

Does developing research skills increase academic motivation among foreign language learners?

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Abstract

Academic motivation is one of the most significant affective factors in the learning of English as a foreign language (EFL). Moreover, research skills can be vital in foreign language learning and teaching processes. However, the number of studies on academic motivation, research skills, and the relationship between the two seems too limited to draw a conclusion. The current study aims to explore whether or how academic research skills and academic motivation are related. In this experimental study, an information test for measuring their knowledge of EFL research and the Academic Motivation Scale were administered to 16 participants before and after the instruction process. The results showed that developing foreign language research skills increases intrinsic motivation to experience stimulation among language learners. It was recommended that issues relating to research skills should be integrated into language course programs.

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Introduction

Academic motivation is one of the most considerable components of the learning process (Kotera et al., 2021) since it is associated with many academic, emotional, and behavioral variables such as achievement (Chon & Shin, 2019), engagement (Green et al., 2012), self-regulated learning and self-regulation (Schunk, 2008), and attitudes towards learning (Tasgin & Coskun, 2018). Within the context of English as a foreign language learning, it is also evident that academic motivation is one of the significant factors that may affect achievement in the target language (Tuan, 2012).

In other words, academic motivation makes foreign language learning a ‘complete process’ and provides a sense of empowerment (Dişlen Dağgöl, 2020). Moreover, since language learning takes a long time and intensive effort, learners need motivation and persistence (Christophel & Gorham, 1995). Within this scope, academic motivation fosters the learning process (Pourfeiz, 2016).

Research addresses various vital issues such as understanding the acquisition and learning processes, analyzing learner needs, and evaluating programs or language testing in the foreign language learning and teaching contexts (McDonough & McDonough, 1997). Since research methods in the EFL context are mainly influenced by some other disciplines such as Linguistics, Psychology, Sociology, Educational Sciences, and Information and Communication Technologies (Mackey & Gass, 2015), it is possible to reflect recent developments and innovations in the field of EFL teaching and learning. In addition, it is valuable to develop research skills for EFL teachers and learners to guarantee a high level of reflectivity and inquiry which will “promote and empower teaching through deeper exploration and critical reflection” (Dikilitaş & Bostancıoğlu, 2019, p. 9). In other words, research practice contributes to teachers and learners regarding awareness of their teaching and learning practices, developing a deeper “informed” understanding of experience through inductive thinking, and forming a “growth mindset” which will bring about flexibility and adaptability (Dikilitaş & Bostancıoğlu, 2019). In conclusion, it can be pointed out that developing research skills among EFL teachers and learners is vital for gaining reflective, transformative, and practical knowledge (Nassaji, 2012), “constructing their personal theories of practice” (Kumaravadivelu, 2003), and developing teaching and learning skills and classroom practices (Nassaji, 2012), as summarized by Griffie (2012, p. 8):

“My approach to research is that it is not enough for me to know my way around classroom. I want to become aware of what I believe and why I believe it; I want to be able to create and construct my knowing, not (only) so I can become a more accomplished knower, but so I can be in charge of my doing which is teaching. That’s what I think research is all about.”

In brief, both academic motivation and research skills can be seen as inseparable elements of the EFL teaching and learning processes, as clarified above. On the other hand, current research shows that academic motivation and research skills as separate research topics did not attract researchers. Furthermore, whether academic motivation and research skills in the mentioned contexts relate to each other or not is a question that was not answered in the EFL research context, which can be noticed from the research synthesis given below. However, before presenting the literature review, a theoretical framework regarding academic motivation and research skills needs to be drawn.

Theoretical framework

In the broadest sense, *motivation* is denoted as feeling the impetus or inspiration to act or to be moved to do (Ryan & Deci, 2000). First, within the scope of the Self-Determination Theory, Ryan and Deci (2000) define *intrinsic motivation* as doing an activity for its inherent satisfaction. Intrinsic motivation can be seen under three sub-drives. *Intrinsic motivation to know* directly relates to engaging in behavior for the enjoyment and satisfaction gained from learning; thus, it includes curiosity and intellectuality. *Intrinsic motivation toward accomplishments* includes engaging in behavior to accomplish a task and feel fulfilled or competent; thus, it is related to creating unique accomplishments. *Intrinsic motivation to experience stimulation* relates to engaging in a behavior because of its perceived exciting and stimulating nature. The focus is on the pleasure in the process of learning regarding intrinsic motivation (Ryan & Deci, 2000). Second, Ryan and Deci (2000) define *extrinsic motivation* as conducting the behavior to attain some separable outcome. As for sub-drives, *external regulation*, the least autonomous type of extrinsic motivation, is linked to an external reward, external demand, or constraints. *Introjection regulation* is linked to avoiding guilt or anxiety, maintaining personal expectations, or attaining ego-enhancements. *Identification* is a self-determined form of extrinsic motivation, and it is linked to identifying with the personal importance or value of the act (Ryan & Deci, 2001). Third and last, amotivation is the lack of both intrinsic and extrinsic motivation. In the case of amotivation, learners feel forced to act by external factors and remain passive (Ryan & Deci, 2000).

Academic motivation, defined as “the factors that influence a person to attend school and obtain a degree” (Clark & Schroth, 2010, p. 19), is an academic context-specific form of motivation. Within the context of academic motivation, intrinsic motivation involves feeling happy and comfortable regarding learning-related tasks or assignments. *Intrinsic motivation to know* represents performing the activity for the pleasure of learning a new language. *Intrinsic motivation to accomplish* represents students’ interactions with the setting to feel competent, whereas *intrinsic motivation to experience* represents learners’ engagement in assignments and tasks. In the context of academic motivation, extrinsic motivation involves carrying tasks or responsibilities concerning obligations, teachers’ rules, and external rewards. *External regulation* represents learners’ acting to get external reinforcement such as an achievement certificate or a reward. In addition, *extrinsic motivation for introjected regulation* represents learners’ personalization of their learning-related reasons. *Extrinsic motivation for identified regulation* represents learners’ attributing value to their actions. Finally, *amotivation* represents the absence of any internal interest or desire and external factor (Vallerand et al., 1992).

Nunan (1992, p. 3) defines research as “a systematic process of inquiry consisting of three elements or components: a question, problem, or hypothesis, data, analysis, and interpretation of data”. Within this scope, the teacher or learner is expected to be equipped with basic research skills, including formulating a research question, reviewing the related literature, designing an appropriate methodology, choosing the right data collection tools and data analysis techniques, preparing a well-written report, and considering the ethical issues throughout this process (Dikilitaş & Bostancıoğlu, 2019). Therefore, the term *research skills* can be defined as the ability to formulate research questions, review the relevant literature, decide and design appropriate research types and designs, choose data collecting tools, analyze the data, and prepare a well-designed report.

Literature Review

The results of a limited number of studies that focus on academic motivation in the EFL learning and teaching contexts show that academic motivation is related to

attitudes towards foreign language learning, metacognitive awareness, intrinsic motivation, positive emotions, language politeness, and achievement. Pourfeiz (2016) investigated the relationship between academic motivation and attitudes in a correlational study. The study concluded that behavioral and affective/evaluative components of attitudes were the strongest predictors of academic motivation. Chon and Shin (2019) focused on intraindividual differences in the patterns of students' motivational-metacognitive profiles regarding listening skills. In the study, four clusters identified regarding academic motivation were amotivated-translators, externally motivated, introjected, and high autonomous motivation-achievement strategists. In a descriptive study, Ariogul (2009) examined academic motivation among Turkish pre-service EFL teachers and found that intrinsic motivation was an indicator of academic performance. In addition, Méndez-Aguado et al. (2020) concluded that positive emotions positively influenced academic motivation. However, it should be noted that the mentioned study was conducted in the French as a foreign language context. In a cross-sectional study, Öz (2016) found that knowledge of cognition and regulations of cognition were the two significant components of metacognitive awareness that predicted academic motivation. In an experimental study, Mantasiah and Yusri (2018) noted that teacher's language politeness has a considerable role in improving learners' academic motivation. Erten (2014) found that student teachers were mostly extrinsically motivated. He also noted that achievement was positively correlated with extrinsic identified regulation and intrinsic motivation. Similarly, Kırkağaç and Öz (2017) noted that extrinsic motivation was significantly and positively correlated with academic achievement among EFL pre-service teachers. From the studies reviewed above, it can be drawn that attitudes towards language learning, intrinsic motivation, positive emotions, metacognitive awareness, teachers' language use, and achievement in the target language are the predictors of academic motivation. To conclude, it should be strongly underlined that no study was found on how research skills may affect or predict academic motivation in the EFL research context.

Similarly, the findings of a limited number of studies that appeared on research skills in the EFL learning and teaching contexts indicate that research skills may relate to certain variables such as course syllabi, methodology, teachers' research skills and content knowledge, target language proficiency, and scientific activities. For

instance, after observing the implementation process of a research component in a pre-service foreign language teaching program, Ferri and Wilches (2005) noted that course syllabi, methodology, and administration leadership affected teaching research skills. Vladimirovna Lopatina et al. (2015) aimed to investigate the role of foreign language teachers on EFL students' research skills and found that learning a foreign language might relate to teachers' research skills. In a qualitative study, Elmas and Aydin (2017) explored pre-service EFL teachers' perceptions of research skills. They found that research activities developed pre-service EFL teachers' content knowledge, research skills, and target language proficiency. Last, Imamovna Sokolova and Vasilovna Gilmutdinova (2019) focused on the influences of English lessons and students' scientific conferences on research skills. They concluded that participation in conferences improved research skills among EFL learners. In conclusion, from the studies reviewed, it can be inferred that research skills may be affected by certain factors such as course content, methodology, teachers' research skills, and target language proficiency. Nevertheless, no findings are reached regarding whether research skills and academic motivation in the EFL research context are interrelated or not.

As previously emphasized, the relationship between research skills and academic motivation was not investigated in the EFL research context. However, there occurred to be a study (Abu-Melhim et al., 2017) that focused on identifying the psychological factors that could affect academic research. This qualitative study found that the identified psychological factors were motivation, self-confidence, self-management, self-efficacy, and locus of control. In other words, while motivation seemed to be one of the factors, the focus of this study was the primary psychological factors that affected postgraduate students' research in English as a foreign language rather than the relationship between research skills and academic motivation.

Overview of the study

As mentioned above, academic motivation is one of the most significant elements of the EFL learning process. Moreover, research skills can be vital in foreign language learning and teaching processes. However, the number of studies on academic

motivation is relatively limited. In other words, while the current studies focus on the relationship between academic motivation and certain predictors such as attitudes towards language learning, intrinsic motivation, positive emotions, metacognitive awareness, teachers' language use, and achievement, research skills are considered to be a predictor of academic motivation in the EFL research context. The number of studies on research skills is also fairly limited. While a very limited number of factors such as course content, methodology, teachers' research skills, and target language proficiency were investigated, academic motivation was not among the issues relating to research skills. Most importantly and dramatically, no study was found regarding whether research skills and academic motivation in the EFL research context were interrelated or not. Thus, whether or how academic motivation and research skills relate to each other is a question that remains unanswered. With these concerns in mind, the current study aims to explore whether or how academic research skills and academic motivation are related. For this purpose, the study seeks an answer to the following research question:

- Does developing research skills increase academic motivation among foreign language learners?

Method

Research Context

The study was designed to be experimental to examine the effects of research skills on academic motivation among EFL learners. The rationale behind preferring experimental research is that it is concerned with studying the effects of specified and controlled treatments (Seliger & Shohamy, 1989). In other words, a positivistic paradigm was preferred in the study, as it investigates observable behaviors that can be measured by using an experimental research design (Guba & Lincoln, 1994). In other words, this positivistic paradigm includes groups, pre-test and post-test designs, and procedures for statistical analysis. Last, the effects of research skills on academic motivation among EFL learners were questioned through an experimental research design so that the researchers could keep a distance and act independently of the issue examined to deal with objectivity issues and bias (Mackey & Gass, 2015).

Participants

Sixteen EFL learners participated in the study. The participants were third (n=8) and fourth-grade students (n=8) who were at the advanced level of English (B2) in the Department of English Language Teaching at 18 state and private universities in Turkey. The participants were 13 (81.25%) female and three (18.75%) male students. The gender distribution of the participants was a reflection of the overall population in the mentioned department. The mean score for their age was 22.38 in the range of 20 and 28. The rationale behind the subject selection was that all students voluntarily participated in a course entitled “A Course for Developing EFL Learners’ Research Skills” funded by The Scientific and Technological Research Council of Turkey. Finally, the course participants had the highest grade point average among 280 students who applied to the mentioned course.

Tools

The data collection instruments consisted of a background questionnaire, an information test for measuring their knowledge of EFL research, and the Academic Motivation Scale. First, the background questionnaire was used to gather information about the participants’ age, gender, and grade. A numerical code was also used to match pre-test and post-test administrations. Second, the information test was used to determine the participants’ knowledge level on research in the EFL contexts. The test included items on the research paradigm, the preparation stages of research, reviewing the literature, the elements of foreign language research, research designs for foreign language research, data collection procedures, data analysis, and reporting research. The evaluation range changed between 0 and 10. Third, the College Version of the Academic Motivation Scale (AMS-C 28) developed by Vallerand et al. (1989) was used to determine the participants’ academic motivation levels. The AMS-C 28 consisted of 28 sets of statements. The respondents were expected to choose the statement that best described their motivation levels. The tool was used to assess seven types of constructs: intrinsic motivation towards knowledge, accomplishments, stimulation, external, introjected and identified regulations, and

amotivation. The internal consistency of the scale in Cronbach's Alpha was found to be .86. The scale accounted for 53% of variance (Vallerand et al., 1989).

Procedure

Before the study, an ethics committee approval was obtained. Then, the participants were orally informed about the purpose, significance, and methodology of the study. The rationale behind the subject selection was clarified. They were informed that their participation in the study was voluntary and that confidentiality and anonymity of their responses were ensured. Of the 20 students who were invited to the study, 16 voluntarily participated. Finally, an online version of the instruments was designed before the pre-test and post-test administrations and shared via Google Forms.

Pre-test administration

Before the experiment, the pre-test consisting of the background questionnaire, information test, and AMS-C 28 was administered to 16 participants. One of the purposes of the pre-test was to collect data about their age, gender, and grade. The pre-test administration also aimed to determine the knowledge level of the participants about foreign language research and their academic motivation levels.

Instruction process

Appendix A indicates the days, session, and lecturer numbers, hours assigned for each topic, the topics, the content of the instruction program, and the activities for practice. The program consisted of 13 independent sessions managed by 10 instructors who had Ph.D. degrees and were experienced in EFL research. The course topics consisted of theoretical information on the paradigm for foreign language research, the preparatory stages of foreign language research, contextualization of research, the components of research, qualitative research, descriptive research and experimental research, data and data collection procedures, analyzing the data, and reporting research. In each session, except for the introduction, presentation, and evaluation, an hour of guidance was provided for practice. Then, the students were assigned for the activities until the following session. Finally, they presented their studies after preparing small-scale research reports.

Post-test administration

The post-test that consisted of the information test and AMS-C 28 was administered to the same participants. One reason for the post-test administration was to observe

whether the participants' knowledge level of foreign language research improved or not. The second reason was to see whether the levels of academic motivation increased or decreased.

Data Analysis

The 21.0 version of the Statistical Package for Social Sciences (SPSS) software was used for data analysis. The frequency and percentage for gender and grade were computed. Then, the mean score for age was calculated. The reliability coefficients and percentages of variances for the information test and AMS-C 28 were found. As shown in Table 1, the reliability coefficients in Cronbach's Alpha for the information test were .95 for the pre-test and .94 for the post-test. The reliability coefficients in Cronbach's Alpha for the AMS-C 28 were found to be .92 for the pre-test and .87 for the post-test. In addition, the test-retest coefficients were .93 for the information test and .93 for the AMS-C 28. Percentages of variances for the information test were 72.77 for the pre-test and 84.97 for the post-test. Regarding AMS-C 28, percentages of variances were calculated as 92.08 for the pre-test and 92.48 for the post-test. To this end, the values indicated that both instruments obtained reliability and validity at a high level.

Table 1. The reliability coefficients and percentages of variances for the instruments

Tests	Instruments	Reliability coefficients (Cronbach's Alpha)	Test-retest reliability	% of the variance
The Information Test	Pre-test	.95	.93	72.77
	Post-test	.94		84.97
AMS-C 28	Pre-test	.92	.93	92.08
	Post-test	.87		92.48

Since the number of participants in the study was 16, the Wilcoxon Signed Ranks Test, a non-parametric statistical test used to compare two related samples or repeated measurement on a single sample to assess whether the population mean ranks differ, was used to see whether the participants' knowledge level differentiated before and after the instruction process. Similarly, the Wilcoxon Signed Ranks Test was also preferred to observe whether their academic motivation levels differentiated before and after the course.

Results

Table 2 shows the pre-test and post-test comparisons regarding EFL learners' information levels on foreign language research skills. According to the values in the table, EFL learners significantly improved their knowledge of the differences between scientific research and common sense productions, sources of knowledge, and research types ($p=.00$). The participants also gained knowledge of the phenomena of foreign language, the four parameters for foreign language research ($p=.00$), formulating research questions ($p=.00$), and reviewing the literature ($p=.00$). Planning foreign language research ($p=.00$), qualitative, descriptive, multivariate, and correlational were some other issues that the participants significantly improved their knowledge ($p=.00$). Moreover, they considerably raised their awareness of the components of experimental research and group designs ($p=.00$). The students also learned data collection parameters and procedures, quality of data, data collection procedures ($p=.00$), data analysis, and computer use for data analysis ($p=.00$). Finally, they learned how to summarize, interpret, and report research results. To conclude, it can be stated that the instruction process considerably improved EFL learners' knowledge levels of foreign language research.

Table 2. Wilcoxon Signed Ranks Test statistics^a for the information test

Topics	Tests	Descriptive Statistics			Z	Asymp. Sig. (2-tailed)
		N	Mean	Std. Deviation		
Research and common sense	Pre-test	16	6.01	1.81	-3.42 ^b	.00
	Post-test	16	9.31	0.87		
The paradigm of foreign language research	Pre-test	16	4.50	2.00	-3.53 ^b	.00
	Post-test	16	9.13	0.72		
The preparation stages of foreign language research	Pre-test	16	5.38	2.16	-3.53 ^b	.00
	Post-test	16	9.44	0.81		
Reviewing literature in foreign language research	Pre-test	16	5.63	1.82	-3.42 ^b	.00
	Post-test	16	9.25	0.93		
The elements of foreign language research	Pre-test	16	5.25	1.88	-3.53 ^b	.00
	Post-test	16	9.44	0.73		
Research designs for foreign language research	Pre-test	16	5.01	1.53	-3.54 ^b	.00
	Post-test	16	9.25	0.93		
Data collection procedures	Pre-test	16	5.01	2.02	-3.53 ^b	.00
	Post-test	16	9.38	0.72		
Data analysis	Pre-test	16	3.69	2.12	-3.53 ^b	.00
	Post-test	16	9.00	1.10		
Reporting research	Pre-test	16	5.50	2.00	-3.54 ^b	.00
	Post-test	16	9.38	0.62		

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Table 3 demonstrates the comparison of the pre-test and post-test regarding the constructs of academic motivation. The values showed that the level of intrinsic motivation to experience stimulation significantly increased after the instruction process ($p=.02$). On the other hand, while the levels of intrinsic motivation towards knowledge ($p=.33$), intrinsic motivation to experience stimulation ($p=.11$), extrinsic motivation identified regulation ($p=.08$), and extrinsic motivation introjected regulation ($p=.70$), and extrinsic motivation - external regulation ($p=.36$) increased, no significant difference was observed before and after the instruction on foreign language research. Similarly, the slight decrease in amotivation among the participants was not statistically significant ($p=.83$). To be brief, when the constructs of academic motivation were considered, only the level of intrinsic motivation to experience stimulation significantly changed.

Table 3. Wilcoxon Signed Ranks Test statistics^a for the constructs of academic motivation

Constructs	Tests	Descriptive Statistics			Z	Asymp. Sig. (2-tailed)
		N	Mean	Std. Deviation		
Intrinsic motivation towards knowledge	Pre-test	16	6.53	0.48	-0.98 ^b	.33
	Post-test	16	6.72	0.48		
Intrinsic motivation towards accomplishment	Pre-test	16	5.78	0.99	-1.61 ^b	.11
	Post-test	16	6.34	0.67		
Intrinsic motivation to experience stimulation	Pre-test	16	5.66	1.09	-2.26 ^b	.02
	Post-test	16	6.33	0.57		
Extrinsic motivation identified regulation	Pre-test	16	5.77	1.16	-1.74 ^b	.08
	Post-test	16	6.14	0.90		
Extrinsic motivation introjected regulations	Pre-test	16	4.47	1.89	-0.39 ^c	.70
	Post-test	16	4.22	2.10		
Extrinsic motivation - external regulation	Pre-test	16	5.22	1.34	-0.91 ^c	.36
	Post-test	16	4.88	1.47		
Amotivation	Pre-test	16	1.39	0.71	-0.21 ^c	.83
	Post-test	16	1.36	0.67		

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

While six of the constructs of academic motivation show significant improvement in academic motivation, seven items in the AMS-C 28 show considerable increase before and after the instruction process, as indicated in Appendix B. The values demonstrated that the pleasure experienced in discovering

new things ($p=.01$) and learning about things they were interested in ($p=.05$) significantly increased. Similarly, the pleasure of surpassing in their studies ($p=.02$), personal satisfaction for excellence in their studies ($p=.05$), communicating their ideas to others ($p=.01$), the pleasure of reading ($p=.05$), and finally, reading about various subjects ($p=.02$) significantly increased after the instruction process. On the other hand, while their academic motivation levels increased regarding the remaining 21 items in the AMS-C 28, this positive change was not statistically significant.

Discussion and Conclusion

According to the findings of this research which aims to explore whether developing research skills increases academic motivation among foreign language learners, two main conclusions can be drawn. The first conclusion is that the development of foreign language research skills increases intrinsic motivation to experience stimulation among language learners. The second conclusion is that while EFL learners' academic motivation levels positively change, being instructed on foreign language research does not significantly foster academic motivation, including the constructs such as intrinsic motivation towards knowledge, intrinsic motivation towards accomplishment, extrinsic motivation identified regulation, and extrinsic motivation introjected regulation, extrinsic motivation - external regulation, and amotivation. Within this scope, it can be concluded that EFL learners who have research skills have the pleasure and personal satisfaction of discovering new things, learning about things they are interested in, surpassing their studies, communicating their ideas to others, and reading about various subjects.

Implications

Not surprisingly, this study found that the instruction process considerably improved the EFL learners' knowledge levels of foreign language research. Similarly, Elmas and Aydin (2017) revealed that research activities developed pre-service EFL teachers' research skills along with some other skills. Imamovna Sokolova and Vasilovna Gilmudinova (2019) also concluded that participation in conferences improved research skills among EFL learners, which corresponds to the finding mentioned above. Although it was not a conference, the training process administered in the current study allowed the learners to get exposed to various

research samples, negotiate the research topics and designs with the professionals and their peers, and practice their research skills, which provided similar experiences to conference participation. Another conclusion that the development of foreign language research skills increases intrinsic motivation to experience stimulation among language learners is partially parallel with what Abu-Melhim et al. (2017) found in their more comprehensive qualitative study which addressed the primary psychological factors. In addition, regarding Erten's study (2014) which highlighted the correlation between achievement and extrinsic identified regulation and intrinsic motivation, it can be suggested that the sense of achievement experienced during the hands-on practical sessions of the instruction might have increased the EFL learners' intrinsic motivation. It is understood that EFL learners equipped with research skills have the pleasure and personal satisfaction for discovering new things, learning about things they are interested in, surpassing in their studies, communicating their ideas to others, and reading about various subjects. Considering the relation between academic motivation and attitudes (Méndez-Aguado et al., 2020; Pourfeiz, 2016), the above-mentioned increase can also be interpreted as a possible positive change in the attitudes with the training for academic skills. In other words, EFL learners who were trained for academic skills might have developed positive attitudes growing their academic motivation. Likewise, the training might have contributed to their metacognitive awareness, which could boost academic motivation as suggested by Chon and Shin (2019) and Öz (2016). On the other hand, this study showed that, despite the positive change in EFL learners' academic motivation levels, there is no significant effect of the instruction for research skills on the constructs of academic motivation such as intrinsic motivation towards knowledge, intrinsic motivation towards accomplishment, extrinsic motivation identified regulation, and extrinsic motivation introjected regulation, extrinsic motivation - external regulation, and amotivation. In conclusion, when the EFL research context is considered, there are too few correlational studies investigating motivation and academic achievement (Kırkağaç & Öz, 2017) and only one qualitative study conducted by Abu-Melhim et al. (2017) dealing with research skills in relation to some psychological factors including motivation. Therefore, it is overt that this study is significant with its

findings since it has revealed the effects of instruction for academic skills on academic motivation and it has with certainty contributed to the related literature.

Practical recommendations

Within the scope of the conclusions reached in the study, several practical recommendations can be noted. First and in a general sense, as instruction on foreign language research skills increases intrinsic motivation to experience stimulation among language learners, issues relating to research skills should be integrated into language course programs. They should also be included in pre-service, and in-service teaching programs since effective research skills development in foreign language learners highly depends on their teacher's efficacy in research skills (Vladimirovna Lopatina et al., 2015). In this way, learners may work beyond what is expected to feel satisfaction. Teachers should also be aware of the importance of developing their students' research skills to ensure that their students fulfill their expectations. Similarly, program developers should integrate issues on research skills into language teaching programs. Moreover, issues like course syllabi, methodology, and administration leadership should be considered in this process since they are known to affect the research skills instruction considerably (Ferri & Wilches, 2005). Second, teachers should know that learners who gain research skills may have the pleasure of communicating their ideas to others. Speaking specifically, an increase in academic motivation may result in developing basic language skills and knowledge areas in the foreign language research context. Finally, a close and direct collaboration among researchers, teacher trainers, teachers, and students through small-scale research projects would increase academic motivation and contribute to the foreign language teaching and learning processes.

Limitations and recommendations for further research

Several limitations of the study can be noted. First, the scope of the study was confined to an experimental research design that used the pre-test and post-test administrations of a background questionnaire, an information test for measuring their knowledge on EFL research, and the College Version of the Academic Motivation Scale developed by Vallerand et al. (1989). Second, the participants were restricted to 16 EFL learners studying at various universities. As a note, it should be stated that the participants were those who were accepted among 280 students who

applied to the mentioned course that was implemented for the study by using their formal academic achievement scores. Thus, this might result in a high level of academic motivation among the participants. Third, the data included EFL learners' knowledge of research skills and academic motivation in the EFL research context.

Further research focusing on academic motivation among EFL learners who have a low level of achievement and language proficiency is warranted. In addition to experimental studies, it can be recommended that qualitative studies should be carried out for a deeper understanding of the relationship between research skills and academic motivation. Descriptive studies that use larger samples also seem necessary from a broader perspective. Finally, research skills and academic motivation in the EFL research context should be investigated in different educational settings and cultures to see the psychological, social, and cultural dimensions.

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Appendix A. The instruction process

Days	Session	Hours	Lecturers	Topics	Content	Practice
1	1	2	1	Introducing the course	Meeting students and lectures Introducing the program Introducing the course content	
	2	2	2	Foreign language research	Research as a natural process Common sense and scientific research Sources of knowledge Research types	Discussing the relationship between real life and scientific research Sampling common sense and scientific products
2	3	2	3	A Paradigm for foreign language research	Research and the phenomena of foreign language Four parameters for foreign language research Synthetic and analytic approaches Heuristic and deductive objectives Control and manipulation of the research context Data and data collection	Evaluating three research papers in accordance with the foreign language research paradigm
	4	2	3	The preparatory stages of foreign language research	Formulating research question The general question Focusing the question Deciding on a purpose Formulating the research plan	Formulating a research question
3	5	2	4	Contextualization of research	The what and why of contextualization Locating the sources for the literature review Organizing and reporting the review of literature	Reviewing five research papers
	6	2	5	The components of research	The need for a plan The research plan and the type of research Types of data and variables Making the research more effective Validity	Determining the variables
4	7	2	6	Qualitative and descriptive research	Qualitative research Descriptive research Multivariate and correlational research	Deciding on the research design
	8	2	7	Experimental research	The components of experimental research Single group designs	

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					Designs using control groups Factorial designs Quasi-experimental designs Separate sample designs	
5	9	2	8	Data and data collection procedures	Data collection parameter Data collection procedures Quality of the data Using, adapting, and developing data collection procedures	Deciding on data collection tools Collecting data from the participants
	10	2	9	Analyzing the data	Data analysis and the design of the study Using the computer for data analysis	Analyzing the data via SPSS
6	11	2	10	Reporting research	Summarizing and interpreting the results Reporting research	Preparing a research report
	12	1	7	Presentations	Oral presentations of the participants' products	
	13	1	8	Evaluating the program	Oral presentations on the evaluation of the program	

Appendix B. Wilcoxon Signed Ranks Test statistics^a for academic motivation

Constructs	Items	Tests	Descriptive Statistics			Z	Asymp. Sig. (2-tailed)
			N	Mean	Std. Deviation		
Intrinsic motivation towards knowledge	2. Because I experience pleasure and satisfaction while learning new things.	Pre-test	16	6.44	0.73	-1.51 ^c	.13
		Post-test	16	6.56	1.26		
	9. For the pleasure I experience when I discover new things never seen before.	Pre-test	16	6.50	0.63	-2.45 ^c	.01
		Post-test	16	6.88	0.34		
	16. For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.	Pre-test	16	6.69	0.50	0.00 ^d	1.00
		Post-test	16	6.56	1.26		
	23. Because my studies allow me to continue to learn about many things that interest me.	Pre-test	16	6.50	0.63	-1.90 ^c	.05
		Post-test	16	6.88	0.34		
Intrinsic motivation toward accomplishment	6. For the pleasure I experience while surpassing myself in my studies.	Pre-test	16	5.69	1.01	-2.34 ^c	.02
		Post-test	16	6.50	0.73		
	13. For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.	Pre-test	16	5.81	1.52	-1.39 ^c	.17
		Post-test	16	6.31	1.08		
	20. For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.	Pre-test	16	5.69	1.40	-1.22 ^c	.22
		Post-test	16	6.06	0.99		
	27. Because college allows me to experience a personal satisfaction in my quest for excellence in my studies.	Pre-test	16	5.94	1.06	-2.01 ^c	.05
		Post-test	16	6.50	0.52		
Intrinsic motivation to experience stimulation	4. For the intense feelings I experience when I am communicating my own ideas to others.	Pre-test	16	5.63	1.31	-2.56 ^c	.01
		Post-test	16	6.50	0.73		
	11. For the pleasure that I experience when I read interesting authors.	Pre-test	16	5.95	1.29	-1.94 ^c	.05
		Post-test	16	6.50	0.52		
18. For the pleasure that I experience when I feel completely absorbed by what certain authors have written.	Pre-test	16	5.19	1.52	-1.354 ^c	.18	
	Post-test	16	5.81	1.33			
25. For the "high" feeling that I experience while reading about various interesting subjects.	Pre-test	16	5.88	1.09	-2.31 ^c	.02	
	Post-test	16	6.50	0.82			
Extrinsic motivation identified	3. Because I think that a college education will help me better prepare for the career I have chosen.	Pre-test	16	6.25	1.24	-0.78 ^c	.44
		Post-test	16	6.44	1.31		
	10. Because eventually it will enable me to enter the job market in a field that I like.	Pre-test	16	6.00	1.46	-0.18 ^b	.85
		Post-test	16	5.69	1.82		
	17. Because this will help me make a better choice regarding my career orientation.	Pre-test	16	6.31	0.87	-0.33 ^b	.74
		Post-test	16	6.25	1.06		
	24. Because I believe that a few additional years of education will improve my competence as a worker.	Pre-test	16	5.38	2.03	-1.88 ^c	.06
		Post-test	16	6.19	1.05		
Extrinsic motivation introjected	7. To prove to myself that I am capable of completing my college degree.	Pre-test	16	3.94	2.17	-0.04 ^c	.97
		Post-test	16	3.70	2.47		
	14. Because of the fact that when I succeed in college I feel important.	Pre-test	16	4.69	2.24	-0.40 ^b	.69
		Post-test	16	4.31	2.39		

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	21. To show myself that I am an intelligent person.	Pre-test	16	3.81	2.23	-0.21 ^b	.83
		Post-test	16	3.56	2.53		
	28. Because I want to show myself that I can succeed in my studies.	Pre-test	16	5.44	1.82	-0.51 ^b	.61
		Post-test	16	5.31	1.89		
Extrinsic motivation external regulation	1. Because with only a high-school degree I would not find a high-paying job later on.	Pre-test	16	4.31	2.09	-0.67 ^b	.50
		Post-test	16	4.00	2.16		
	8. In order to obtain a more prestigious job later on.	Pre-test	16	5.56	1.50	-0.63 ^b	.53
		Post-test	16	5.13	2.06		
	15. Because I want to have "the good life" later on.	Pre-test	16	5.88	1.15	-0.93 ^b	.35
		Post-test	16	5.50	1.55		
22. In order to have a better salary later on.	Pre-test	16	5.13	1.67	-0.54 ^b	.59	
	Post-test	16	4.81	1.56			
Amotivation	5. Honestly, I don't know; I really feel that I am wasting my time in school.	Pre-test	16	1.25	0.77	-0.82 ^c	.41
		Post-test	16	1.56	1.55		
	12. I once had good reasons for going to college; however, now I wonder whether I should continue.	Pre-test	16	1.81	1.72	-0.53 ^b	.60
		Post-test	16	1.56	1.55		
	19. I can't see why I go to college and frankly, I couldn't care less.	Pre-test	16	1.19	0.54	-1.00 ^c	.32
		Post-test	16	1.25	0.68		
26. I don't know; I can't understand what I am doing in school.	Pre-test	16	1.31	1.01	-0.82 ^b	.41	
	Post-test	16	1.06	0.25			

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.