensions. The results showed that the synthesizing ESA with portfolio assessment had the highest means on cognitive dimensions, which were followed by pure ESA, and control groups.

Table 6 Descriptive Statistics for Writing Skill, and Cognitive Dimensions by Group

Dependent Variable	Group	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Cognitive	ESA + Portfolio	17.392	.430	16.542	18.243
	Pure ESA	13.494	.403	12.697	14.290
	Control	10.978	.585	9.821	12.135

Table 7 shows the results of MANOVA. The results ($F (6, 260) = 13.46$, $p < .01$, $p\eta^2 = .237$ representing a large effect size[1]) indicated that there were significant differences between the three groups' overall means on writing skill, and cognitive dimensions.

Table 7 Multivariate Tests for Cognitive Dimensions by Group

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.952	853.043	3	129	.000	.952
	Wilks' Lambda	.048	853.043	3	129	.000	.952
	Hotelling's Trace	19.838	853.043	3	129	.000	.952
	Roy's Largest Root	19.838	853.043	3	129	.000	.952
Group	Pillai's Trace	.474	13.467	6	260	.000	.237
	Wilks' Lambda	.537	15.673	6	258	.000	.267
	Hotelling's Trace	.841	17.937	6	256	.000	.296
	Roy's Largest Root	.815	35.316	3	130	.000	.449

[1] Partial Eta Squared should be interpreted using the following criteria; .01 = Weak, .06 = Moderate, and .14 = Large (Gray and Kinnear 2012, p 323; and Pallant 2016, p 285).

Table 8 shows the results of Between-Subjects Effects. It should be noted that Table 5 compared the three groups' overall means on cognitive dimensions; however, Table 8 compares three groups' means on the cognitive dimensions. Based on these results it can be concluded that there were significant differences between the three groups' means on; a) cognitive dimension ($F(2, 131) = 43.86$, $p < .01$, $p\eta^2 = .401$ representing a large effect size).

Table 8 Tests of Between-Subjects Effects for Cognitive Dimensions by Group

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Group	Cognitive	810.429	2	405.215	43.866	.000	.401
Error	Cognitive	1210.121	131	9.238			
Total	Cognitive	29967.582	134				

A: The synthesizing ESA with portfolio assessment group (M = 17.39) had a significantly higher mean than the control group (M = 10.97) on overall cognitive dimension ($MD^2 = 6.41$, $p < .01$). Thus, it can be concluded that the first null-hypothesis as "synthesizing ESA with portfolio assessment in EFL classes did not have any significant effect on Iranian EFL learners' cognitive dimension" was rejected.

Addressing the Second Research Question (Respective Null-Hypothesis)

B: The pure ESA group (M = 13.49) had a significantly higher mean than the control group (M = 10.97) on overall cognitive dimension (MD = 2.52, $p < .01$). Thus, based on table 9, it can be concluded that the second null-hypothesis as "pure ESA in EFL classes did not have any significant effect on Iranian EFL learners' cognitive dimension" was rejected.

[2] M and MD stand for Mean and Mead Difference.

Addressing the Third Research Question (respective Null-Hypothesis)

C: The synthesizing ESA with portfolio assessment group (M = 17.39) had a significantly higher mean than the pure ESA group (M = 13.49) on overall cognitive dimension (MD = 3.90, $p < .01$). Thus, it can be concluded that the third null-hypothesis as "there was not any significant difference between the effect of synthesizing ESA with portfolio assessment and pure ESA on Iranian EFL learners' cognitive dimension" was rejected.

Table 9 Post-Hoc Scheffe's Tests for Cognitive Dimensions by Group

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Cognitive	ESA + Portfolio	Pure ESA	3.90*	.589	.000	2.44	5.36
		Control	6.41*	.726	.000	4.62	8.21
	Pure ESA	Control	2.52*	.710	.002	.76	4.27

Figure 1 shows the three groups' means on overall cognitive dimension.

Figure 1 Means on Overall Cognitive Dimension by Group

Qualitative Data Analysis (Think aloud on Cognitive side)

The second two tasks were defined based on textbook issues: ceremonies and media. Before giving the tasks, they were informed how to think about their

cognitive dimensions while writing the tasks. Sample extracts followed by the extracted codes, table 10, are discussed and brought as follows:

In this phase a hundred and fifty papers were collected, after content analysis these common codes according to cognitive dimensions of language learning were extracted from the most frequent to the least frequent: learning, attention, practicing, thinking, self-correction and problem solving.

Student 19 wrote "At the first step I ignored the importance of learning, but after weeks, I understood if I learned in the class, I would not spend a lot of time to write the tasks and sentences". Student 2 noted "I confess that I've stabilized English via doing my homework.

Almost 75 percent of my learning occurred in the class and doing homework increase it to 100 percent. If I misunderstood an issue by doing the tasks specially making sentences, I got the point and corrected my mistake". (A piece of think-aloud written by student translated into English).

Attention is the next extracted code in which the students' ways of studying is defined. They applied various methods of studying for attracting their attention. Some recurrent ways were reading loudly, writing as draft, listening to music, drawing pictures, walking while reading and writing repeatedly.

Student 35 wrote "Nothing can increase my attention like music". Student 16 explained "if I don't read loudly, I cannot concentrate my mind and I fly to other world." Student 102 repeated that "when I want to learn more, I write a lot and I listen to music simultaneously". (Translated pieces of think-aloud written by students).

This research domain emphasizes the development of writing skills, thereby providing students with a valid rationale to prioritize this particular skill over others. In their think-aloud reflections, Student 52 articulated, "we write for practicing and practice for writing" (translated from a think-aloud entry by the student).

Next code can be overlapped with extracted codes of writing which made students think about topics and the process of writing. About half of the

participants acknowledged they thought about topics and the style of writing while they were doing/writing their tasks.

Student 25 remarked "Before I want to think about the topic, I remember teacher's visage and her speech and style of teaching, then I forced myself to think carefully about the topics, start writing and adapt the structures and points with the taught issues" (translated a piece of think-aloud written by student).

Self-correction and *problem-solving* were the principles that evolved and improved progressively each week, aimed at enhancing the learning and development of students. Student 6 wrote "I did not pay attention to the arrangement of my sentences. I've learned English but I didn't know the structure of sentences. Session by session I became familiar with the structures and I correct my mistakes. Now I know how to make a sentence correctly, when I face a mistake and find the correction I'm encouraged to scrutinize the entire text". (Translated a piece of think-aloud written by student).

Table10 Think-aloud data codes driven on the cognitive dimensions

Free Coding	**Axial Coding**	**Selective Coding**
Stabilizing the learned points by doing homework Being satisfied when learning happened Being hopeless when learning faded	Learning	Cognitive Dimensions of Language Learning
Applying several ways to focus on study Listening to music Reading loudly Repeating or writing	Attention	
Writing by memorizing new words Doing several tasks to dominate the issue	Practicing	
Thinking about topics Imagining the framework of writing Remembering teacher's method	Thinking	
Correcting based on learned issues Correcting unconsciously based on knowledge background	Self-correction	
Solving problems with the help of Google Translating issued Relying on others' help	Problem solving	

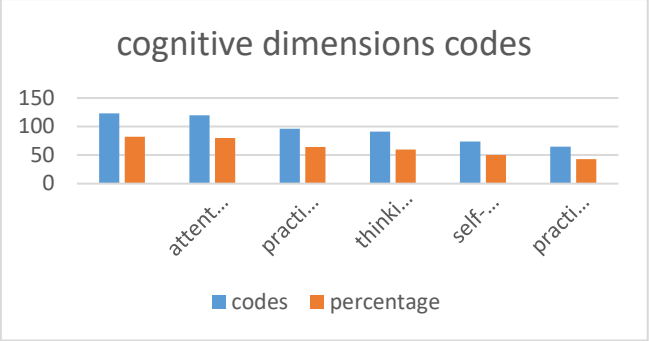

Figure 2 Think-aloud driven codes' frequency on the cognitive dimensions

As figure 2 shows, the most frequent code is *learning*. The mentioned code was affected by the quality of learning among students. The more they've learned, the well they've done the tasks. The considerable point was they were aware of this fact.

Interview Driven Data

The process of interviewing the students revealed the shared codes that emerged from both the questionnaire and the think-aloud protocol.

Student 58 said "paying attention in class is inevitable, due to the importance of learning and the attraction of teaching method. Once I had a mental problem that distracted me but I became all ear and concentrated my attention while teacher started teaching because the way of her teaching attracted all students". Unlike these students, some did not pay attention to the teacher as:

Student 42 said "I hate English and learning the lessons is catastrophe. Therefore, I avoid to pay attention" beside number 42, student 15 confirmed "I have several problems in my family that forced me not to pay attention in class. It is really difficult to be conscious in the class when you had tension".

Considering *attention* at home, as the students recorded in their think-aloud, they had their own ways of paying attention such as repetition, writing

continuously, listen to music and walking while studying. The interviewees approved these ways of paying attention, student 64 mentioned "nothing can attract my attention but music. I listen to my favorite music, do my homework and study simultaneously".

As table 11 shows *attention* is the first common code that was extracted from interviews either in class or at home.

Table 11 Interview data codes driven on the cognitive dimensions

Free Coding	Axial Coding	Selective Coding
Better learning Interested in English Method of teaching	Attention	Cognitive Dimensions of language learning in class
Disinterested in English Family problems	No attention	
Paying attention High scores Interested in English	Learning	

Free Coding	Axial Coding	Selective Coding
Repeating the learned issues while doing homework Writing repeatedly while doing homework Reading loudly while doing homework Listening to music while doing homework	Attention	Cognitive Dimensions of Language Learning at Home
Doing homework Repetition Getting the help of others / Google	Practicing	
Doing homework Quality and quantity of scores Making future	Thinking	

DISCUSSION

The results and findings show synthesizing ESA with portfolio assessment in EFL classes positively affects Iranian EFL learners' cognitive dimensions. According to the quantitative results and qualitative findings, conducting ESA as the method of teaching during an academic year had the salient effects on cognitive dimension of writing skills. Learning and thinking, the two extracted codes of cognitive dimensions, are in line with Harmer's (2007)

claim that writing gives students more time for thinking and it is an aid for learning language. Accordingly, Ellis (2008) stated the manner of extracting information from input in order to determine learners' output, thus, these couple of extracted code could be overlapped: thinking as input and learning as output. ESA as a dynamic method (Vikasari, 2019), affects cognitive dimensions and writing skills. Additionally, the aforementioned method with portfolio assessment had its effects on the cognitive dimensions specifically on self-correction and problem solving, for the reason of getting feedback and correcting the mistakes after assessing the portfolios.

The results in an answer to the three research questions showed portfolio assessment makes a difference based on the duration of the study, the students improved in writing gradually as their tasks confirmed as well as their think-aloud; it is what scholars such as Farrah (2018), in a paper explained that assessing students' portfolios helps them to comprehend how much progress was achieved. At the onset of the study, they were passive to write their tasks and record their think-aloud, but in the course of the instruction, they became motivated to write and continued on recording think-aloud protocols. Many students reported that the method was engaging and empowered them, fostering motivation to enhance their language acquisition. The findings, along with recurring themes such as thinking, learning, attention, and problem-solving indicated that portfolio assessment, in conjunction with the implementation of the Engage-Study-Activate (ESA) framework, positively influenced the cognitive aspects of learners in writing courses.

Conducting ESA and think-aloud protocol (as data collection) was done simultaneously, which therefore, affected learning and attention of students consciously, as in line with Harmer (2007, p. 47) "learning is a conscious process where separate items from the language are studied and practiced in turn". The concept of *attention* served as a pivotal code that directly impacted other codes. This assertion was substantiated by the codes derived from the interviews, as the most prominent and recurrent code identified in the interview content highlighted the students' focus during their

study sessions, examinations, or while completing homework assignments.

The present study approves the findings of the previous ones: Ben-eliyahu, Moore, Dorph and Schuun (2018), Vikasari (2019), Deane (2011), Shohamy, Or and May (2017) and Harmer (2007). The first three authors defined engagement as "the intensity of productive involvement with an activity" (Ben-eliyahu at al 2018, p. 87), as in this study engagement was the onset of producing an activity, they focused on the method (ESA) as the critical conducting method that affected on researchers' endeavor based on one skill, however, the present study worked not only on ESA as the main method with writing skills but on accompanied portfolio assessment with the method. Vikasari (2019) applied ESA as an alternative way to solve problems in vocabulary mastery. In the present study ESA was conducted as the main method to teach writing skills in accordance to cognitive dimensions of language learning, through which students became conscious about their knowledge of grammar as well as vocabularies to write and improve their writing. Deane (2011) defined and assessed writing as a complex cognitive skill in which he mentioned several ways of assessing except portfolio assessment that was the principal one in this paper.

CONCLUSION AND IMPLICATIONS

The most important conclusion of the present study may be the negligence of conducting dynamic method in our high schools for teaching English as foreign language. As the participants were more frequently exposed to EST process, they appeared to be enjoying the method and changed their mind to try more for learning English. In their own words, the process was pleasant, and doing various tasks in the form of homework was not difficult but very sweet for them. It is advisable to incorporate EST across all subjects in schools. Consequently, the Ministry of Education could mandate the adoption of ESA as a recommended instructional mechanism in every classroom. Furthermore, the process of compiling a portfolio, while often labor-intensive, can yield significant benefits when assessed over several weeks.

This evaluation not only provides valuable insights for both educators and learners, but also facilitates constructive feedback that can enhance and deepen the educational experience.

Additionally, teachers as the focus of a class, can blossom a soul or ruin it. They have to comprehend their capacity and talents firstly, then they start to teach. If they change their minds, their points of view, their methodology, their ideology will ultimately change. Therefore, if a teacher pays attention to everything, specially his/her behavior, method of teaching, professional development, the students will embrace learning.

Finally, ESA claims that there is no gap between teacher and/or student, teaching or learning, class or home; the more attractive the engagement, the more fertile the activation. This study further recognizes that the portfolio serves as an adjunct to the aforementioned method, as the findings indicate that portfolio assessment influences the cognitive aspects of English as a Foreign Language (EFL) learners. Therefore, it is advisable for educators to integrate these elements.

This study can have implications for all stakeholders of EFL teaching. Firstly, and foremost, every teacher who intends to facilitate learning, especially the ones who teach in governmental high schools, can apply ESA as a dynamic method in their classes. As a matter of fact, Ministry of Education can play a critical role to educate supervisors as well as teachers to conduct dynamic methods, namely ESA.

As an insight for the interested researchers, it is suggested that similar studies be replicated among young EFL learners as well as among adult university students. Additionally, here portfolio assessment was carried out but future researchers can define peer or group assessment under the shadow of portfolio, through which they can explore further details.

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