

Study Orchestration, Perceived Locus of Causality, and Learning Outcomes among Iranian Intermediate EFL Learners

Maryam Ebrahimi*

M.A in TEFL, Islamic Azad University, Gorgan branch, Iran

Abstract

EFL learners' perceptions to learning can be strongly effective on the acceptance of an approach (Van Rossum & Schenk, 1984). Therefore, this study aims to scrutinize the possible relationship between study orchestration, perceived locus of causality and Iranian EFL learners' learning outcome. The participants of study were 100 Iranian EFL learners (64 female; 46 male) and their native language is Farsi or Turkmen which were selected based on convenience sampling. In order to answer the research questions, three instruments were used, including study orchestration questionnaire, Perceived Locus of Causality questionnaire (PLOC) Scale, and Oxford Quick Placement Test. Learners were asked to participate through several Iranian EFL learners' groups on a different social media or face-to-face. The results showed that the locus of causality and study orchestration have significant positive relationship among Iranian EFL learners. There is a significant relationship between study orchestration and academic achievement ($r = 0.724$) and there is a significant relationship between study orchestration and academic achievement ($r = 0.724$). The results of this study have implications for educators, school counselors, college counselors, and counselor educators by adding to the limited body of knowledge on the strength-based factors of the relationship between motivation, hope, and resilience and their effects on academic achievement.

Keywords: study orchestration, perceived locus of causality, learning outcomes

INTRODUCTION

EFL learners' perceptions to learning can be strongly effective on the acceptance of an approach (Van Rossum & Schenk, 1984). There are several variations and affective factors to the way of responding in learning approaches between individuals studying. Ever since this variation was identified, approaches to learning have become the focus of many studies, and differences in individuals' learning style have been investigated (Entwistle, McCune & Walker, 2001). A substantial number of studies carried out in this field, have enabled researchers to characterize different closely-related aspects of students' learning experience: approaches to learning (Biggs, 1987; Entwistle et al, 2001; Marton & Säljö, 1976) and learning outcomes (Trigwell & Prosser, 1991; Van Rossum & Schenk, 1984). An area that has attracted researchers' attention is the complex combinations (consonant as well as dissonant) amongst approaches to learning (Meyer, 2000). The literature on study orchestration, perceived locus of causality and learning

outcome indicates a gap, which has been addressed little on the part of researchers and practitioners. One of the significances of the study, therefore, is to address and hence bridge such a gap to some extent. It is expected that the results of this study can raise the awareness and deepen the insights of the main stakeholders including teachers, administrators and students.

The significance of this study is to inform the probable weaknesses and challenges of study orchestration. As a result, teachers, students, researchers, and material developers can benefit from the findings of the current research. In the field of teaching English as a foreign language (TEFL), there are many different approaches to theories of motivation. The scholars have to take into account the necessary factors involved in selecting appropriate theories. It seems that making a good choice is a challenge to the scholars, so this study can also prove the trustworthiness of PLOC in term of motivational theories. According to the results of the previous studies that investigated the relationship among variables such as study orchestration, motivation, and learners' outcome separately, it can be concluded that there is a necessity for further research on this subject considering the variables together and their influence on learners' achievement. Therefore, this study aims to scrutinize the possible relationship between study orchestration, perceived locus of causality and Iranian EFL learners' learning outcome.

LITERATURE REVIEW

Concept of Learning Achievement

Having to understand the core of success, we are likely to know first the meaning of effective learning" which many students aim to approach. It is, then, of great importance to discover the elements of an effective learning situation where learners take the vital part in flourishing the learning context as a global basis. Looking at the attractive explanations given by Watkins, Carnell and Lodge (2007), one would conclude that this term covers mainly two aspects which are: the specific time during which learning occurs and the ultimate goals that have been settled down beforehand. Yet, active learners are known for their ambition to realize specific objectives which they have normally put at the beginning of the academic year.

As an illustration to the above arguments, gaining useful information by selection and succeeding in exams are the most occurring purposes of those learners, frequently attempting to process, link information and get relevant use of it. Such type of learners seeks usually for new and updated information which they find interesting and enjoyable. Furthermore, this belief of change in information has made it a must that learning should be developed. Getting useful knowledge is not confined only to the classroom situation, but a willing student may get it from any available source, especially at a time when technology has revealed for many benefits from which education has profited.

The term "effective learning", according to Watkins (2007), involves knowing the strategies which work best for an individual learner as well as importing all what is relevant as helping tools from other learners. Meta-cognitive and meta-learning strategies are two significant terms within the broader context of EFL where learners tend to apply certain cognitive and learning strategies. But what is meant by meta-

cognitive and meta-learning strategies? What is common between the two processes, which in themselves range in other procedures, is that they are both used by effective learners who proceed according to the cognitive level and the learning level.

Perceived Locus of Causality

Perceived Locus of Causality scale (PLOC) postulates that intentional human behavior can be described, in a parsimonious way, through two processes of intrinsic motivation and internalization. Intrinsic motivation refers to “the doing of an activity for its inherent satisfactions rather than for some separable consequences” (Deci & Ryan, 2000, p. 56). Cognitive evaluation is a sub-theory of Perceived Locus of Causality scale (PLOC) that attempts to understand factors that facilitate and undermine intrinsic motivation. It has been postulated that intrinsic motivation is engendered when people are in conditions that support three innate psychological needs: the need for Perceived Locus of Causality scale (PLOC), competence, and relatedness (Deci & Ryan, 2000). Perceived Locus of Causality scale (PLOC) refers to the need to initiate and regulate one’s own actions. Competence refers to the need to produce behavioral outcomes and to understand production of these behavioral outcomes. Relatedness refers to the need to have satisfactory relationships with others and with the social order in general (Deci & Ryan, 2000).

In a meta-analysis of experimental studies dealing with intrinsic motivation, Deci, Koestner & Ryan (1999a) established a relationship between experimental conditions influencing psychological needs and intrinsic motivation. In the experiments they meta-analyzed, they assessed intrinsic motivation after exposing individuals to conditions that either frustrated or satisfied psychological needs. The psychological need for Perceived Locus of Causality scale (PLOC) was manipulated by exposing individuals to conditions of either choice or no choice. In addition, the need for competence was manipulated by giving positive or negative feedback. Following exposure to such conditions, participants’ levels of intrinsic motivation were assessed in two ways. First, engagement in a target task during which individuals were allowed to engage in alternative interesting tasks (free-choice period) was used to represent a behavioral indicator of intrinsic motivation. Second, a self-report measure of interest derived from the task chosen during the free choice period was used as a more covert measure of intrinsic motivation. Deci, Koestner & Ryan (1999a) reported that conditions which frustrated psychological needs undermined self-reported interest and overt involvement with the target task when compared to conditions that facilitated the satisfaction of such needs. In addition, there is evidence that intrinsically motivated behaviors are intentional. Chaiken (1980) showed that people are more likely to express intentions to search information about a topic when the topic is personally interesting to them vs. when it is not (Chatzisarantis, Hagger, Biddle, & Karageorghis, 2002).

Although the concept of intrinsic motivation has attracted a great deal of scientific interest and debate, behavioral regulation through intrinsic motivation is not the only type of social behavior that individuals can engage in. For this reason, Deci and Ryan (2008) proposed an organismic integration theory, which is a second sub-theory of Perceived Locus of Causality scale (PLOC), to explain the process of internalization.

Internalization is the process through which individuals take in a value or regulation and progressively transform it so that the regulation emanates from their own sense of self.

Study Orchestration

Deci and Ryan (2008) proposed that different types of motivation lie on a continuum according to their level of study orchestration. The most self-determined motivation is study orchestration, which refers to partaking in an activity because of interest and/or enjoyment. Next, extrinsic motivation is generally defined as the participation in an activity because of a goal distinct from the activity itself and is conceptualized according to four behavioral regulations. Integrated regulation, the most self-determined form of extrinsic motivation, refers to the pursuit of an activity because it is consistent with one's values and sense of self. Identified regulation refers to participating in an activity because one values its outcomes, whereas interjected regulation refers to doing an activity because of internal pressures such as guilt, shame, or ego protection/enhancement. The least self-determined form of extrinsic motivation is external regulation, which refers to the pursuit of an activity because of external coercive pressures or rewards. Finally, a motivation is defined as the absence of intrinsic or extrinsic motivation and, thus, the absence of study orchestration (Deci & Ryan 2008). A motivated individual perceives no worthwhile reasons for participation.

The study orchestration is proposed to have a simplex-like structure, whereby adjacent regulations (e.g., intrinsic motivation and identified regulation) should be more strongly and positively related with each other, whereas more distal regulations (e.g., intrinsic motivation and a motivation) are expected to be unrelated or negatively correlated with each other (Ryan & Connell, 1989). Chatzisarantis, Hagger, Biddle, Smith and Wang (2003) found some support, via meta-analysis, for the simplex-like structure in sport, leisure, and learning contexts. Nevertheless, there is a need to examine the simplex-like structure of scales purported to measure motives (as opposed to motives across diverse contexts) within distinct cultural contexts. From a study orchestration perspective, motivation is also conceptualized to operate at three different levels of generality (Vallerand, 2001) - situational, contextual, and global. The situational level refers to motivation towards a specific activity at a particular point in time; for example, one's motivation to play basketball during a given class. Contextual motivation refers to one's reasons for participating in a more diverse set of related behaviors across a period of time; for example, one's motivation to take part in PE lessons more generally. Global motivation refers to an individual's tendency to be motivated in an intrinsic, extrinsic, or a motivated way across different life contexts. Contextual and situational motives are most often measured in learning research to assess stable and more transient motivation in learning, respectively. Two instruments often employed to measure motivation at these two levels are the PLOC (Goudas & Biddle 1994) and the SIMS (Guay, Vallerand & Blanchard 2000), which have not yet been explored within a cross-cultural context.

Related Empirical Studies

Khan, Majid and Hayat (2011) investigated the relationships between dimensions of PLOC and between PLOC and perceived competence and intentions. Results showed the existence of a self-determination continuum from external regulation to identification via introjection. Also, the self-determination continuum appears to be independent from a motivation and intrinsic motivation. Thus it can be concluded that internalization, intrinsic motivation, and a motivation constitute qualitatively distinct processes. Moreover, results from the path analysis show that introjection and intrinsic motivation mediate the effects of perceived competence on physical activity. Hence physical competence is a necessary but not sufficient condition for developing strong intentions and an internal PLOC, given that perceived competence can induce introjections.

As for the apparent inconsistency of results, relationships between dimensions of PLOC and between PLOC and perceived competence and intentions vary greatly, even after accounting for differences in sample size and reliability between studies. Variation in study results is an indicator of possible moderator variables that the present meta-analysis might not have been powerful enough to detect, due to the small number of studies available. However, the power of the present meta-analysis is sufficient to detect statistical significance of hypothesized relationships that are greater than .30 at the .05 alpha level. Hence the failure to explain variability in study results is due to small differences that may represent the influence of context on relationships between dimensions of PLOC. Therefore, given the high power and low Type I error rates, which have been controlled by reducing the alpha level to .001, the results of the present meta-analysis allow confidence in the aforementioned conclusions.

Ryan and Connell (1989) investigated validity of scores from a contextual measure of motivation (PLOC) and scores from a situational measure of motivation (SIMS). In the study, they aimed to examine multiple facets of reliability and validity associated with scores derived from two SDT-based measures of motivation for learning. We also sought to explore cross-cultural validity. As hypothesized, and consistent with existing literature, they generally found supportive evidence of reliability as well as within- and between-network validity of scores from a contextual measure of motivation (PLOCQ) and scores from a situational measure of motivation (SIMS). Their findings also generally supported cross-cultural validity for the scores of the two instruments. Nonetheless, the findings illustrated some areas of concern regarding the internal consistency and factorial validity of some PLOCQ scores and the validity of SIMS scores. Turban, Tan, Brown, and Sheldon (2007) did research on preliminary validation of the Perceived Locus of Causality scale for academic motivation in the context of university studies (PLOC).

Research Questions

Regarding the gaps mentioned above and the significance of exploring these three concepts, the present study tries to answer the questions raised about the relationship between study orchestration, perceived locus of causality and learning outcomes for which the following research questions formulated:

Q1: Is there any significant relationship between study orchestration and perceived locus of causality among Iranian EFL learners?

Q2: Is there any significant relationship between study orchestration and Iranian EFL learners' learning outcomes?

Q3: Is there any significant relationship between perceived locus of causality and Iranian EFL learners' learning achievements?

METHOD

Participants

The participants of study were 100 Iranian EFL learners (64 female; 46 male) and their native language is Farsi or Turkmen which were selected based on convenience sampling. The participants were ranged in age from 12 to 20 years old and they were from ILLI language schools located in Golestan Province and they were at “Inter 1”, “Inter 2”, and “Inter 3” from Gorgan, Gonbad and Azadshahr. The demographic information of the participants (gender & age) is shown in Table 1.

Table 1. The Descriptive Statistics of Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	64	64.0	64.0	64.0
	Male	36	36.0	36.0	100.0
	Total	100	100.0	100.0	

Instruments

In order to answer the research questions, three instruments were used, including study orchestration questionnaire, Perceived Locus of Causality questionnaire (PLOC) Scale, and Oxford Quick Placement Test.

Study Orchestration Questionnaire

Study orchestration questionnaire, which is an adapted version of Chue and Nie (2017) was a modification of the revised two-factor version of the Learning Process Questionnaire (LPQ) and the Motivated Strategies for Learning Questionnaire (MSLQ). The MSLQ was originally developed by Pintrich and his colleagues (1990) for a North American sample but it has been used extensively and translated up to 20 different languages. The LPQ, was developed by Biggs and his colleagues (1998) based on a Chinese context. Both are relatively simple in item construction and are similar in the measures of deep and surface processing (Kember, Biggs, & Leung, 2004; Pintrich, Smith, García, & McKeachie, 1993). Study orchestration questionnaire consists of 5 items measured the use of the surface learning approach (e.g. “I learn some English by rote, going over and over them until I know them by heart”) and 5 items measured the use of the deep learning approach (e.g. “I try to relate what I have learned in English to what I learn in other subjects”). Both measurements were scored on a 5-point Likert scale, 1 – strongly disagree to 5 – strongly agree.

Perceived Locus of Causality Questionnaire

The Perceived Locus of Causality Questionnaire (PLOCQ) was developed by Goudas, Biddle, and Fox (1994) including 4 items measured intrinsic motivation (e.g. "I take part in English lessons because I am interested in English"), 4 items measured identified regulation (e.g. "I take part in English lessons because I believe English will help me better prepare for future modules"), 4 items measured introjected regulation (e.g. "I take part in English lessons because it bothers me if I don't"), 4 items measured external regulation (e.g. "I take part in English lessons because I will get into trouble if I don't") and 4 items measured amotivation (e.g. "I take part in English lessons but I don't really know why"). All measurements were scored on a 5-point Likert scale, 1 – strongly disagree to 5 – strongly agree.

Oxford Quick Placement Test

The selection of the participants was occurred based on the convenience sampling, and in order to find out whether the participants meet the requirement of this study Oxford Quick Placement Test (2009) was applied as proficiency test. The following test contains two sections, the first part including 40 questions was applied to the participants to find out whether the students were below intermediate. The second part contains 20 questions which was distributed among the participants who gained more than 35 were noted as intermediate level. It should be stated that our criteria for the determination of our participants' levels was a scoring checklist taken from Oxford Quick Placement Test.

Procedure

Learners were asked to participate through several Iranian EFL learners' groups on a different social media or face-to-face. The survey link was posted on the social media group discussion board and allowed educators to participate at a time convenient for them. The survey link was shared at the beginning of the data collection and again halfway through the two-month period reminding the group about the survey. Participants were encouraged to share the survey link with other educators that fit the criteria of the study.

At the first stage of the study, 100 EFL learners in English were asked to participate in the current study to find out the relationship of study orchestration and PLOC with learning outcomes among Iranian EFL learners in ILI language schools. Also, they were at the age range of 15 to 22 in the spring 2020 and summer 2020. Participants were asked to fill out the questionnaires. If some participants had issues with comprehension of questions, the researcher gave them an explanation in order to make them clarified. The participants were assured that their responses were anonymous because their names would not appear in the questionnaires. Participation was voluntary and the participants did not receive any credit for their involvement. The survey required participants to spend approximately 25 minutes to complete all questions on the surveys. All data was stored on the Google Forms account until the data collection period ended and was extracted for analysis.

RESULTS

In this part, first the results of data normality are presented which are followed by the results of Pearson correlation tests dealing with research questions one, two and three.

Test of Normality

An assessment of the normality of data is a prerequisite for many statistical tests because normal data is an underlying assumption in parametric and non-parametric testing. Therefore, in this study, the normality of the two questionnaires (one with two dimensions) and the learning outcome were measured in order to find out which type of statistical tests should be used for them. To reach this aim, K-S test was used in order to find out the normality of perceived locus of causality, study orchestration and academic achievement. The reason of using K-S test instead of Shapiro-Wilk test is that Shapiro-Wilk is used for the sample sizes less than 50 or greater than 2000, so in this sample size, the K-S test should be applied.

Table 2. Test of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Locus Causality	.138	100	.000	.946	100	.000
Study Orchestration	.061	100	.200*	.967	100	.014
Academic Achievement	.092	100	.035	.959	100	.004

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

According to Table 2, based on K-S test results, the Sig. of locus of causality scale was shown .000, which is lower than .05, therefore the data was not normally distributed, and it can be considered as non-parametric measurement. In Table 2, it was found out that the K-S Sig. of the Study Orchestration is .200 which is higher than .05, therefore this measurement can be maintained as parametric test. In Table 2, the normality of the academic achievement was measured by K-S test and the results indicated .035 sig which smaller than .05, and it means the data was not normally distributed and it included as non-parametric test. Therefore, it can be stated that two of the variables were non-parametric and it was selected to use Spearman's rho to analyze the gathered data.

The First Research Question's Answer

The first research question tries to reveal whether there is a significant relationship between study orchestration and perceived locus of causality among Iranian EFL learners. Based on the test of normality, one variable is parametric and the other is non-parametric, therefore non-parametric correlational data were applied. Spearman rho analysis was used in Table 3.

Table 3. The Spearman's rho Correlational Coefficient between Locus of Causality and Study Orchestration

		Locus Causality	Study Orchestration
Spearman's rho	Locus Causality	Correlation Coefficient	1.000
		Sig. (2-tailed)	.009
		N	100
Spearman's rho	Study Orchestration	Correlation Coefficient	.759**
		Sig. (2-tailed)	.009
		N	100

** . Correlation is significant at the 0.01 level (2-tailed).

In Table 3, the correlation of the locus of causality and study orchestration were analyzed. The results have shown the correlation coefficient of .759 which means the variables have positive significant correlation (sig = .009). Therefore, it can be noted that the locus of causality and study orchestration have significant positive relationship among Iranian EFL learners.

The Second Research Question's Answer

The second research question was to see there is any significant relationship between study orchestration and Iranian EFL learners' learning achievements. Spearman correlation was used when trying to explore the strength of the relationship between two continuous variables. This gives the researcher an indication of both the direction (positive or negative) and the strength of the relationship. This knowledge can help the researcher to be better prepare the data to meet the expectations of machine learning algorithms, such as linear regression, whose performance will degrade with the presence of these interdependencies. Therefore, this section tried to find out whether there is any relationship between study orchestration and Iranian EFL learners' learning achievements, and in order to reveal the relationship, table 4 gives a Spearman rho of each of two scales. As the table indicates, the correlation is. That is to say, there is a significant (sig = .04) relationship between study orchestration and academic achievement, $r = 0.724$.

Table 4. The Spearman's rho Correlational Coefficient between Study Orchestration and Academic Achievement

		Academic Achievement	Study Orchestration
Spearman's rho	Academic Achievement	Correlation Coefficient	1.000
		Sig. (2-tailed)	.04
		N	100
Spearman's rho	Study Orchestration	Correlation Coefficient	.724
		Sig. (2-tailed)	.04
		N	100

The Third Research Question's Answer

The third research question seeks to find out whether there is a significant relationship between perceived locus of causality and Iranian EFL learners' learning achievements. In order to reach this goal, table 5 gives a Spearman rho of each of two scales. As the table indicates, the correlation exists. That is to say, there is a significant (sig = .04) relationship between study orchestration and academic achievement, $r = 0.724$.

Table 5. The Spearman's rho Correlational Coefficient between Academic Achievement and Locus of Causality

		Academic Achievement	Locus Causality
Spearman's rho	Academic Achievement	Correlation Coefficient	1.000
		Sig. (2-tailed)	.03
		N	100
	Locus Causality	Correlation Coefficient	.784**
		Sig. (2-tailed)	.03
		N	100

** . Correlation is significant at the 0.01 level (2-tailed).

The table 5 represented that there is a significant positive relationship between academic achievement and locus of causality among Iranian EFL learners who participated in this study. The results have shown that the correlation coefficient is .784, and there is a significant positive relationship (sig = .03) between these two variables.

DISCUSSION

To conclude, this study has found that there is a significant relationship between perceived locus of causality and academic achievement. Also, the study proved that there is a significant relationship between locus of causality and study orchestration. Constantly, the study approved a significant relationship between study orchestration and academic achievement among Iranian EFL learners who participated in this study. Accordingly, the study predicted that the perceived locus of causality and study orchestration can be effective on academic achievement among Iranian EFL learners who participated in this study. The following paragraph tries to compare and contrast the related empirical studies. Based on the findings of this study, it is believed that the beliefs as regard to motivation has great impact on learning achievement. It could be stated that motivation energized the achievement in case of English as a foreign language learning. Also, it is presumed that study orchestration could be a real booster on language learning achievement. However, these assumptions cannot be approved due to the fact that there is not a body of evidence in Iranian EFL learning context.

Accordingly, Taskiran (2010) studied the effectiveness of perceived locus of causality on failure and success among Turkish EFL college students in Anadolu University. Their attributions were examined and checked regarding perceived locus of causality, strength and controllability. Likewise, the investigation expected to see if causal dimensionality of the understudies was solid/unfortunate for shaping versatile/maladaptive future

practices. The example comprised of 158 understudies' college students. The participants reacted to a self-directed survey. The survey was made out of 6 inquiries. Initial three inquiries concerned their English foundation and saw achievement or disappointment in language learning measure. The understudies were gathered by their attitudes as progress situated and disappointment arranged. Every attribution was marked and recurrence rates were determined. For causal dimensionality of saw achievement and disappointment circumstances, the quantity of the imprints for yes/no inquiries that meant to investigate locus of causality, dependability and controllability were determined and recurrence rates were found. So as to investigate potential contrasts between progress arranged and disappointment situated gathering's causal dimensionality profiles, chi-square examination was finished. The outcomes showed that the quantity of the understudies who see themselves as fruitless was marginally more than the individuals who see themselves effective. Members detailed more causal attributions for disappointment than they accomplished for progress. Achievement situated understudies exhibited fundamentally more inside, controllable, and generally more stable attributional styles than disappointment arranged understudies, a finding upheld by writing on attribution hypothesis. At long last, rehash understudies' causal dimensionality of disappointment indicated comparative attributes with that of disappointment arranged gathering. The most oftentimes detailed reasons for progress and disappointment, and causal dimensionality styles were talked about with regards to Weiner's attributional model of accomplishment inspiration and conceivable homeroom suggestions were proposed. Therefore, the following study is in the same line with the current study.

CONCLUSION

From the perspective of this research, the impact of the learning environment on the way students engage in learning tasks was recognized from their locus of causality. In particular, it is found that students' views on task requirements have a great influence on the qualitiveness of the methods adopted by individual students. From this point of view, therefore, there are some conceptual foundations that can be concluded that by changing one aspect of the academic achievement context, that is, the locus of causality, it may affect the way students engage in their examinations. From the simplest point of view, this means that within the scope of the superficial method caused by the recall measure and the deeper method caused by the understanding measure, the replacement of one method by another will result in a corresponding change in the method. As has already been pointed out, the impact of study orchestration and perceived locus of causality on learning achievement has accepted by the participants of this study, but these research viewpoints brought the positive significance relationship between locus of causality and their academic achievement on this issue make this phenomenon consistent with the quantitative nature of the study.

The results of this study have implications for educators, school counselors, college counselors, and counselor educators by adding to the limited body of knowledge on the strength-based factors of the relationship between motivation, hope, and resilience and their effects on academic achievement. Understanding the impact of nonacademic factors

on academic achievement could perhaps lead to the development of strategies that can be utilized to help improve the performance and increase the retention of college freshmen. Educators and school counselors working with students in primary and secondary grades are expected to address issues related to student achievement, performance, motivation, and attrition. Educators and school counselors can better position themselves to implement interventions that can increase achievement motivation and improve performance of students. More specifically, educators and school counselors can utilize achievement motivation training as a program intervention.

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