

The effects of teaching reflective thinking model on academic self-efficacy, achievement motivation, intention certainty and reflective thinking of the of Farhangyan University students in Ahvaz. Ahvaz, Iran

Los efectos de enseñar el modelo de pensamiento reflexivo sobre la autoeficacia académica, la motivación de logro, la seguridad de la intención y el pensamiento reflexivo de los estudiantes de la Universidad de Farhangyan en Ahvaz. Ahvaz, Irán

Os efeitos do ensino do modelo de pensamento reflexivo sobre a autoeficácia acadêmica, motivação de realização, certeza de intenção e pensamento reflexivo dos estudantes da Universidade Farhangyan em Ahvaz. Ahvaz, Irã

Recibido: 20 de abril de 2018. Aceptado: 10 de mayo de 2018

Written by:

Fakhrossadat Hosseini⁹⁹
Gholam Hossein Maktabi¹⁰⁰
Manijeh Shehni Yailagh¹⁰¹
Alireza Haji Yakhchali¹⁰²

Abstract

The effects of teaching reflective thinking model on academic self-efficacy, achievement motivation, intention certainty and reflective thinking of the of Farhangyan University students in Ahvaz. Ahvaz, Iran.

This study aims to determine the effects of teaching reflective thinking model on academic self-efficacy, achievement motivation, intention certainty and reflective thinking of the of Farhangyan University students in Ahvaz.

The research methodology is experimental field study therein pre-test and post-test design with one experimental group and two control groups was implemented. In the present study, two sample groups were selected based on the Stratified sampling and simple random sampling. First sample group was selected for validation of

Resumen

Los efectos de enseñar el modelo de pensamiento reflexivo sobre la autoeficacia académica, la motivación de logro, la seguridad de la intención y el pensamiento reflexivo de los estudiantes de la Universidad de Farhangyan en Ahvaz. Ahvaz, Irán.

El objetivo de este estudio es determinar los efectos de la enseñanza del modelo de pensamiento reflexivo sobre la autoeficacia académica, la motivación de logro, la seguridad de la intención y el pensamiento reflexivo de los estudiantes de la Universidad de Farhangyan en Ahvaz.

La metodología de investigación es el estudio de campo experimental en el diseño pretest y post prueba con un grupo experimental y se implementaron dos grupos de control. En el presente estudio, se seleccionaron dos grupos de

⁹⁹ Student of Ph.d. in educational psychology, Shahid Chamran University of Ahvaz, Iran. fakhri_hosseini_297@yahoo.com

¹⁰⁰ Associate Professor of educational psychology Dept., Shahid Chamran University of Ahvaz, corresponding author, ghmaktabi@gmail.com

¹⁰¹ Professor of educational psychology Dept., Shahid Chamran University of Ahvaz, Iran shehniyailaghm@yahoo.com

¹⁰² Assistant Professor of Educational Psychology Dept., Shahid Chamran University of Ahvaz, Iran hajiyakhchali@yahoo.com

questionnaires and second sample group was selected for intervention.

In this study, the confirmatory factor analysis method was used to determine the reliability and validity of the questions of each questionnaire. And analysis of mancova and one-way covariance were used to test the hypotheses. Before and after intervention, pre-test and post-test were performed.

The results of one-way covariance analysis showed that the scores of academic self-efficacy, achievement motivation, intention certainty and reflective thinking ($P = 0.001$) were significant. By controlling the effect of pre-tests, there is a significant difference between the post-tests of the experimental group with the first and the second control groups in all variables. The training of reflective thinking model significantly increased the academic self-efficacy, achievement motivation, intention certainty and reflective thinking of experimental group students compared to the first and second control groups. As the reflective teaching model as a modern teaching pattern derived from constructivism theory is currently applied in education departments in most parts of the world, so it is recommended, this method to be utilized as a reliable teaching model for all faculties of universities in our country more confidently.

Keywords: Reflective thinking model self-efficacy. Achievement motivation, Intention certainty. Reflective thinking.

Resumo

Os efeitos do ensino do modelo de pensamento reflexivo sobre a autoeficácia acadêmica, motivação de realização, certeza de intenção e pensamento reflexivo dos estudantes da Universidade Farhangyan em Ahvaz. Ahvaz, Irã.

Este estudo tem como objetivo determinar os efeitos do ensino do modelo de pensamento reflexivo sobre a autoeficácia acadêmica, motivação de realização, certeza de intenção e pensamento reflexivo dos estudantes da Universidade Farhangyan em Ahvaz.

A metodologia de pesquisa é o estudo de campo experimental no projeto de pré e pós-teste com um grupo experimental e dois grupos de controle foram implementados. No presente estudo, dois grupos amostrais foram selecionados com base na amostragem estratificada e amostragem aleatória simples. O

muestra basados en el muestreo estratificado y el muestreo aleatorio simple. Se seleccionó el primer grupo de muestra para la validación de los cuestionarios y se seleccionó el segundo grupo de muestra para la intervención.

En este estudio, se utilizó el método de análisis factorial confirmatorio para determinar la confiabilidad y validez de las preguntas de cada cuestionario. Y el análisis de la mancova y la covarianza de una vía se usaron para probar las hipótesis. Antes y después de la intervención, se realizaron pruebas previas y posteriores.

Los resultados del análisis de covarianza unidireccional mostraron que los puntajes de autoeficacia académica, motivación de logro, certeza de intención y pensamiento reflexivo ($P = 0.001$) fueron significativos. Al controlar el efecto de las pruebas previas, hay una diferencia significativa entre las pruebas posteriores del grupo experimental con el primero y el segundo grupo de control en todas las variables. La capacitación del modelo de pensamiento reflexivo aumentó significativamente la autoeficacia académica, la motivación de logro, la certeza de intención y el pensamiento reflexivo de los estudiantes del grupo experimental en comparación con el primero y el segundo grupos de control. Como el modelo de enseñanza reflexivo como un patrón de enseñanza moderno derivado de la teoría del constructivismo se aplica actualmente en los departamentos de educación en la mayor parte del mundo, por lo que se recomienda utilizar este método como un modelo de enseñanza confiable para todas las facultades de las universidades de nuestro país más con confianza.

Palabras clave: autoeficacia del modelo de pensamiento reflexivo. Motivación del logro, certeza de la intención. Pensamiento reflexivo.

primeiro grupo de amostra foi selecionado para validação dos questionários e o segundo grupo de amostra foi selecionado para intervenção.

Neste estudo, o método de análise fatorial confirmatória foi utilizado para determinar a confiabilidade e validade das questões de cada questionário. E análise de mancova e covariância unidirecional foram usadas para testar as hipóteses. Antes e após a intervenção, pré-teste e pós-teste foram realizados.

Os resultados da análise de covariância unidirecional mostraram que os escores de autoeficácia acadêmica, motivação de realização, certeza de intenção e pensamento reflexivo ($P = 0,001$) foram significativos. Controlando o efeito dos pré-testes, existe uma diferença significativa entre os pós-testes do grupo experimental com o primeiro e o segundo grupo controle em todas as variáveis. A formação do modelo de pensamento reflexivo aumentou significativamente a autoeficácia acadêmica, motivação de realização, certeza de intenção e pensamento reflexivo de estudantes do grupo experimental em comparação com o primeiro e segundo grupos de controle. Como o modelo de ensino reflexivo como um moderno padrão de ensino derivado da teoria do construtivismo é atualmente aplicado em departamentos de educação na maior parte do mundo, recomenda-se que este método seja utilizado como um modelo de ensino confiável para todas as faculdades de universidades em nosso país. com mais confiança.

Palavras-chave: Auto-eficácia do modelo de pensamento reflexivo. Motivação de realização, certeza de intenção. Pensamento reflexivo.

Introduction

John Dewey (1993) in the "How We Think" Book that had been designed for the teachers, introduced the concept of "Reflective Thinking Model (RTM)". The most essential hypothesis of Dewey was that the learning through RTM is progressed to the level that the process of thinking is created in the learners, and provides conditions in the class that learners get aware of their thought, personal observations and learning and consider their personal successes and failures, and show that which one of their thoughts have been effective, which one ineffective and which corrections to be made. Besides, it asks the learner to think about his thinking manner. The reflective thinking is located in the core of experimental learning, and it focuses on the learning process in learner-oriented style.

The most important part of experimental learning is purposeful reflective thinking for analyzing and judging about what has performed or what the learner probably believes that will happen in the future. Dewey (1933) shows that the RTM is an active, stable and precise thought of belief or hypothetical format of knowledge, and provides this opportunity for the users to step back and think about quality of solving problems and how a specific group of problem solving solutions are appropriate for achieving the goals.

Bandura (1997) propounds the constructivism as basis for emphasizing on reflective thinking

model. This theory in addition to being very effective on thoughts based on education and training, curricular and academic planning, is also the basis for emphasizing on integrated and perfect teaching model. According to Schunk (2008, quoted by Karimi, 2014), one of axial assumptions of constructivism, propounded by Duffy & Cunningham (1996, quoted by Fardanesh, 2013) is learning mediation of RTM through different tools, signs and cognitive analyses. According to the opinion of Jonassen & Reeves (1996, quoted by Fardanesh, 2013), applying the Mind Tools Model (MTM) in the reflective thinking model makes the learning environment richer and more exciting.

As per viewpoint of Bandura (1977), RTM in connection to self-efficacy of students in the appropriate design trend of this teaching model is derived from four sources including mastery experiences, social modeling, social persuasion and psychological responses, increase of individual and collective self-efficacy of users and increase of achievement motivation of users. According to Simon, Van der Linden & Duffy (2010), the reflective thinking model with the constructivism approach based on mind tools model, has been welcomed more by the education and training activists, within recent years, so that many efforts are forming in the context of research and action by the scholars, researchers, instructors and teachers for establishment of this approach. It is important to

cause the users to experience the RTM and pass through the constructive and metacognitive solutions. One of the personality factors that can be effective on control and organization of reflective thinking is self-efficacy. Self-efficacy is applied to the belief of people in ability of formulating the reflective model and procedure of implementation of this model. Various researches emphasized on the effectiveness of applying RTM on academic self-efficacy and achievement motivation.

In the researches provided by Kennedy & Smith (2013), the belief of academic self-efficacy of users is facilitated by advice of reflective advisor. Milner & Hoy (2003) believed that applying RTM helps the students to come over negative self-efficacy. Waiting for such development is arising from belief of Thonoon & Slegers (2011) that consider the reflective practice as the strongest agent in creation of academic self-efficacy belief. On the other side, achievement motivation may be improved and increased under impact of reflective teaching. According to opinion of Shehni Yailagh, Mobaraki & Shorkkon (2005), academic achievement motivation as internal force, leads the learners to comprehensive assessment of their performance (based on the most excellent criteria, attempting for success in performance and benefitting from joy that is associated with the success in performance). According to Amasoul Biongan (2015), the teachers through modeling and taking help of effective characters of advisors, make motivation in themselves and having reflective thinking abilities and cognitive and intellectual capabilities and sharing the reflective thinking skill, match their educational environment to the cultural needs of society.

An important challenge for pre-service or during-service teacher training plans is providing the latest solutions for increasing the academic efficacy of students by applying self-efficacy sources (real performances, substitution experiences, convincing, positive efficiency, applying thinking model). The internship courses therein the students work with the protagonist professors, provide the requirements for successful and real performance and specialized patterning. The advisors and the model not only teach the required skills to the students, but also provide the requirements for progress and increase of their academic self-efficacy for success in class (Schunk, 2008 quoted by Karimi, 2014; Pintrich, 2008, quoted by Shahraray, 2015).

According to the viewpoint of Runhaar, Sanders & Yung (2010), in addition to the self-efficacy perception, the students' manner of coping with problems for achieving the job goals is also estimated by RTM. Based on the results obtained from study of Amasoul Biongan (2015), propounding questions of Higher Order Thinking Skills (HOTS) type (critical, reflective and creative), problem solving and tasks organizing in the class by advisors, in addition to increasing the belief of self-efficacy of students binding to serve in education dept., was also effective on motivational performance.

Valli (1993) believes that achieving skill in performance of reflective thinking model together with the adequate achievement motivation specify these expectations in student that how to attempt for performance of work, and encountering the failure, continues his effort up to what extent.

Research of Kamarudin (2016) indicates that higher order thinking creates the initial speech exchange so that the learners predict the knowledge and present the respective solution, assess the different beliefs, express their ideas and have the right to choose, and make decision. The teachers while teaching in traditional method, use the low thinking skill of learning related to matters instead of high order skills with more preference (such as data collection, comparison of differences, specifying reasons, putting in order, explaining the concepts, declaring results, making relationship between them, effective and useful description, interpretation and classification). Therefore, to increase the capability of teachers, it is necessary the teacher training plan to be associated with higher order thinking skill.

Literature Review

The results of research applied by Nosratinia & Moradi (2017) demonstrated significant and positive correlation between reflective model and academic self-efficacy feeling and reflective model and applying motivational methods. Summary of multiple regression analysis indicated that the reflective teaching effectively may predict the self-efficacy of students. Research of Babaei (2016) indicated that implementation of the elements of RTM can predict the elements of academic self-efficacy. Multiple correlation index was equal to 0.5 that implies 0.25 of self-efficacy variance with linear (metacognitive skills), cognitive, critical and

reflective combination. Finally, reflective thinking and metacognitive skills significantly predict 0.47% of self-efficacy score. Moreover, research of Müge Tavýl (2014) shows that RTM training courses about teaching manner, class management and academic design reduced reliance and dependency of internship professors on systematic teaching and resulting in the increase of students' self-efficacy perception. According to the findings of research applied by Yeh (2006), the effectiveness of RTM teaching individually and periodic trainings of students was a reliable prediction for teaching efficacy of students. The characteristics of students had interaction to the guided practices and resulted in students' proficiency and skillfulness in applying RTM, and provided an effective teaching for the students. Waring (2013) reported that RTM is under more consideration in two classes: 1- evaluation of students' performance, 2- consulting about perspective and viewpoint of students. Furthermore, Junor Clarke and Bayazit (2013) show that RTM-based teaching model more than improvement of RTM persuades the students to continue their cooperation with each other during training course and even thereafter, by the collective self-efficacy perception, and results in creation of an atmosphere along with interest and interaction between students and professors.

According to the achievements of Richard, Angwoo & Francis (2015), the highest effect of RTM elements referred to the uncertainty and critical expression of reflective thinking elements. Final report of Onen & Koçak (2014) demonstrates that applying RTM forms the innovative characteristic (self-ordering, self-efficacy and academic achievement motivation, innovation and creativity) and cognitive structure of students. Based on the results of Hagemeyer & Murawski (2014), academic achievement motivation arising from reflective practice may be used as appropriate theoretical framework for discovering the difference in perceived mental-value beliefs of students, for achievement to the goal and its efficacy. According to the research of Beiranvand (2014), positive and significant relationship was reported between RTM and empowerment of lecturers. As reported in the results of study provided by Costas Derek, CharlieLam, Lau, HuuHoang & Pretorius (2016), participation in a writing group based on the reflective practice in PhD course highlighted the importance of applying RTM. Report of McLeod, Barr & Welch (2015) from Faculty of Health & Humanities, Lismore,

Australia demonstrated that the reflective practice is formed based on a kind of social discourse that is made based on the reflection and contemplation and it is necessary as essential needs and must be considered as research priorities of higher education centers. Edwards, Kirwin & Gonyeau (2014) presenting the reflective model titled "new – for – you" introduce this model with higher academic efficacy level and connector between cultural principles and daily activity of course class and strengthener of academic texts writing. Moreover, pursuant to such success, the university department was authorized to act based on the RTM with the purpose of academic optimization for official recognition of RTM applying. In the study provided by Brooks (1999) with the objective of analyzing the reflective practice effectiveness, introduced this practice as an essential part of pre-service teacher training plans. After reflective practice, the belief and faith of teacher training students and trainees for expressing the logical reasons of use of reflective practice during education had been stronger.

Based on the study of McLeod, Barr & Welch (2015), whenever the goal of higher education centers is assessment of the students' performance return, necessity of planning and implementation of RTM as essential need of higher education centers will be more emphasized, because applying the RTM and simultaneously implementation of students training courses upon partnership of advisors and participation in authentic tasks (functional practice of their academic field out of university and the real life of students) causes further achievement of students to the knowledge, skill and objective values of object of training. According to the research of Eccles (2008), the social roles of teachers, achievement motivation and their self-efficacy has important effect on the situation of training in class and supervision on the work progress. The appropriate newness and difficulty of RTM is connected to the personal interesting of students, because it is along with students' personal choice and control and it provokes them to implement it in the class. Achieving the complex knowledge and skills in the mind tools model requires double effort and led practice and it is necessary to be along with the tendency, effort and motivation of students for its performance. The students' effort and assiduity in performance of affairs is associated with their academic self-efficacy belief. Necessity of attention to self-efficacy belief as mediator will have important role in work progress.

The viewpoints of Jonassen & Carr (2000) provided promising opportunities for presentation of reflective thinking model, manner of learning and guide for its performance. According to Jonassen & Hung (2006), the use of mind tools model is necessity of reflective and deeper thinking of learners, and facilitates the learning and conceptualization process. Plenty of educational systems despite of attention to thinking, yet failed to enter higher order thinking skills in training/teaching design. This status is also observed in the educational system of Iran. To remedy the existing deficiencies, it is recommended to the professors to consider the students' thinking skill training based on the contextual proportion, and apply the thinking skills in combined form in the class (Fardanesh, 2013), because Beyhan (2013) believes that the constructivism-based environments and higher order thinking promotion in the learning environments are associated with more independence and freedom of action for its users. In the present study, the researcher intended to investigate the effect of RTM on academic self-efficacy and achievement motivation of students. Therefore, the present research was investigated based on two hypotheses: 1- Applying RTM is effective on academic self-efficacy of female students of Farhangian University. 2- Applying RTM is effective on achievement motivation of female students of Farhangian University.

Lindroth (2015) believes that the users' perception of reflective knowledge helps them for manner of purposeful reflection and significant presentation in teaching-learning experiences. The question that involved the mind of researcher was that considering the complexity of RTM challenge, how the recognition and awareness of RTM making principles and elements and achieving skill in its phases performance process, can affect the academic self-efficacy and achievement motivation of students.

Methodology

The present study was of experimental-field type therein pre-test-post-test design with control group was used. In this design, one experimental group and two control groups were used. With the purpose of controlling the effect of dissemination of RTM teaching in Farhangian University for internship 4, it was necessary the

third group to be selected from student teachers of B.Sc. course that had no internship course credits. At first, academic self-efficacy and achievement motivation pre-test was obtained from all three groups. Later, RTM intervention was provided to experimental group, and no training was provided to two control groups. After completion of training course, academic self-efficacy and achievement motivation post-tests were obtained from all experimental groups and two control groups.

Population and sampling procedure

The population of present study consists of all female students (376) of Farhangian University of Ahvaz, that were studying on fulltime basis and continuously in academic year 2016-2017. In this research, sampling was taken 2 times; selection of first sample group for validation of questionnaires and second sample group for hypotheses test. At first time, the population consists of 899 female and male students. Number of male students (523) is 58% and female students (376) forms 42% of total students of Farhangian University of Ahvaz. According to Krejcie and Morgan table, quoted by Naderi and Seif Naraghi (2011), the sample group consisted of 269 students (154 male and 113 female students) was selected based on random stratified sampling method, the questionnaires were implemented and their validity and reliability was calculated prior to conducting research. In the teaching intervention phase, using simple random sampling, out of students of 6th semester, comprised of 92 female students, 30 students were placed in two test and control groups (each group 15 students). The second control group (15 student teachers) included that group of student teachers of non-continuous B.Sc. program that had not the internship course in the offered courses of Farhangian University, and their group randomly was selected randomly from among several academic groups.

Data collection instrument

2- College Student Self – Efficacy Scale (CSSES) designed by Owen, Froman & Robin (1988). The validity coefficients for subscales of self-efficacy within range 0.50-0.86; 0.71-0.88 for each one of subscales respectively calculated for organizing and major planning self-efficacy respectively 0.63-0.70; 0.86 academic self-efficacy, 0.67-0.68, 0.84; learning self-efficacy, 0.36-0.50, 0.50;

verbal self-efficacy, 0.63-0.65, 0.65 and quantitative self-efficacy 0.18-0.54, equal to 0.75. The researcher reported the total reliability of this scale using Cronbach's alpha (0.88) and Spearman-Brown composing method (0.71), and validity of respective scale using Cronbach's alpha (0.86).

3- Achievement Motivation Test (AMT) of Hermans (1970). The researcher reported the total reliability of this scale using Cronbach's alpha (0.84) and Spearman-Brown composing method (0.83), and validity of respective scale using Cronbach's alpha (0.84).

Hermans (1970) to calculate the reliability coefficient of achievement motivation test (AMT) used the Cronbach's alpha. The reliability coefficient calculated for scale was equaled to 0.84. The reliability coefficient obtained from retest was reported equal to 0.84. This test

containing 29 questions and as incomplete sentences is used for assessment of achievement motivation of students.

Intervention procedure

In the present study, the intervention of RTM teaching included teaching packages proportional to the mind tools and teaching pattern of thinking skills combination in the content of Coumers, Jonassen & Mais (1992) courses that helped the academic designers by flexible thinking, nature of comparison, extending, determination of cause and effect and reflective thinking skill to provide the curricular materials in accordance with the thinking nature, various learning activities and learning based on the reflective thinking. Summary of training sessions have been provided in applied (1).

Applied I: Description of RTM teaching sessions

Week	Element	Phase	Thinking	Teaching techniques
1	Implementation of pre-test General description of RTM	-	-	Introduction, expression of objective
2	Problem finding	Communication with information references	Creative	Database tools
3	Problem finding	Drawing the conceptual map together with time lines of events	Reflective	Semantic organizing tools
4	Problem finding	Analysis of inter-contextual structural relationships	Reflective	semantic networking tools
5	Problem finding	Relations between thoughts, reflection and concepts	Reflective	Dynamic modeling tools
6	Expression of cause of events	Consequence of events and expression of effective factors	Critical	Interpretation of information tools
7	Expression of cause and effect	Hypothesizing, collection of relative evidences and classification	Reflective	Visualization tools
8	Helping to design learning matters	Knowledge construction through phenomena and concepts construction	Reflective	knowledge construction tools
9	Definition of problem	Sharing the experiences and information about the problem	Creative	Conversation and cooperation tools
10	Idea processing	Idea finding	Critical	Brainstorming
11	Presentation of complex mental images	Solving complex problems as well as simple problems	Reflective	System modeling tools
12	Post-test implementation	-	-	Closing schedule

Descriptive findings

The mean and standard deviation of dependent variables (self-efficacy and achievement motivation) have been provided separately based on the groups, pre-test and post-test phases in table (1).

Table (I)- Mean and standard deviation of dependent variables based on groups and pre-test and post-test phases

Group	Test phase	Self-efficacy		Achievement motivation	
		Mean	Standard deviation	Mean	Standard deviation
Test	Pre-test	94	7.8	84.6	1.3
	Post-test	101	8.1	90.7	4.1
	Total	98	7.5	87.6	2.2
Control 1	Pre-test	95.4	2.3	86.8	3.8
	Post-test	94.2	3	85.2	0.4
	Total	94.8	2.1	86	2
Control 2	Pre-test	96.8	3.4	85.2	3.1
	Post-test	96	4.6	86.5	0.5
	Total	96.4	3.8	85.8	1.7
Total	Pre-test	95.7	5.1	85.6	3
	Post-test	97	6.2	87.5	3.3
	Total	96.4	5.1	86.5	2.1

As observed in table (I), mean values of self-efficacy pre-test and post-test for experimental group are respectively equal to 94 and 101, for control group 1 95.4 and 94.2 respectively, and for control group 2, 96.8 and 96 respectively. Mean values of pre-test and post-test of achievement motivation for experimental group are equal to 84.6 and 90.7 respectively, 86.8 and 85.2 for control group 1 and 85.2 and 86.5 respectively for control group 2.

The mean of research variables in test and control groups in pre-test and post-test has been also provided as diagram. Diagram (I) shows means of academic self-efficacy pre-test and post-test in test and control group.

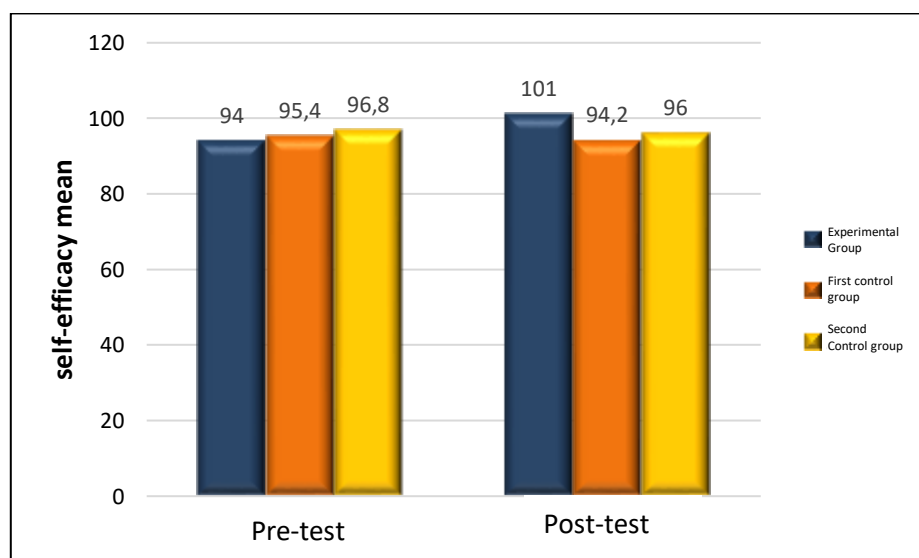


Diagram 1. Mean of academic self-efficacy pre-test and post-test in experimental and control groups
As observed in diagram (I) the means of academic self-efficacy pre-test and post-test in experimental group are respectively 94 and 101, in first control group 95.4 and 94.2, and in second control group 96.8 and 96, respectively.

Diagram 2 shows the mean of achievement motivation pretest and posttest in test and control groups.

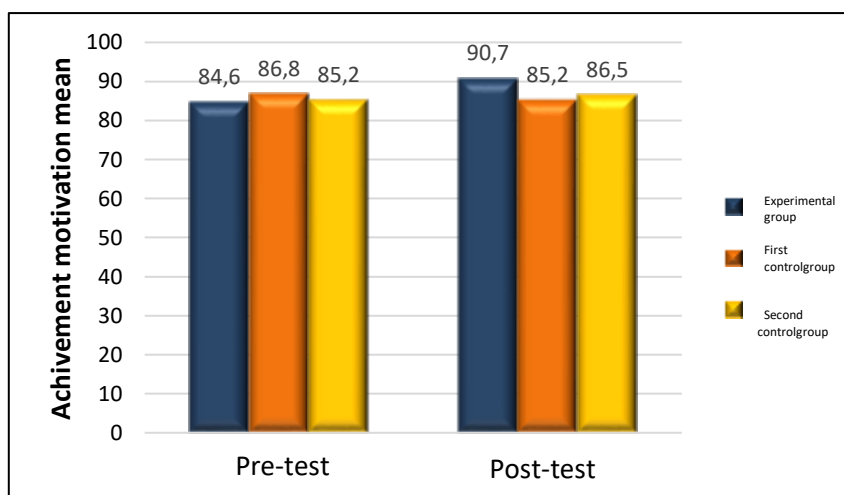


Diagram 2 Mean of achievement motivation pre-test and post-test in experimental and control group
As observed in diagram (2) the means of achievement motivation pre-test and post-test in experimental group are respectively 84.6 and 90.7, in first control group 86.8 and 85.2, and in second control group 85.2 and 86.5, respectively.

Analysis of covariance assumptions

Before analyses related to hypotheses, the analysis of covariance assumptions were reviewed. Accordingly, four assumptions including linearity, multiple co-linearity, variances homogeneity and regression gradients homogeneity were investigated.

a. Assumption of linearity of relationships between variables

The most important analysis of covariance assumption is linearity of relationship between dependent variable and covariate that means this relationship can be determined through the regression straight line. In the present study, academic self-efficacy, achievement motivation, ensuring from decision making and reflective thinking pre-tests as covariates and their post-test were supposed as dependent variables. To investigate the linearity assumption, the coefficient of correlation between each one of pre-tests and post-tests was calculated, and the scores dispersion diagram was also drawn and so the variables are provided.

Pearson's coefficient of correlation between academic self-efficacy pre-test and post-test was obtained equal to 0.81 that is significant in level 0.001. The dispersion of these scores is shown in diagram (4)

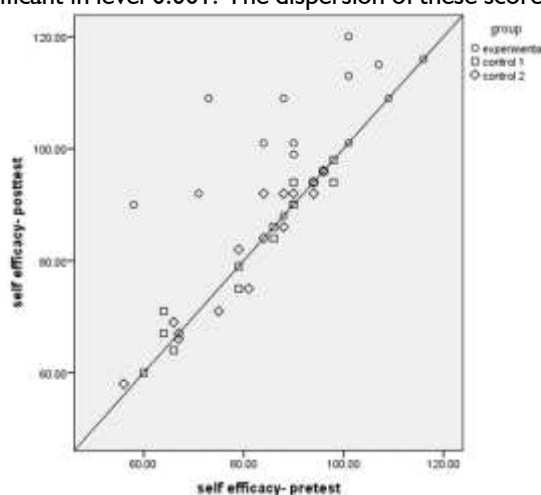


Diagram (4) Regression line and dispersion of academic self-efficacy pre-test and post-test scores based on groups

According to the Pearson's coefficient of correlation between academic self-efficacy pre-test and post-test and observing their scores dispersion diagram, the assumption of correlation linearity is accepted about this variable.

Pearson's coefficient of correlation between achievement motivation of pre-test and post test was obtained equal to 0.84 that is significant in level 0.001. The dispersion of these scores is also shown in diagram (5).

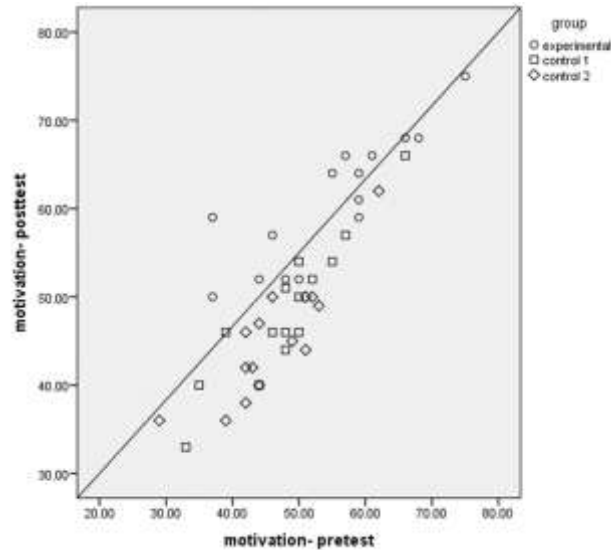


Diagram 5. Regression line and dispersion of achievement motivation pre-test and post-test scores based on groups

According to the Pearson's coefficient of correlation between achievement motivation pre-test and post-test and observing their scores dispersion diagram, the assumption of correlation linearity is accepted about this variable.

b. Assumption of multiple co-linearity

The second assumption is analysis of multivariate covariance in connection to multiple co-linearity. When the covariates have high correlation up to 0.9, the requirements for multiple co-linearity are met, that must be avoided in all multivariate analysis tests. In the present study, academic self-efficacy, achievement motivation, ensuring from decision making and reflective thinking pre-tests were supposed as covariates. To investigate the multiple co-linearity assumption, the coefficient of correlation between these variables was calculated, and results thereof are provided in table 2.

Table (2). Matrix of correlation between dependent variables pre-test as covariates for investigation of multiple co-linearity assumption

Covariates (pre-tests)	Academic self-efficacy	Achievement motivation
Academic self-efficacy	1	
Achievement motivation	0.51**	1

* P < 0.05
** P < 0.01

As observed in table(2) correlation between academic self-efficiency and achievement motivation pre-tests is 0.51. According to these results that show all coefficients of correlation between covariates pre-tests are smaller than 0.75, there is no multiple co-linearity between these variables and this assumption is also accepted.

C. Assumption of variances homogeneity

The third assumption is for analysis of covariance of variances homogeneity. It means the variance inside each cell of data table must be equal to each other. The unequal size of cells doesn't make any serious problem, but value of each cell not to be four times more than the smallest cell. If for any reason, it happens, the variances of cells must be checked so that the variance of no cell not to be 10 times more than smallest variance. In this research, to investigate this assumption, Levin test was used and results thereof are provided in table (3).

Table 3. Summary of Levin's variances homogeneity for dependent variables in test and control group

Dependent variable	Df 1	Df 2	F	Significance level
Academic self-efficacy	2	42	0.96	0.38
Achievement motivation	2	42	0.37	0.7

According to the results of Levin test provided in table (3) Levin's F value is not significant for any of dependent variables that demonstrates acceptance of the assumption of equality of variances between groups.

D. Assumption of regression gradients homogeneity

The fourth assumption is analysis of covariance of regression gradients homogeneity. It means the regression lines for every group in research must be equal. This assumption is accepted if equality is running between all covariates and dependent variables in all levels of test and control groups. For this purpose, the interactive effect of pre-test variables (covariates) and group variable on the dependent sizes was calculated and results thereof are provided in table (4).

Table (4) Regression gradients homogeneity for dependent variables in test and control groups

Interaction	Total squares	df	Mean squares	F	Significance level
Academic self-efficiency *group	34.76	2	17.38	1.11	0.34
Achievement motivation *group	1.54	2	0.77	0.12	0.88

As observed in table (4) interaction between pre-tests and group is not significant. It shows there is equality between all covariates (pre-tests) and dependent variables (post-tests) in all acting levels (experimental and control group), and assumption of regression gradients homogeneity is accepted. As shown in Table 4 the pre-test and group interaction is not meaningful. This indicates that there is equality between the auxiliary variables (pre-tests) and dependent variables (post-tests) at all levels of the factor (test and control groups), and the assumption of homogeneity of the slope of the regression is established. The dispersion charts of 6 to 7 also confirm that this assumption is made.

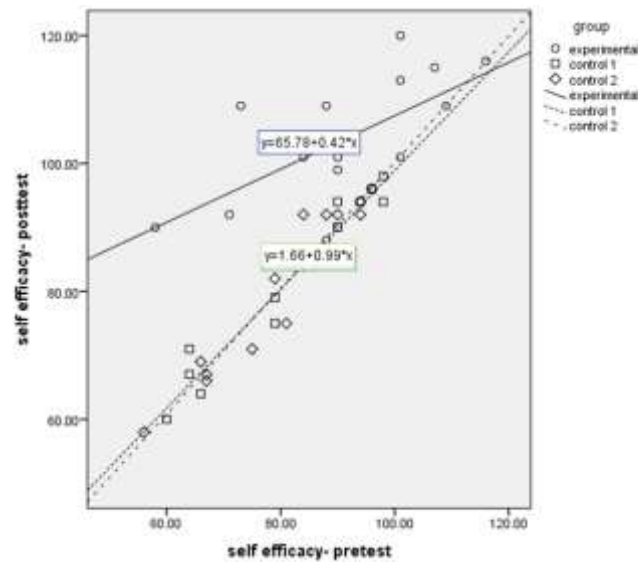


Diagram 6: Regression lines and distribution of pre-test and post-test of self-efficacy in experimental and control groups

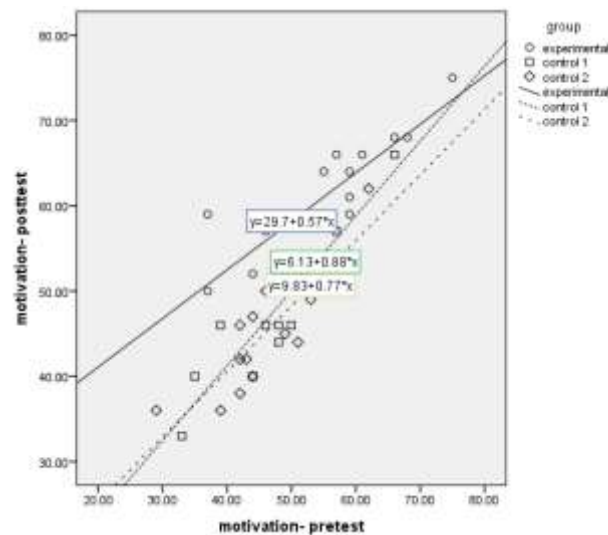


Diagram 7: Regression lines and distribution of pre-test and post-test of achievement motivation in experimental and control groups

Investigation of analysis of covariance assumptions

To investigate the assumption of linearity of relationship between dependent and covariate variables using Pearson correlation of coefficient, the relationship between self-efficacy pre-test and achievement motivation pre-test (as covariate) and self-efficacy and achievement motivation (as dependent variable) post-tests was calculated that was obtained 0.81 for self-efficacy and 0.84 for achievement motivation that the both are significant in level 0.001. Accordingly, the assumption of linearity of relationship between dependent variables and covariates was accepted for both variables. To investigate the multiple co-linearity assumption, coefficient of correlation between self-efficacy pre-test and achievement motivation pre-test (as covariates) was calculated that equaled to 0.51. Whereas this relationship is not strong and very lower than 0.9, it is concluded that multiple co-linearity has been avoided, and this assumption is also accepted.

To investigate the assumption of homogeneity of variables variance between the groups, Levin test was used. Its results indicated homogeneity of variances ($F=0.96$, $P=0.38$ for self-efficacy and $F=0.37$, $P=0.7$ for achievement motivation). Hence, it is concluded that the assumption of variances homogeneity is also accepted. The assumption of regression gradients homogeneity was also assessed through investigation of the interactive effect of covariates and group variable. About self-efficacy, it was specified that the interaction between self-efficacy pre-test (as covariate) and group variable on the dependent variable is not significant ($F=1.11$, $P=0.34$). In relation to the achievement motivation, it was revealed that the interaction between achievement motivation pre-test (as covariate) and group variable on the dependent variable is not significant ($F=0.88$, $P=0.12$). So, the assumption of regression gradients homogeneity is also accepted.

The findings related to research hypotheses

In order to investigate the effect of experimental intervention, multivariate analysis of covariance (MANCOVA) was applied on the scores of self-efficacy and achievement motivation post-test with control of academic self-efficacy and achievement motivation pre-test. Table 2 shows the result of MANCOVA on the post-test scores with control of dependent variables pre-test.

Table (2)- Summary of MANCOVA on scores of academic self-efficacy and achievement motivation post-test in experimental and control groups with pre-tests control

Reference	Test	Value	F	Hypothesis df	Error df	Significance level	Effect size
Group	Pillais trace	0.68	10.39	4	80	0.001	0.34
	Wilks Lambda	0.33	14.51	4	78	0.001	0.42
	Hotelling's trace	2	19	4	76	0.001	0.5
	Roy's largest root	1.98	39.7	2	40	0.001	0.66

As observed in table (2), there is a significant difference between experimental and control groups with respect to at least one of dependent variables. To analyze the difference/s, one-way analysis of covariance was applied in the text of MANCOVA on the dependent variables. Results of these analyses are provided in table (3).

Table (3) The results of one-way analysis of covariance in the text of MANCOVA on the mean of dependent variables post-tests with the control of effect of pre-tests in experimental and control groups

Reference	Dependent variable	Total squares	df	Mean squares	F	Significance level	Effect size
Group	Academic self-efficacy	2108	2	1054	29.7	0.001	0.6
	Achievement motivation	632	2	316	23.1	0.001	0.53

The results of table (3) indicate that one-way analysis of covariance in the self-efficacy variable is significant ($p=0.001$, $F=29.7$). Upon referring to the means of self-efficacy post-tests of groups that provided in table (1), it is specified that the mean academic self-efficacy of experimental group is 101, whilst the mean academic self-efficacy of control groups 1 and 2 are respectively 94.2 and 96. These results show that the self-efficacy of experimental group has been increased in post-test.

The results provided in table (3) show that one-way analysis of covariance in the achievement motivation is significant ($p=0.001$, $F=23.1$). Upon referring to the means of achievement motivation post-tests of groups that provided in table (1), it is specified that the mean achievement motivation of experimental group is 90.7, whilst the mean achievement motivation of control groups 1 and 2 are respectively 85.2 and 86.5. These results show that the achievement motivation of experimental group has been increased in post test.

Discussion and conclusion

The results obtained from analysis of data indicates effectiveness of learning and applying RTM on increase of academic self-efficacy and achievement motivation of female students of experimental group of Farhangian University of Ahvaz.

Hypothesis 1: Applying RTM is effective on academic self-efficacy of female students of Farhangian University.

The findings of present study is also based on the effectiveness of applying RTM on academic self-efficacy of students. The results of previous researches such as Nosratinia & Moradi (2017), Babaei (2016), Dhah (2015), Muge Tavyl (2014), Junor Clarke & Bayazit (2013), Yeh (2006) and Noor Mohammadi (2014) also implied the effectiveness of applying RTM on self-efficacy of students. Providing a degree of academic self-efficacy of students is very effective on performance of individuals, overcoming and resistance to the obstacles of RTM implementation. The students while familiarity with the phases and elements of RTM experienced a higher self-efficacy feeling. When they faced more difficult phases, responded more stability. Belief in self-efficacy, judgment of students about their abilities for organizing and implementation of RTM were necessary for achieving to the next phases of RTM. In the process of applying RTM, the students reached to this belief that applying RTM provides the consequence of efficacy of respective model. Thus, had a great enthusiasm for acting and diligence facing the problems, procured for the step by step process of reflective thinking cycle and entered into the practice phase. In case of success, upgraded to the next step or got back to the previous step for correction, and took necessary actions. Whereas total sessions of RTM teaching were presented at the presence of all students of xperimental group, the group tasks, efforts, common thoughts of group members, group progress were associated with collective efficacy belief. The belief of students was acting as a cognitive screening on the reflection and applying input and output in the RTM process, and led the students toward thinking and acting in a specific manner with the origin of collective efficacy, academic competence with consciously thinking.

Hypothesis 2: Applying RTM is effective on achievement motivation of female students of Farhangian University.

The motivation indeed is the main stimuli and energy creating the students' behavior. In the extant research, the achievement motivation is driving force for performance of RTM phases proportional to the higher standards. The students with high achievement requirement sought the success in implementation of respective model as competition to the higher standards and completion of RTM process. Total efforts of students with strong achievement motivation were taken for success in fulfillment of challengeable and mysterious tasks, quality of formulation and execution of RTM. Identification of phases and important and effective factors in formulation of respective model and performance in connection to the institutional and social characteristics of learners that model was going to be implemented on them, considerably helped for improvement of learning status and applying this model in the course class and its real execution.

Following the acceptance of the hypothesis of the effect of applying RTM on students' achievement motivation, Zohrabi & Yousefi (2016), Amasoul Biongan (2015), Karaoglan Yilmaz & Keser (2016), Kyung Lee, Forlizzi, Kim & Kiesler (2015), Waring (2013), Junor Clarke & Bayazit (2013) and Rahimimand & Abbaspour (2015) reported the effectiveness of RTM on achievement motivation of users as positive and significant. The students' motivation may be measured by interaction to the classmates, their interaction to its implementation position in schools, the status of students themselves and participation in the intervention sessions. In the present study, the achievement motivation of students was observable due to tendency to learning and great effort for meeting the considered goals of RTM. Perhaps, the effort of students led them also toward meeting some individual needs (their applicability in real course class).

In simple word, motivation was an external state that was observed in the behavior of students. The subject of RTM has close relationship with the students' needs (formulation of novel course design based on the thoughtful teacher and constructivism theory-based model. In addition, the excitation state demonstrated high motivation level in students, because led the

students toward applying RTM. The learning motivation and movement force from need to the recognition of RTM toward motivation for applying this model was observed in teaching matter. The newness and attraction of the said model caused practice of RTM, and enthusiasm to model learning caused the students to forward to conduct activities based on the RTM, and abstain from performance of some of previous activities. The innovation and creativity element of RTM also changed the speed and value of exercising the practices. Because, the students to exercise some activities during model implementation phases, experienced a great excitement and increased their effort, and performed them not only for fulfillment of duties without experiencing any excitement, and passively.

Recommendations

When the students got involved in the discussion and group activity, assessed the class atmosphere constructive and positive, and found more motivation to keep on the sessions. Despite the effectiveness of applying RTM on academic self-efficacy and achievement motivation of students of Farhangian University of Ahvaz, its requirements for holding intervention sessions for all students (dormitory and otherwise) were met difficultly. Hence, the next researcher is recommended to consider this matter for selection of sample group, and choose exclusively one of these groups in their variables. Because the experimental group was not formed of a united field, it was not possible to gather the experimental group members in a specified session and inevitably the classes were taken place in three different times and by preparing the sample of worksheets and various and time-consuming practices for each one of groups.

The RTM was assumed as one of modern teaching models and completely unknown for the students. Perhaps many professors had not enough information of this model, thus it is recommended to use this RTM on the basis of academic and constructivism principles by the internship advisors. Whereas the reflective teaching model as a modern teaching pattern derived from constructivism theory is currently applied in education dept. of our country, it is necessary to apply it as an efficient teaching method with more confidence in the teaching patterns in teaching principles and techniques course for all teaching fields of Farhangian University.

References.

- Amasol, A. (2015). Reflective thinking skills of teachers and students' motivational preferences: The mediating role of teachers' creativity on their relationship. *International Journal of Novel Research in Education and Learnin*, 2(5), 13-25.
- Babaei, M. (2016). Reflective teaching and self-efficacy beliefs: Exploring relationships in the context of teaching EFL in Iran. *Australian Journal of Teacher Education*, 41(9), 125-132.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Worth press.
- Bandura, A. (2002). *Social cognitive theory of mass communication*. In J. Bryant & M. B., Oliver (Eds.), *Media Effects: Advances in Theory and Research*, 94 -124. New York: wiley..
- Beyhan. O. (2013). The correlation of students' views on constructivist teaching environment and teachers' student control ideologies. *Turkey Journal of Academic*, 8(9), 553-559.
- Bienvenu, C. (2000). *Psychosocial correlates of decision certainty in academic major selection of college students*. Doctoral dissertation, Louisiana State University. Retrieved from http://digitalcommons.lsu.edu/gradschool_disstheses/.
- Brooks M. G. (1999). In Search of understanding: *The Case for constructivist classrooms*. (Ed.), Alexandria, V. A: Association for Supervision and Curriculum Development, 13, 978. Retrieved from <https://www.amazon.com/>
- Costas, B. K, Charlie Lam, C. K, Lau, R., Huu Hoang, C. & Pretorius, L. (2016). Reflection for learning in doctoral training: writing groups, academic writing proficiency and reflective practice. *Journal of Reflective Practice*, 13(3), 1-11
- Eccles, J. S. (2008). *Agency and structure in human development*. *Research in human development*, 5(4), 231-243. Retrieved from <http://www.rcgd.isr.umich.edu/garp/>
- Edwards, R. A., Jennifer Kirwin. J. Gonyeau, M. (2014). A reflective teaching challenge to motivate educational innovation. *American Journal of Pharmaceutical Education*, 78(5), 103-125.
- Fardanesh, H. (1999). *A critical comparison of systematic and constructive approaches to*

- instructional design. Tehran: Modarres humanities quarterly, 3(3), 139-149.
- Hackett, G., & Betz, N. (1989). An exploration of the mathematics self- efficacy: Mathematics performance correspondence. *Journal for Research in. Mathematics Education*, 20, 261-273.
- Hagemeier, N. E., & Murawski, M. (2014). Instrument to assess subjective task value beliefs regarding- the decision to pursue postgraduate training. *American Journal of Pharmaceutical Education*, 78(1) 11-21.
- Hermans, H. J., M. (1970). A questionnaire measure of achievement motivation. *Journal of Applied Psychology*, 54(4), 353-63.
- Jay, J. K. & Johnson, K. L. (2002). Capturing complexity: A Typography of reflective practice for teacher education. *Teaching and Teacher Education*, 18, 73-85.
- Jonssen, D. H., & Carr, C. (2000). *Mind tools: Affording multiple knowledge representations in learning*. In S. P. Lajoie (Ed.), *Computers as cognitive tools*, 2, 165-196.
- Junior Clarke, P. A., Bayazit, N., Enescu, F., & Malec, S. (2013). Reflections on a co-teaching model in a secondary mathematics methods course. Abstract for presentation at the American Educational Research Association Annual Conference in San Francisco, USA.
- Kamarudin, M., Y. (2016). Inculcation of Higher Order Thinking Skills (HOTS) in Arabic language teaching at Malaysian primary schools. *Creative Education Journal*, 7, 307-314.
- Karaoglan Yilmaz, F, Keser, H. (2016) .The impact of reflective thinking activities in e-learning: A critical review of the empirical research. *Journal of Computers & Education*, 9, 163-173.
- Landry, C. C. (2003). Self-efficacy, motivation, and outcome expectation, correlates college students, intention certainty. Lsu. *Doctoral dissertations*. Retrieved from https://digitalcommons.lsu.edu/gradschool_dissertations/1254.
- Maslow, A. H. (1968). *Toward a psychology of being*. New York: D. Van Nostrand Company.
- McAlister, A. L., Perry, C. L., Parcel, G. S. (2008). How individuals, environments, and health behaviors interact: Social cognitive theory, health behavior and health education: *Theory, research, and practice*, (169–188). San. Francisco: CA: Wiley
- McDavitt, D. (1993). Teaching for understanding: Attaining higher order learning and increased achievement through experiential instruction (ERIC Document Reproduction Service No. ED 374 093).
- McLeod, G. A., Barr, J., & Welch, A. (2015). Best practice for teaching and learning strategies to facilitate student reflection in pre-registration health professional education: *An Integrative Review. Creative Education*, 6, 440-454. Retrieved from <http://dx.doi.org/>
- McPeck, J. (1990). Critical thinking and subject specificity: A reply to Ennis. *Journal of Educational Researcher*, 19(4), 10 –12.
- McREL.A. (1997). *Putnam educational standards and curriculum standards for reasoning the thinking*. Retrieved from <http://putwest.boces.org/StSu/ReasThink.html>
- Merrill, M. D. (1983). *Component display theory*. In C. M. Reigeluth, instructional-design theories and models: An overview of their current status. Lawrence Erlbaum Associates, Publishing, New Jersey: , Hillsdale, 279-330.
- Merrill, M. D., Drake, L., Lacy, M. J., Pratt, J. (1996). The ID2 Research Group Utah State University Reclaiming Instructional Design. *Journal of Educational Technology*, 36.5-7
- Meyer, D., K., Turner, J. C. (2002). Using Instructional Discourse Analysis to Study the Scaffolding of Student Self-regulation. *Journal of Educational Psychologist*, 37, 5-13.
- Miles, C. (1992). The fourth. R: Checklists for assessing thought in action. *Journal of Developmental Education*, 16(2), 32–33.
- Milner, H. R., & Hoy, A. W. (2003). A case study of an African American teacher's self -efficacy-stereotype threat, and persistence. *Journal of Teaching and Teacher Education*, 19, 263-276.
- Muge Tavýl, Z . (2014). The effect of self - reflections through electronic journals (e-journals) on the self - efficacy of pre-service teachers, *South African Journal of Education*; 34(1), 858-878
- Murray, H., A. (1983). *Exploration in personality*. New York : oxford university press.

- Naderi, E. Seif Naraghi, M (2011). *Research methods and its assessment procedure in humanities (focusing on educational sciences)*, Tehran; Arasbaran Publication.
- Noormohammadi, S. (2014). Teacher reflection and its relation to teacher efficacy and autonomy. *Journal of Social and Behavioral Sciences*, *98*(6), 1380-1389.
- Onen, A. S., Koçak. C. (2014). Analysis on reflective thinking tendencies of student teachers according to their individual innovativeness and sociotropic-autonomic personality characteristics. *Procedia. Journal of Social and Behavioral Sciences*, *143*, 788–793.
- Ongowo, Richard, O., Indoshi, Francis, C., Ayere, Mildred, A. (2015). Perception of constructivist learning environment: Gender and school type differences in Siaya County, Kenya. *Journal of Advances in Research*, *4*(1), 15-26
- Owen, Steven, V., Froman, Robin, D. (1988). *Development of a collage Academic Self Efficacy Scale*. The Educational Information Center (ERIC: Non-Journal Publication Date).
- Phil, R., Patricia, W., S., Phil, L. (1995). An action research approach to curriculum development. *Journal of Information Research*, *5*(1)
- Pinterich, Paul., Shaunk, Deil. (2008). *Motivation in Education and Training. Theory, Researches and Applications*, translated by Mehrnaz Shahraray. Tehran: Elm Publication.
- Rahimimand, M. Abbaspour, A. (2015). The effect of new teaching styles on academic creativity and achievement of students. *Scientific-Research Journal of Innovation and Creativity in Humanities*, 4th Circulation, *Journal of Academic Systems of Islamic Azad University*, *4*, 119
- Richard, J. C., Farrell, T. (2005). *Professional development for language teachers*. Cambridge University Press.
- Runhaar, P., Sanders, K., & Yang, H. (2010). Stimulating teachers' reflection and feedback asking: An interplay of self-efficacy, learning goal orientation, and transformational leadership. *Journal of Teaching and Teacher Education*, *26*, 1154-1161.
- Sailors, M., & Shanklin, N. L. (2010). Introduction: Growing evidence to support coaching in literacy and mathematics. *Journal of Elementary School*, *111*(1), 1-6
- Sanden, S. (2012). *Independent reading: Perspectives and practices of highly effective teachers*. *Journal of Reading Teacher*, *66*(3), 222–231.
- Savery, J. R., & Duffy, T. M. (1995). Problem based learning: An instructional model and its constructivist framework. *Journal of Educational Technology*, *35*, 31-38.
- Scardamalia, M., & Bereiter, C. (1994). Computer support for knowledge-building communities. *Journal of the Learning Sciences*, *3*(3): 265-283
- Scardamalia, M., & Bereiter, C. (1994). Computer support for knowledge-building communities. *Journal of the Learning Sciences*, *3*(3), 265-283.
- Schon, D. A. (1992). Designing as reflective conversation with the materials of a design situation. *Journal of Knowledge-Based Systems*, *5* (1), 3-14.
- Schon, D., A. (1987). *Educating the reflective practitioner*. London: Jossey Bass. San Francisco
- Schuler, H., prochaska, M. (2001). *Leistungs motivations inventor*. Göttingen: Hogrefe.
- Schunk, D. H. & Pajares, F. (2002). *The development of academic self-efficacy*. San Diego: Academic Press.
- Schunk, D. H. (1991). Self-efficacy and academic motivation. *Journal of Educational psychologist*.
- Schunk, D. H., & Zimmerman, B. J. (2007). *Influencing children's self-efficacy and self-regulation of reading and writing through modeling*. *Reading & Writing Quarterly: Overcoming Learning Difficulties*, *23*(1), 7-25.
- Shehni Yailagh, M. Bonabi Mobaraki, Z. Shokrkon, H. (2005). Study on Intra-thematic and Inter-thematic Relationships of Academic Achievement (self-efficacy, task value, functionalistic, function-escaping and skillfully goals) in female students of first grade of high school in Ahvaz, *Journal of Educational Sciences and Psychology*, *3*(12) 47-76.
- Simon, R, J, I., Van Der Lind, A., Duffy, T. (2010). *New learning*, Dordrecht: Kluwer Academic Publishing.
- Skinner, B. F. (1953). *Science and human behavior*. Simon and Schuster.com.

Stallions, M., Murrill, L., Earp, L. (2012). Don't quit now!: Crisis, reflection, growth, and renewal for early career teachers. *Journal of Learning to Teach*, 48, 123-128.

Thoonen, E. E., J., Slegers, P. J., C., Oort, F. J., Peetsma, T. T., D., & Geijsel, F. P. (2011). How to improve teaching practices: The role of teacher motivation, organizational factors, and leadership practices. *Journal of Educational administration quarterly*, 47 (3), 496-536.

Valli, L. R. (1993). *Reflective teacher education programs: An analysis of case studies*. In J. Calderhead, & P. Gates (Eds.), 11-22. *Conceptualizing reflection in teacher development*. London: The Falmer Press

Valvi, P. (2013). *Constructivism: New viewpoint in education and training*. Ahvaz: Shahid Chamran University.

Waring, H. Z. (2013). Two mentor practices that generate teacher reflection without explicit. Solicitations: Some preliminary considerations. *Journal of Language Teaching and Research*, 44(1), 103-119

Yeh, Y. (2006). The interactive effects of personal traits and guided practices on pre service teachers' changes in personal teaching efficacy. *British Journal of Educational Technology*, 37(2), 185-203.

Zohrabi, M. Yousefi, M. (2016). The relationship between reflective teaching, Willingness to Communicate (WTC), and Intrinsic motivation of Iranian advanced learners. *International Journal on Studies in English Language and Literature*, 4(2). Retrieved from www.arcjournals.org