Comparative Impacts of Mindsettings on EFL Learners' Grammar Achievement

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Abstract

The present study was conducted to investigate the comparative impacts of three types of EFL teachers' mindsettings on EFL learners' grammar achievement. The participants of the study were English Translation undergraduate students (both female and male with the age ranging of 18-35) who were selected according to convenience non-random sampling from three classes of English Grammar 1 at both Islamic Azad Universities of Karaj and Shahriyar. The total number of students in each class was 30. The course lasted 16 successive sessions. Participants were assigned into three experimental groups. The researchers provided interventions in terms of Fixed-mindsetting (Experimental group 1), growth-mindsetting (Experimental group 2), and mixed-mindsetting (Experimental group 3) to teach English grammar to them. The independent variables in this study were human mindsets which were grouping variables to three levels of mixed-mindset, growth-mindset, and fixed-mindset. The dependent variable was EFL learners' grammar achievement. At the end, a same grammar test was administered among participants in all three groups and it was demonstrated that the students in growth-mindsetting group outperformed significantly higher than those of the other two groups. This study includes a variety of instructional implications for both EFL teachers and EFL learners.

INTRODUCTION

As we know, the history of language teaching has gone through tremendous fluctuations right from scratch. Method era was a period during which a bunch of methods with predetermined principles and techniques were introduced and practiced emphasizing on what to teach and how to teach. Each method used to claim to be the miracle of its own time, a final and binding remedy of that chronic disease in learning a second or foreign language. Methods emerged and immediately extinguished since in their precepts, there was no room left for the learners themselves, and the psychology of learners was considered neither important nor crucial. The movement of finding an

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alternative method (to be regarded as the best method) finally led to the movement of finding an alternative to methods which itself was the outset of post-method era (Kumaravadivelu, 2006).

One of the most significant features of post-method era is the importance attached to cognitive and affective factors in the process of learning and learners were regarded as having such psychological intricacies that impact the quality and quantity of learning. This shift of focus from "whats" and "hows" of teaching to the psychology of learners and their cognition paved the way for proposing different theories of learning and intelligence.

There have been numerous and sometimes opposing theories and approaches about human intelligence, out of which two are so comprehensive and also related to the significance of the present study: the *Entity approach* which views intelligence as a stable and fixed human attribute. People advocating such a view tend to prove themselves to others; to be seen and considered as intelligent, talented and genius, and the *Incremental approach* which views intelligence as growing, malleable, fluid, and changeable. People adhering to such a view enjoy the satisfaction coming from the very process of learning and often see opportunities to get better (Kammrath & Dweck, 2006).

As can be seen, these theories are not innovative as far as human cognition is concerned. However, these are the underpinnings of the mindset approach as proposed by Dweck (2008) in her theory of mindsets. Accordingly, she proposed two types of mindsets (i.e., growth mindset based on the incremental view and fixed mindsets based on the entity view) which demonstrate how people adopting or leaning toward one of these mindset types approach the world around themselves, their relationships, business, sport, love, parenting, school, and education differently. However, she has implicitly proposed a third mindset (i.e., people who tend to demonstrate a combination of fixed and growth mindset qualities in their behaviors and even sometimes lean to-ward either fixed or growth side in different situations. That is why we have proposed a third type mindset in our study as mixed-mindsetting.

The theoretical underpinnings of mindsets demonstrate the long rooted history of the approach. However, what makes such an approach innovative, significant, and of crucial importance is the practical application of these theories in different domains of life. The quality of modern life requires human being to get familiar with psychology of success and this, on its own, necessitates understanding the nature of human mindset and the very factors making and shaping it.

More significantly, in education and namely research conducted in different areas of second language acquisition such affective factors as motivation, self-regulation, stress, willingness to communicate, self-confidence, have mostly been considered as independent variables influencing the quality of teaching and learning; pursuant to the theory of mindsets all these factors are to be considered as dependent variables as far as learners and teachers' mindsets are considered (Dweck, 2013).

The influence of mindsets has been widely researched across different academic domains, including music, sports, math, and science (Burnette, O'boyle, VanEpps, Pollack, & Finkel, 2013). However, it is surprising that there is a lack of systematic research on mindsets about language learning. Many people believe that there exists a specific aptitude for learning new languages (Horwitz, 1999), as evidenced by claims that one must have a "gift" or "ear" for languages; nonetheless, the role of mindsets appears particularly important for understanding language learners' motivation. Moreover, mindsets are considered to operate in a domain-specific fashion, such that they differ across people and academic domains. For example, one could believe that language ability is incremental, but math ability is fixed (Dweck, Chiu, & Hong, 1995; Leslie, Cimpian, Meyer, & Freeland, 2015).

Moreover, language learning has long been argued to be a distinctive educational domain in that motivational dynamics outside the classroom, particularly in interactions with members of the target language community, can be as important for successful learning as dynamics within the language classroom (Gardner, 2010). Consistent with these claims, mindsets about language, but not mindsets about general intelligence, have been found to be a better predictor of language motivation and outcomes (Lou & Noels, 2016). Given its distinctiveness from other academic subjects, it is important to have a domain-specific understanding of language mindsets and their influence on language.

Therefore, investigation of language through mindsets from a domain-specific perspective could reveal a number of problems. Such problems concern the ignorance of the teachers' mindsets in our educational system. In hiring teachers and employing faculty members, the priorities are type of university they have graduated from, their averages, research backgrounds, teaching experiences, and lots of other sometimes non-relevant factors. However, teachers' mindsets are belittled and ignored and that is what they carry with themselves to their classes more than their certificates, knowledge, research backgrounds, and teaching experiences. And this is their mindsets that could influence their standard setting at the outset, formative and summative assessments, interactions with their students, feedback orientation, views of praise and punishment, students' mistakes and errors, students' setbacks and failures, views of the influence of students' abilities as well as their tenacity, persistence, and perseverance, judgments, students' motivations and self-regulation as well as their overall teaching orientation. This research is intended to investigate three different types of EFL teachers' mindsettings (fixed, mixed, and growth-mindsettings) on EFL learners' grammar achievement.

LITERATURE REVIEW

Language learners differ in their beliefs about the nature of language ability and this has fre-

quently been studied in research in the field of applied linguistics and language learning psychology (Horwitz, 1999; Mori, 1999; Wenden, 1998). However, focusing on learners' beliefs about language aptitude is a recent trend in research on language ideology. Ryan and Mercer (2012) concluded that people hold different and even opposing views with regard to the malleability and fixedness of language intelligence which is consistent with earlier research about language beliefs. They also noted that people often hold both types of beliefs and that an important issue concerns beliefs about age sensitivity, such that some people think that language skill becomes fixed at an early age. By the same token, Henry (2014) investigated learners' beliefs about learning and found that some learners believe that language acquisition is a natural process and language ability is a natural gift while others believe that it is an effortful process.

Building on these studies about language beliefs, Lou and Noels (2016) developed an instrument to assess language mindsets. They suggested that there are three major categories of entity and incremental theories about language learning. The first, general language intelligence beliefs (GLB) are beliefs about whether language intelligence is fixed or malleable. The second category of beliefs highlights whether second/foreign language aptitude (L2B) is fixed or can be improved through effort. The third category is beliefs related to age sensitivity and language learning (ASB). Their results indicated that these beliefs were hierarchically structured within two more general entity and incremental beliefs, which were negatively correlated. They also found evidence that language mindsets are independent from mindsets in other domains (e.g., math, sport, and general intelligence).

Consequently, Mindset plays a very important role in both EFL teacher and EFL learners' academic performance. What is more important than teachers' professional knowledge is their mindsets since they carry mindsets to the very heart of the class with themselves and all messages that they send to the students derive

from these very mindsets, sometimes the nature and impacts of which are unknown. Different types of teacher's mindsetting in the very context of classroom emanates from different types of teachers' mindsets. Therefore, understanding the impacts of teachers' mindsetting in the classroom requires understanding the nature of teachers' mindsets themselves. In short, this is the teacher's mindset that determines the quality of his or her mindsetting (i.e., his or her belief system about intelligence, tenacity, perseverance, effort, setbacks, failures, goal setting, standard setting, and etc). When the nature and the impacts of different EFL teachers' mindsets on EFL learners' academic achievement and performance is illustrated through a full-fledged revelation of different mindset types, both teachers and learners will be aware of them. Mindsets can directly influence the quality and quantity of standard setting in EFL context.

One of the most important courses that the students of translation must pass is grammar course that is presented as grammar 1 and grammar2 at their very first academic year. The importance of grammar especially at the academic level has already been established in the literature and it is known as one of the most determining components both in second language acquisition and translation. In the present study, the impact of different types of EFL teachers' mindsets (fixed, mixed, and growth) on EFL learners' grammar achievement is going to be investigated.

Teaching grammar had a central position in the syllabus until the early 1970s (Celce-Murcia, 1991; Rutherford, 1987). Before the advent of communicative language teaching (CLT), grammar was considered to be-all and end-all of language instruction. Grammar was taught deductively through explicit rules followed by drills.

In 1970s with the rise of CLT some applied linguists stated that deductive approach toward grammar instruction did not lead to the development of acquired knowledge (Krashen, 1981). Therefore, the place of grammar became uncertain and grammatical syllabi were based on communicative functions and tasks. In this sense, grammar exercises were replaced with meaningful communicative environment in new teaching methods (Bourke, 2008). And traditional task-based approaches represented a strong version of the communicative language teaching did not focus on grammar forms and just focused on meaning.

However, current approaches in task-based instruction focus on the inclusion of grammar. Ellis (2006) mentioned that grammar instruction should be in the way that any instructional techniques draw the learners' attention to specific grammatical forms to help the learners understand them metalinguistically, process them in comprehension, and produce them to become internalized.

Accordingly, the present study was conducted on one of the most controversial areas of second language acquisition (i.e., grammar) through one of the most recent and appealing areas in research conducted on second language acquisition (i.e., mindsets and mindsetting). Therefore, to get the feet wet into this process, four research questions were presented at the outset: 1- Does EFL teachers' fixed-mindsetting have any significant impacts on EFL learners' grammar achievement? 2- Does EFL teachers' Growth-mindsetting have any significant impacts on EFL learners' grammar achievement? 3- Does EFL teachers' mixed-mindsetting have any significant impacts on EFL learners' grammar achievement? 4- Do types of EFL teachers' mindsetting have any impact on EFL learners' grammar achievement?

METHOD

As it was explained in detail in previous section, the present study was conducted in order to investigate three different types of EFL teachers' mindsettings (fixed, mixed, and growth-mindsettings) on EFL learners' grammar achievement. Therefore, the study was to be conducted in three different EFL classes. In one class, the researcher taught the subject matter-Grammar-through fixed-mindsetting. In the next class, grammar was instructed through

growth-mindetting. And finally, in the third class, a mixed-mindsetting approach was adopted and utilized.

Participants

The participants of this study were English Translation undergraduate students (both female and male with the age ranging of 18-35) who were selected according to convenience non-random sampling from three classes of English Grammar 1. The total number of students in each class was 30. They enrolled for this course for the second semester of the academic year 2017-2018 at both Islamic Azad Universities of Karaj and Shahriyar branches. The course lasted 16 successive sessions (once a week and each session 1 hour and 30 minutes). Participants were assigned into three experimental groups. The researcher provided interventions in terms of Fixed-mindset (Experimental group 1), growth-mindset (Experimental group 2), and mixed-mindset (Experimental group 3) to teach English grammar to the EFL learners.

The independent variables in this study were human mindsets which were grouping variables to three levels of mixed-mindset, growth-mindset, and fixed-mindset. The dependent variable was EFL learners' grammar achievement.

Instrumentation

The instruments utilized in this research are as follows:

The teacher made pretest of grammar 1: This test was developed by the researcher (teacher) to be held as the pretest of grammar. The reliability of the pretest came out to be 0.81 through Kuder-Richardson Formula 21 (KR-21).

Text book: Understanding and using English grammar written by Azar and Hagen (2009). This book was selected as the course book in all three experimental groups. The first ten units of the book including five units on *English tenses*, one unit on *subject-verb agreement*, one unit on *nouns*, one unit on *pronouns*, and finally, two units on *modals* were to be taught.

The teacher made achievement posttest of grammar 1: This test was to be a parallel form of the pretest. Therefore, at the end of the course, the researcher (teacher) developed a same set of multiple-choice questions with the same specifications as those of the pretest. The reliability of the test was estimated to be .87.

Procedure

At the very outset, the reliability of teacher made pretest of grammar was calculated with a group of English Translation undergraduate students with very similar characteristics to the target groups. Kuder-Richardson 20 formula (KR 20) was employed and the acceptable reliability was calculated to be .81. For the convenience of the study, the groups of fixed, growth, and mixed-mindsettings were numbered as groups 1, 2, and 3, respectively. Finally, the teacher-made pretest of grammar was administered among the participants in all three groups. It included 30 multiple choice questions about English tenses, nouns, pronouns, subject-verb agreement, and modals.

The researcher started the course with introducing the course book and suggested source books as well as the course syllabus. The course book was *understanding and using English grammar* written by Azar and Hagen (2009). To assure the same procedure and instruction as stated above, the same teacher (the researcher himself) taught grammar in all three groups adopting a different type of mindsetting in each experimental group.

Treatment in group one (Fixed-mindsetting)

The methodology for teaching grammar included an inductive approach to teaching grammar (i.e., in each unit the participants were first presented with details and examples as well as exercises). Next, the rules were explained to them.

A use to usage direction of instruction was another important step taken in teaching grammar to the participants in this three groups. For example in teaching English tenses, the participants were first presented with the uses of each tense in different com-

municative situations. Upon teaching the different communicative functions or uses of grammar, the researcher described the grammatical structure of the tense (i.e., the usage).

Formative assessment was another important characteristic of this course. Accordingly, assessment was seen as an aid to teaching and the instruction and it was embedded into the instruction right from scratch. For example, upon teaching simple present tense (as explained in the above-cited section), the students were provided with texts including different communicative functions (uses) of simple present tense and were asked not only to identify them but also to determine the communicative function type as explained above. They were then provided with different exercises to assess their understanding of different grammatical functions (usages) of simple present tense.

E-learning through social networks, cooperative learning, and noticing (consciousness raising) for understanding (competence) the grammar on one hand, and integration of grammar in writing and speaking for using (performance) on the other hand were among other steps taken so as to teach grammar to the participants in all three groups.

To monitor the performance of the students even after the class, the researcher created a telegram group where he could send more exercises, some of which were to be done for next session and some others to be done through collaborative discussion and learning in the group. Some educational clips on grammar were downloaded from *Aparat* and *Youtube* and forwarded to the group for students to be exposed to different teaching styles of grammar. All of the above-cited steps were the same among participants of all three groups. However, the participants in this group received and were exposed to fixed-mindsetting throughout the course and right from scratch. The fixed-mindset qualities enforced in this group were as follows:

The teacher's Mindsets about his students' language ability: the researcher adopted a fixed-mindset attitude in this group, the most important tenet of which was that language learning is a fixed and innate ability is that cannot be learned, developed and grown through learning. Learning was there to prove it rather than improve it. Accordingly, setbacks and failures were to mean that the student did not have the innate ability to learn. This fixed mindset about participants' abilities to learn grammar revealed itself right from scratch and through the course especially in teacher's feedback, assessments, judgments, view of mistakes and errors as well as setbacks and failures.

Treating setbacks and failures: When their ability was threatened or undermined through setbacks and failures, it meant that the students were not competent enough to learn easily and without any challenge.

Focus on "performance" (as a way of proving one's ability): Rather than focusing on learning, the teacher focused on his students' final performance. He did not want them to look dumb. Therefore, they did their bests so as not to face whatever challenging situations. They would rather easy tasks that are certain to be fulfilled easily.

Help avoidance: The teacher promoted help avoidance as much as possible since it was a sign that they did no not have the required ability to learn it through their own recourses.

View high standards as threats: The teacher avoided setting high standards or objectives for the course since they could threaten the intelligence of his students. That is why he would rather not set high standards that reveal their level of intelligence and that is threatening to their academic and social identity.

Praising the person's intelligence (praising the person): The teacher praised the students for their intelligence, rather than their strategies, efforts, and tenacity.

Comfort-oriented feedback: The teacher's feedback was totally comfort-oriented (i.e., any type of feedback that assured them of their intelligence rather than any other type of (negative) feedback that targeted their intelligence and encouraged them to try strategies and exert more effort).

Product-oriented judgment: He only judged the overall performance of his students and belittled the process of learning since he believed everyone has a specified level of intelligence which defines them and their performance.

Desire to look smart: The teacher promoted the fixed-mindset idea in the class to such an extent that students resorted to a variety of strategies to look smart. They were afraid that struggling would mean they were not smart and stop doing things that were challenging.

Difficult tasks avoided: He avoided any difficult task which was threatening to the students' perceived level of intelligence. The tasks were designed so that students could fulfill them.

Achievement was determined by the amount of talents: Through this perspective, achievement was determined by the amount of intelligence rather than strategies, efforts, and academic tenacity of the learners.

Learning new things is threatening: Learning anything new which was threatening to the students' perceived level of intelligence was withheld by the teacher. Teacher's Fixed-mindset attitude discouraged any new learning which was threatening and which was not clear whether they could master it with their perceived fixed level of talents.

View errors as a sign of failure and incompetence: Errors were considered as the indicators of lack of intelligence and that is why students tried hard so as not to make any mistakes.

Teacher as a judge and an evaluator: Fixed mindset views teachers as judges who observe your performance closely and who evaluate and judge you immediately based on your performance. That is why the teacher was an evaluator and judge in this group.

Treatment in group two (Growth-mindsetting)
The same procedure of inductive instruction of grammar, a use to usage direction of instruction, formative assessment, E-learning through social networks, cooperative learning, and noticing as those of the fixed-mindsetting group was adopted and enforced in growth-mindsetting group. However, treatment in this group included a variety of growth-mindset qualities as follows:

The teacher's Mindsets about his students' language ability: The researcher believed that the students' language ability was malleable and could be grown through practice, effort, tenacity, and challenge seeking.

Treating setbacks and failures: The growth mindset teacher in this group did not perceive setbacks or failures as a sign of lack of intelligence or something threatening to his students' overall performance. Rather, he considered them as informative and challenging.

Focus on "learning as a way of improving one's ability": Through growth mindset perspective, learning was seen as a tool that did not define the students and their intelligence; it was there to improve rather than prove.

Help seeking: The growth mindset teacher believed that students with growth mindsets, in their path of improvement and success, try whatever possible help seeking solutions. They were not afraid of being judged with regard to their intelligence. What was important to them was the very learning process. They sought help from all possible resources in order to pave their path of success.

View high standards as opportunities: The belief in malleability of intelligence encouraged the teacher to set and pursue high standards in this class. High standards were not considered as threatening because the students were not afraid of setbacks or failures as they were not to be seen as indicators of their intelligence level.

Praising the process of learning (praising the person's strategy): When students succeeded, attention and approval was directed at their efforts and their strategies rather than their intelligence

Strategy-oriented feedback: The growth mindset teacher promoted strategy-oriented feedback rather than comfort-oriented feedback. Since feedback was not there to judge students' knowledge and ability to learn; it was there to be an important ingredient of teaching that could facilitate the learning process.

Learning was about how much persistence and effort is put forth: The teacher believed that learning was not an insight which was inspired by the degree of intelligence, rather it was a process, amount and quality of which was determined the degree of effort, tenacity, and persistence.

Process-oriented judgment: The teacher judged the amount of tenacity put forth in the process of learning. In fact, a process-oriented attitude was adopted and promoted in this group rather than a product-oriented one.

Desire to get smart: The focus of students in this group was to get smarter and smarter through practice, strategy, and tenacity rather than looking smart through avoiding difficult tasks and welcoming easy tasks.

Difficult tasks welcomed: Difficult tasks were welcomed since they were challenging and informative.

View of errors: Errors were seen as normal and useful parts of learning process; the errors were used to help students improve their knowledge.

Teacher as guide and resource: The growth mindset learners viewed their teacher as their resource and guides and were not worried about their feedback since they were not seen as judges and evaluators of their performance.

Treatment in group three (Mixed-mindsetting)

Mindsets are not dichotomous (i.e., we cannot divide the people to absolutely fixed-mindset or growth mindset categories). Rather, they shall be seen on a continuum. The researcher in this group demonstrated amalgamation of both fixed and growth mindset qualities called mixed-mindset in this research. Accordingly, participants in this group, in addition to the same procedure of inductive instruction of grammar, a use to usage direction of instruction, formative assessment, E-learning through social networks, cooperative learning, and noticing as those of the other two groups, were exposed to both fixed and growth-mindsetting qualities throughout the course.

At the end of the course, A standard achievement test of grammar (used to see the impact of three types of EFL teachers' mixed, fixed, and growth-mindsettings on EFL learners' grammar achievement) with the acceptable reliability of .87 was administered among the participants in all three groups. The design of the study was quasi-experimental since there were three experimental groups and no control group. All participants were selected according to convenience non-random sampling.

DATA ANALYSIS
Testing Normality Assumption
The normality of the present data was checked through skewness and kurtosis ratios over their standard errors (Table 1). It displays the results of the skewness and kurtosis and their ratios over the standard errors. Since the ratios of these statistics over their standard errors were

lower than +/- 1.96, it can be claimed that the assumption of normality was retained.

Table1.

Descriptive Statistics; Testing Normality of Data

	Group	N	Skewness			Kurtosis		
		Statistic	Statistic	Std. Error	Ratio	Statistic	Std. Error	Ratio
Fixed	PreGrammar	30	.239	.427	0.56	.161	.833	0.19
	PostGrammar	30	.098	.427	0.23	-.861	.833	-1.03
Growth	PreGrammar	30	.256	.427	0.60	-.292	.833	-0.35
	PostGrammar	30	.092	.427	0.22	-.871	.833	-1.05
Mixed	PreGrammar	30	.573	.427	1.34	.437	.833	0.52
	PostGrammar	30	.566	.427	1.33	.073	.833	0.09

Exploring the First Null-Hypothesis

A paired-samples t-test was run to compare the fixed-mindsetting group's means on the pretest and posttest of grammar in order to probe the first null-hypothesis. Based on the results dis played in Table 2, it can be claimed that the fixed-mindsetting group (M = 17.90, SD = 4.98) had higher mean on the posttest of grammar than pretest (M = 13.67, SD = 4.83).

Table 2.

Descriptive Statistics; Pretest and Posttest of Grammar (Fixed-mindsetting Group)

		Mean	N	Std. Deviation	Std. Error Mean
Fixed	PostGrammar	17.90	30	4.985	.910
	PreGrammar	13.67	30	4.830	.882

The results of the paired-samples t-test (t (29) = 20.99, p < .05, r = .969 representing a large effect size) (Table 3) indicated that the fixed-mindsetting group had a significantly higher mean on the posttest of grammar than pretest. Thus, the first null-hypothesis **was rejected**.

Table 3.

Paired-Samples t-test; Pretest and Posttest of Grammar (Fixed-mindsetting Group)

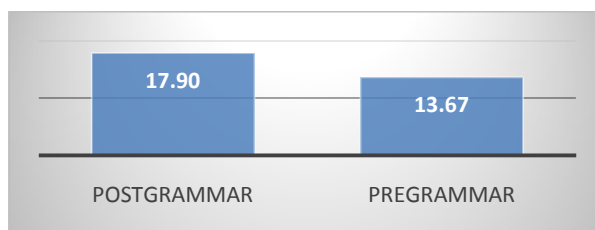| Paired Differences							
			95% Confidence Interval of the Difference		t	f	Sig. (2-tailed)
Mean	Std Deviation	Std .Error Mean	Lower	Upper			
4.233	1.104	.202	3.821	4.646	20.996	9	.000

Figure 1: Pretest and posttest of grammar (fixed-mindsetting group)

Exploring the Second Null-Hypothesis

A paired-samples t-test was run to compare the growth-mindsetting group's means on the pretest and posttest of grammar in order to probe the second null-hypothesis. Based on the results displayed in Table 4, it can be claimed

that the growth-mindsetting group (M = 22.48, SD = 4.23) had higher mean on the posttest of grammar than pretest (M = 13.77, SD = 4.43).

Table 4.

Descriptive Statistics; Pretest and Posttest of Grammar (Growth-mindsetting Group)

		Mean	N	Std. Deviation	Std. Error Mean
Growth	PostGrammar	22.47	30	4.232	.773
	PreGrammar	13.77	30	4.431	.809

The results of the paired-samples t-test (t (29) = 48.23, p < .05, r = .994 representing a large effect size) (Table 5) indicated that the growth-mindsetting group had a significantly higher mean on the posttest of grammar than pretest. Thus, the second null-hypothesis **was rejected**.

Table 5.

Paired-Samples t-test; Pretest and Posttest of Grammar (Growth-mindsetting Group)

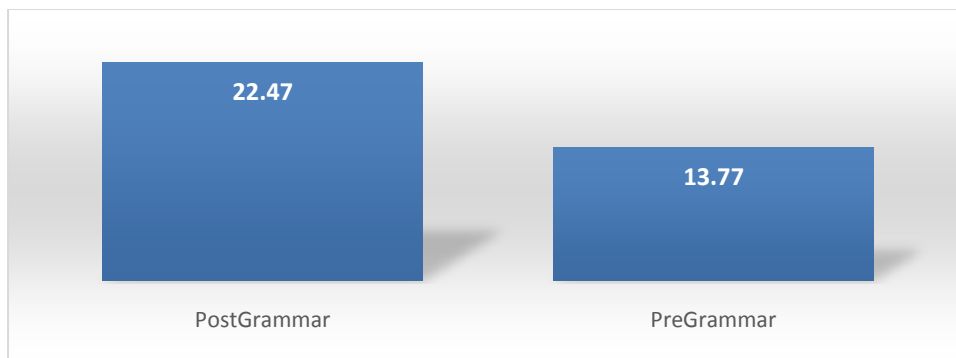| Paired Differences							
Mean	Std.Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	f	Sig. (2-tailed)
			Lower	Upper			
8.700	.988	.180	8.331	9.069	48.238	9	.000

Figure 2: Pretest and posttest of grammar (growth-mindsetting group)

Exploring the Third Null-Hypothesis

A paired-samples t-test was run to compare the mixed-mindsetting group's means on the pretest and posttest of grammar in order to probe the ninth null-hypothesis. Based on the results displayed in Table 6, it can be claimed that the mixed-mindsetting group (M = 15.53, SD = 4.23) had higher mean on the posttest of grammar than pretest (M = 14.17, SD = 4.66).

Table 6.

*Descriptive Statistics; Pretest and Posttest of Grammar (Mixed-mindsetting Group)*

		Mean	N	Std. Deviation	Std. Error Mean
Mixed	PostGrammar	15.53	30	4.904	.895
	PreGrammar	14.17	30	4.669	.852

The results of the paired-samples t-test (t (29) = 11.19, p < .05, r = .901 representing a large effect size) (Table 7) indicated that the mixed-mindsetting group had a significantly higher mean on the posttest of grammar than pretest. Thus, the third null-hypothesis **was rejected**.

Table 7.

Paired-*Samples t-test; Pretest and Posttest of Grammar (Mixed-mindsetting Group)*

			Paired Differences				
Mean			95% Confidence Interval of the Difference		T	f	Sig. (2-tailed)
	Std. Deviation	Std. Error Mean	Lower	Upper			
1.367	.669	.122	1.117	1.616	11.195	9	.000
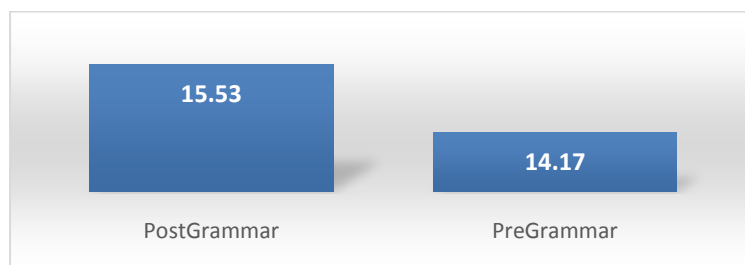
Figure 3: Pretest and posttest of grammar (mixed-mindsetting group)

Exploring the Fourth Null-Hypothesis

A one-way ANCOVA was run to compare the three groups' means on the posttest of grammar achievement after controlling for the possible effects of the pretest. Before discussing the results, it should be noted that the three assumptions related to one-way ANCOVA were met. First, there were not any significant differences between the three groups variances (F (2, 87) = 2.87, p > .05). Thus, it can be concluded that the assumption of homogeneity of variances was retained.

Table 8.

Levene's Test of Equality of Error Variances; Posttest of Grammar achievement by Groups with Pretest

F		df1	df2	Sig.
2.877		2	87	.062

Second; there were a linear relationship between the posttest and pretest of grammar achievement (i.e. assumption of linearity). As displayed in Table 9, the significant results of the linearity test (F (1, 68) = 167.27, p < .05) indicated that the statistical assumption that the relationship between the two variables was not a linear one was rejected.

Table 9.

Assumption of Linearity; Posttest of Grammar achievement by Groups with Pretest

			Sum of Squares	df	Mean Square	F	Sig.
PostGrammar * PreGrammar	Between Groups	(Combined)	1956.051	21	93.145	8.714	.000
		Linearity	1788.014	1	1788.014	167.277	.000
		Deviation from Linearity	168.037	20	8.402	.786	.721
	Within Groups		726.849	68	10.689		
	Total		2682.900	89			

Third, one-way ANCOVA assumes that the linear relationship between the pretest and posttest holds true across the three groups; i.e.homogeneity of regression slopes. The non-significant interaction between the pretest

andtypes of treatments (F (2, 48) = 2.16, p > .05, partial eta squared = .049 representing a weak effect size) indicated that the assumption of homogeneity of regression slopes was met.

Table 10.

Assumption of Homogeneity of Regression Slopes; Posttest of Grammar achievement by Groups with Pretest

Source	TypIII Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	111.543	2	55.772	64.319	.000	.605
PreGrammar	1842.840	1	1842.840	2125.262	.000	.962
Group * PreGrammar	3.757	2	1.878	2.166	.121	.049
Error	72.837	84	.867			
Total	33931.000	90				

Table 11 displays the main results of the one-way ANCOVA. The results (F (2, 86) = 459.39, p < .05, partial eta squared = .914 representing a large effect size Indicated that there were significant differences between the three groups' means on the posttest of grammar achievement after controlling for the possible effects of the pretest. Thus the fourth null-hypothesis **was rejected.**

Table 11.

Tests of Between-Participants Effects Posttest of Grammar achievement by Groups with Pretest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
PreGrammar	1861.039	1	1861.039	2089.582	.000	.960
Group	818.292	2	409.146	459.391	.000	.914
Error	76.594	86	.891			
Total	33931.000	90				

Table 12 displays the means of the three groups on the posttest of grammar achievement after controlling for the possible effects of the pretest. The results showed that growth-mindsetting group (M = 22.56) had the highest mean, which was followed by the fixed (M = 18.09) and mixed (M = 15.23) groups.

Table 12.

Descriptive Statistics; Posttest of Grammar achievement by Groups with Pretest

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Fixed	18.099[a]	.172	17.756	18.442
Growth	22.566[a]	.172	22.224	22.909
Mixed	15.235[a]	.172	14.892	15.577

a. Covariates appearing in the model are evaluated at the following values: PreGrammar = 13.87.

Table 13 displays the results of the post-hoc comparison tests. The results indicated that; A: The growth-mindsetting group (M = 22.56) significantly outperformed the mixed-mindsetting group (M = 15.23) (Mean Difference = 7.33, p < .05)

Table 13.

Pairwise Comparisons; Posttest of Grammar achievement by Groups with Pretest

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
Fixed	Growth	-4.467*	.244	.000	-4.952	-3.983
	Mixed	2.864*	.244	.000	2.379	3.349
Growth	Fixed	4.467*	.244	.000	3.983	4.952
	Mixed	7.332*	.244	.000	6.847	7.816
Mixed	Fixed	-2.864*	.244	.000	-3.349	-2.379
	Growth	-7.332*	.244	.000	-7.816	-6.847

*. The mean difference is significant at the .05 level.

B: The growth-mindsetting group (M = 22.56) significantly outperformed the fixed indsetting group (M = 18.09) (Mean Difference = 4.46, p < .05). C: The fixed-mindsetting group (M = 18.09) significantly outperformed the mixed-mindsetting group (M = 15.23) (Mean Difference = 2.86, p < .05).
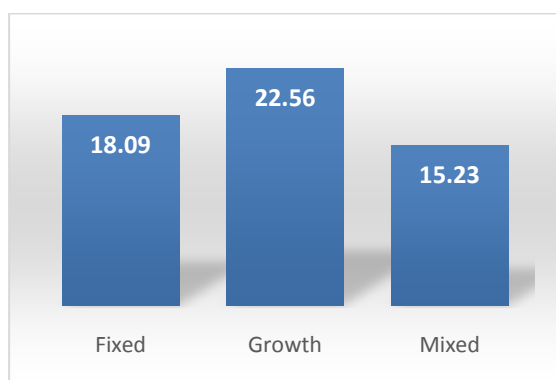

Figure 4: Means on posttest of grammar achievement by groups with pretest

DISCUSSION AND CONCLUSION

This study was conducted to see the comparative impacts of three types of EFL teachers' mindsettings (fixed, growth, and mixed-mindsettings) on EFL learners' grammar achievement. Therefore, the participants (undergraduate students of translation) were exposed to three different types of mindsettings while attending the same grammar course at the university. At the, end a same grammar achievement test was administered and upon administration of the test, the collected data was analyzed to explore the four null hypothesis proposed at the outset.

A t-test was run and the results of data analysis demonstrated that participants in all three experimental groups significantly outperformed in their posttest as compared to their pretests. Therefore the first three null hypotheses were rejected.

To explore the fourth null hypothesis, a one-way ANCOVA was run to compare the three groups' means on the posttest of grammar achievement after controlling for the possible effects of the pretest. The results indicated that EFL learners exposed to growth-mindsetting outperformed significantly from pretest to posttest as compared to those in the other two groups (i.e., fixed and mixed-mindsettings).

The findings of the present study could be justified through a number of reasons. The first one is that the same teacher adopting different mindsetting in each experimental group went through the same procedure of inductive instruction, a use to usage direction of instruction, formative assessment, E-learning through social networks, cooperative learning, and noticing in understanding grammar on one hand, and embedded speaking and writing skills in using grammar, on the other hand. However, what were enforced as treatments were different mindsetting types adopted by the researcher in all three experimental groups.

Moreover, the results of the present study could be supported further through studies conducted on the impacts of mindsettings on different areas of second language acquisition. Lou and Noels (2016) conducted a study on the compara-

tive impacts of priming a fixed-mindsetting approach (i.e., entity language theory) or a growth-mindsetting approach (i.e., incremental language theory) on language learners' goals. The results showed that the learners exposed to growth-mindsetting advocated learning goals regardless of their perceived language competence.

Another study was conducted by Claro, Paunesku, and Dweck (2016) in order to investigate the influence of such structural factors as socioeconomic background, and psychological factors such as students' beliefs about their abilities on academic achievement. Accordingly, they used a nationwide sample of high school students from Chile to investigate how these factors interact on a systemic level. The results of the study demonstrated that family income is a strong predictor of achievement. However, they found that promotion of a growth-mindset (the belief that intelligence is not fixed and can be developed) is a comparably strong predictor of achievement and that it exhibits a positive relationship with achievement across all of the socioeconomic strata in the country. At the end, it was concluded that students' mindsets may temper or exacerbate the effects of economic disadvantage on a systemic level.

Ocampo (2016) demonstrated that changing students' mindsets about setbacks and failures could help them not only improve their speaking ability but also free them from their fears concerning making mistakes. Accordingly, stress and anxiety could be alleviated or even eradicated through converting the traditional classroom to a context where failure is embraced and pave the way for further learning opportunities.

No matter how pedagogy and curriculum are planned and performed, the academic achieve

ment could be facilitated or debilitated to a large extend by the very mindsets that students are exposed to (Leung, 2018). Accordingly, we must tap into the students' mindsets through cultivating and promoting growth mindsets in the academic contexts right from scratch.

A growth mindset teacher promotes the ideology that intelligence is malleable and can be grown through the process of education, learning, and all cognitive, metacognitive, and affective factors rather than a fixed trait that can hardly change, that failures and setbacks are very natural ingredients and steps in the process of learning and achievement, that Peer or teacher consultation shall be seen as a strategy by students and of course teachers themselves rather than lack of ability or incompetence, that s/he is there as a guide, a friend, a counselor, not a judge or an evaluator, that learning is not a product oriented phenomenon which should occur without too much trouble which is itself emanated from a fixed perspective about intelligence, that students shall be praised for the amount of tenacity put forth by them in order to succeed rather than their intelligence, that errors are valuable opportunities in learning process rather than lack of competence, that students are there to learn not to pass.

Consequently, in the actual and Immediate context of teaching and learning, what are of primary importance are the steps taken by the teacher to promote and to boost a growth mindset ideology among the students so that he could facilitate the process of learning which is one of the most significant objectives of education as just the mere academic knowledge of the content areas does not suffice to meet the ends.

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