

The Impact of the Inverse Learning Method on Self-Directed Learning in Entrepreneurship Lessons

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Abstract

Purpose: The purpose of this study was to determine the impact of flipped learning method on self-directed learning in entrepreneurship lesson. **Methodology:** This quasi-experimental study was a pretest-posttest one with the control group. The statistical population of this research included all master students in the Islamic Azad University of Yadegar Imam (RA), in the academic year 2015-2018. 150 individuals were randomly selected among the master students in the accounting department of the Islamic Azad University of Imam Khomeini, for sampling. Then, before implementing the entrepreneurship lesson with the flipped learning method, and after training, Williamson's Self-directed Learning Questionnaire (2007), which consists of five components and 60 items (components' separation including the awareness, learning strategies, learning activities, evaluation, and interpersonal skills) have been used and implemented on all of them. **Findings:** In general, the Finding of the research showed that there was a significant difference between the mean scores of the experiment group and the control group regarding the effect of flipped learning method on self-directed learning of students in entrepreneurship lessons in the post-test phase ($P < 0.01$). **Discussion:** Totally we can say with the Inverse Learning Method we are able to improve Self-Directed Learning in Entrepreneurship Lessons.

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1. Introduction

The entrepreneurship education has been taken into consideration in the universities, however, it is not effective for students to start a business and create jobs based on that. According to Ali Miri (2008), the entrepreneurship education is not compatible with the world of business experiences, and there is a significant gap between entrepreneurship curriculum and the social reality of business. The purpose of entrepreneurship education is the strategy by which the students incite learning processes, success-demanding, independence-demanding, the desire to make new things, and accept the existing method (Aghajani and Khodabakhshi, 2009).

Entrepreneurship education makes it possible the students to create and strengthen an entrepreneurial attitude in such a way as to work on the basis of a curious spirit and look for the relationship between their own phenomena in the environment they are in. The studies done by Bliemel (2014), have shown that the entrepreneurship education faces the executive challenges in universities. Studies done by Haase & Lautenschläger (2011) showed that the entrepreneurship education has a lot of problems in the implementation phase. Salman and his colleagues concluded that the topic of entrepreneurship education is constantly evolving in line with the growing demands and needs of the market. The number of universities and higher education institutes that provide the entrepreneurship courses, has increased since 1970s to 1,600 courses in 2005 (Katz, 2003). Robinson and Hayes believed that the entrepreneurship education has passed a long way in the past 20 years; nevertheless, it has weaknesses that the studying these weaknesses contributes to the recognition of the need for entrepreneurship education (Robinson, 1996). Students need to be prepared to grow in an unsafe and insecure entrepreneurship environment that can overcome problems (Ronstadt, 1985). Students' skills in communicating, managing, producing new products, having creative thinking and access to the technological innovation are strengthened if the implementation of entrepreneurship curriculum is implemented properly (Mcmullan & Long, 1987).

Flipped learning is a strategy through which students can engage and activate students in the process of teaching and learning entrepreneurship curriculum. The use of flipped learning makes it possible to instruct the interspace education to the outside of the classroom, and the traditional role of the teacher will inevitably have flipped (Kheirabadi, 2014).

Teachers in flipped learning use each student as the assistant educators, and support them in a way that is consistent with the learning goals. This makes it easy to shift learning method from a teacher-centered to general-centered. Another feature of flipped teaching is to shift emphasis on the instructor-centered to the student-centered in order to enhance students' learning tasks in the learning process (Educause, 2012). According to Bergmann and Sams (2012), flipped learning should be used to teach the entrepreneurship and to talk with all students in all classes about how entrepreneurship is continually being discussed.

In fact, acquiring the training and learning outside the classroom on entrepreneurship and doing homework in the form of discussion, providing a conference on the experiences and skills gained about the business, within the class will activate the students. If the flipped learning is used for an entrepreneur lesson, the students are self-directed and participatory in learning processes, and because of close clashes with lessons, the goals of the entrepreneurship lesson are internalized in such a way that they can benefit from their job creation and entrepreneurship. Self-directed learning is a process in which students share their learning in identifying needs, formulating learning goals, identifying resources for learning, selecting

and implementing learning strategies, learning, and evaluating learning outcomes. The role of an educator in moving from a wise person to a learning environment is a guide to his own learning environment (Fisher et al., 2001). The main issue of the present research is that the effect of flipped learning on self-directed learning in entrepreneurship.

2. Literature Review

Entrepreneurship curriculum is a strategy designed to create jobs and self-employment for students. However, its traditional implementation (in the form of a lecture) has not been successful in achieving the goal of the students' self-employment. Dawoody and Hojjati (2011), showed that the effective learning is based on conflict in learning processes. Flipped learning seems to be effective in realizing the objectives of the entrepreneurship curriculum. The flipped learning classroom is one of the approaches that in recent years, especially since 2004, has attracted the learning and education professionals and practitioners' look. According to O'Flaherty & Phillips (2015), flipped-learning education is a relatively new approach in the world. The flipped model is a learning-driven model in which class time is spent exploring and exploring the topics of the course.

Flipped classes allow for a variety of learning modes. Coaches will often physically adjust their learning environments to prepare a course that may include teamwork, independent study, research, performance, and evaluation. According to Amani Tehrani (2015), in the flipped class, the teacher tells students the general subject, and the students are required to research or think about it, and then explain what they have understood, for each other, and ultimately the teacher teaches it. In the flipped class, the student are the main learners of the class, and the role of the teacher is to plan the thinking and provide the needed materials and guidance of the students, and thus save time in the classroom. Fulton (2012), believes that the educators should try to understand how they can use flipped learning capabilities to help learners to gain conceptual understanding at the time of action.

The results of the research done by Neck and Greene (2011), showed that the use of flipped learning can change the learners' attitude. The results of Spruce's research (2015) showed that the use of flipped learning leads to mastery of learning. The results of the study done by Evans (2011), showed that there is a significant relationship between the use of flipped learning and the activation of learners. According to Lemmer (2013), flipped classroom features are: flexible environments, changes in learning culture, student-centered, in-depth study of content and subject matter, richer learning opportunities, problem-based learning, review of content outside of the learning environment, doing classroom homework, learning and teaching materials at home, two-way communication and effective interaction between teachers and learners and using educational videos.

The students' satisfaction over the course is due to the ability to communicate more with the professor, more profound on the educational content and learning deeper than the important achievements of flipped education (Jensen et al., 2014). Flipped learning is an efficient way for all learners who are difficult to learn during learning and require more teachers to be in the classroom for engagement on learning topics, but, due to time constraints, there is no possibility of more communication with the teacher in traditional classes (Bergman, 2014).

However, with the aim of more students using the entrepreneurial curriculum in practical and empirical ways to the extent that they can benefit from it for self-employment. Flipped-class education is a mix of traditional and modern patterns, both of which play an important role in achieving the goal of learning, (Travis, 2014). Blimel (2014) studies on "Entrepreneurship education from inside of the classroom to the outside of the classroom" showed that the entrepreneurship education should be conducted with the guidance of students outside the classroom in order to be more effective. Gresteen's (2012) study, entitled "Flipped Classroom" showed that the use of the flipped classroom with a complete picture of learning processes can add the value to training. Gozarari and Attarn (2016), entitled "Flipped Teaching in Higher Education: A Story from a University Lecturer" explores the narratives of a university course and implementing the education in flipped method. Data analysis shows that this educational method has the same components as the traditional class, but the layout and result can be different. Teaching the content of the course is happening outside the classroom. Doing assignments, repeating and practicing, answering questions and discussions on the topics of discussion are some parts of the class activity that replaces teaching in the classroom. Changing the layout that leads to classroom dynamics, increasing the motivation and deeper learning. In the interpretation of this narrative, some of the challenges existed on the way to this educational practice, have been discussed.

The results the study done by Ismailifar et al. (2015), entitled "The Impact of the Flipped Classroom Approach on Feeling of Belonging to School in The Primary School Students", indicate the effect of the inverse class method on students' belonging to school. The results of the research done by Rastgapour and Kiyani (2015), entitled "How The Effect of The Flipped Teaching Method On Learning The Lesson Of Work And Technology", showed that the flipped teaching method in student learning was more effective than the traditional teaching method. The results of the research done by Maleki et al. (2015), entitled "How The Impact of The Flipped Learning Method On Learning The Lesson Of Work And Technology", indicates that the flipped teaching method is more effective in teaching students than traditional teaching (explanatory).

Kayrabadi (2014), in an analytic article entitled "Creativity In Teaching English With The Implementation Of A Flipped-Class", believes that the use of flipped learning improves the creativity in English language education, which takes responsibility for teaching from the school's space to learning spaces outside of the classroom and the traditional role of the educator and the teacher are inverted and flipped. The use of new technologies is very important in realizing this educational model, and the diversity of spaces and learning opportunities is one of the principles of this model. The results of the research done by Bagheri and Joushghannejad (2016), entitled "The Effect of Flipped Education on the Readiness of Self-Directed Learning and Students' Learning in Computer Science Lessons" showed that flipped-learning education has an impact on self-directed learning.

These studies indicate that as long as there are opportunities for students to strengthen their sense of independence and self-confidence in their learning activities, it improves the self-directed ability for students in learning processes. In this way, the sense of belonging to the educational and academic environment is strengthened among the students. That is, if the student-centered learning activities do not take place, and the teacher and educator's role appears more, the student self-esteem is weakened, and creative and innovative attitudes are limited.

3. Methodology

This quasi-experimental study was a pre-test-posttest research with control group. The statistical population of this study included all master students in the accounting department of Islamic Azad University of Yadagh Imam (RA) during the academic year 2012-2018. For sampling, 150 students were selected randomly among all students of accounting major at the university and self-directed learning questionnaire was implemented on all of them. Students with a lower score than average were divided into two equal groups, the experiment group and the control group. Experiment group, flipped learning method was implemented on them, and control group, traditional method was implemented on them. The design of the flipped class was that the entrepreneurship lesson training was conducted on the basis of the following headings in flipped learning mode in 8 sessions on the experiment group and implemented for the control group in the traditional method.

Session 1: Principles of Entrepreneurship and Entrepreneurs Feature; Second Session: Creativity and Innovation; Third Session: Small Business Management; Session Four: Understanding General Laws of Business in Iran and the World; Session 5: Information Technology and Its Role in Business Development; Session Six: Business Plan; Seventh Session: Business Accounting; Eighth Session: Marketing. After 8 sessions, self-directed learning questionnaire was again performed as a post-test and the mean post-test score was compared with the pre-test.

The research tool was the self-directed learning questionnaire. The self-directed questionnaire, Fischer et al. (2001), was standardized by Nadi and Sajjadian (2006) and contained 41 questions with 5 options and consisted of three subscales (self-control, willingness to learn, self-management). In their study, the reliability of Cronbach's alpha was 0.82 for the whole test, 0.78 for self-management scale, 0.71 for willingness of learning and 0.60 for self-control. In the current study, the impact factor was obtained 0.88 using Cronbach's alpha method.

According to finding, the observed ks Z values from the single-variable Kalmogorov- Smirnov test and Shapiro–Wilk statistic for the pre-test and post-test scores of the self-directed variable in the control group and experiment group are less than the critical value of the finding at the diagnostic level $\alpha = 0.05$. Therefore, the zero hypothesis, which is the frequency distribution of the normal scores, is confirmed, and the opposite hypothesis, based on not normal scores of the distribution, is not normal, is rejected. As a result, it can be concluded that the scores of all variables follow the normal distribution.

The pre-hypothesis of the variance equality of the experiment and control group is important. The basis of this pre-hypothesis is that the variance of the scores of the experiment and control groups in the society are equal and do not have a statistically significant difference. Levin's test is used to test this hypothesis.

According to finding, the values of f calculated with 1 and 78 degrees of freedom from the critical value at the detection level are smaller than $\alpha = 0.05$. Therefore, the zero hypothesis for self-directed learning is verified. That is, the pre-hypothesis of the variance equality of the post-test scores was confirmed in both the experiment and control groups.

According to Finding, the values of f and significance level showed that there is not a significant difference between the type and the gradient of the relationship between the pretest and post-test variable and the regression lines for each self-directed learning variable in the experiment and control groups. In other words, the relationship between the pre-test and post-test variables in the regression line was

positive and the same in all of the variables. Therefore, covariance analysis can be used to study the effect of experiment intervention.

Table 1. Mean and standard deviation of pre-test and post-test scores in two groups

variables	groups	pre-test			post-test	
		numbers	mean	Standard deviation	mean	Standard deviation
Self-directed learning	experiment	25	2/63	0/54	3/54	0/39
	control	25	2/46	0/54	2/47	0/43

According to table 1, the mean self-directed learning scores in the experiment group in the pre-test phase is 2.63 and in the control group is 2.46. However, in the post-test, the mean scores of self-directed learning in the experiment group and the control group were 3.45 and 2.47, respectively.

4. Findings

The main hypothesis: the pattern of flipped learning education has a positive effect on self-directed learning.

Table 2. The results of the analysis of covariance for the impact of group membership on the level of self-directed learning scores

variables	sum of squares	degree of freedom	mean of squares	F	significance	impact factor	power (statistics)
model	26/630	2	13/315	205/079	**0/000	0/897	1
y-intercept	3/068	1	3/068	47/254	**0/000	0/501	1
Pre-test	0/082	1	0/082	1/271	0/265	0/026	1
Group membership	26/148	1	26/148	402/734	**0/000	0/875	1
Error	3/052	47	0/065				
Total	29/682	49					

$$R^2 = 0/897 \text{ Modified } \beta = 0.893 \quad R^2 = 0/875$$

According to table 2, after modifying the effect of the accompanying variable (pre-test) on the dependent variable and according to the calculated coefficient f , it is observed that among the modified means of the self-directed learning scores for the participants in terms of membership, there was a significant difference in the group membership (experiment group and control group) in the post-test ($P < 0.01$).

Therefore, the research hypothesis was confirmed. There is a significant difference between the mean scores of self-directed learning among two groups and the intervention of the flipped learning method has affected the increase of self-directed learning scores of participants in the post-test of the experiment group. The modified coefficient is 0.893, which shows that 89.3% of the variance of self-directed learning scores can be explained with group membership and pre-test scores. The beta coefficient is equal to $\beta = 875$. This coefficient shows that 87.5% of the variance of self-directed learning scores can be explained by independent variable. The statistical power of one and the significance level of zero indicated the adequate size of the sample. Therefore, we can write the predicate equation of the self-directed learning variable as follows.

Self-Directed Learning Sub-Hypotheses: A. The flipped learning method has a positive effect on the component of awareness.

Table 3. Results of analysis of variance for the impact of group membership on knowledge scores

variables	sum of squares	degree of freedom	mean of squares	F	significance	impact factor	power (statistics)
model	21/689	2	10/844	34/096	**0/000	0/592	1
y-intercept	12/088	1	12/088	38/007	**0/000	0/447	1
Pre-test	1/315	1	1/315	4/135	*0/048	0/081	1
Group membership	21/396	1	21/396	67/27	**0/000	0/566	1
Error	11/478	47	0/318				
Total	36/637	49					

$$R^2 = 0/592 \text{ Modified } \beta = 0.575 \quad R^2 = 0/566$$

According to table 3, after modifying the effect of the accompanying variable (pre-test) on the dependent variable and according to the calculated coefficient f , it is observed that among the modified mean scores of the participants' awareness according to group membership (experiment group and one control group), there is a significant difference at the post-test phase ($P < 0.01$).

Therefore, the research hypothesis was confirmed. There is a significant difference between the mean scores of awareness of two groups and the intervention of the flipped learning method has affected the increase of the awareness of the participants in the post-test of the experiment group. The modified coefficient is 0.592, which indicates that 59.2% of the variance in awareness scores can be explained by group membership and pre-test scores. The beta coefficient is equal to $\beta = 566$. This coefficient indicates that 56.66% of the variance in awareness scores can be described and explained by the independent variable of intervention of the flipped learning method. The statistical power of one and the significance level of zero indicated the adequate size of the sample. Therefore, we can write the predicate equation of the self-directed learning variable as follows.

B: The flipped learning method has an impact on the components of learning strategies.

Table 4. Results of analysis of variance for the impact of group membership on the learning strategies scores

variables	sum of squares	degree of freedom	mean of squares	F	significance	impact factor	power (statistics)
model	22/737	2	11/369	34/321	**0/000	0/594	1
y-intercept	10/749	1	10/749	32/45	**0/000	0/408	1
Pre-test	0/292	1	0/292	0/882	0/353	0/018	1
Group membership	22/59	1	22/59	68/198	**0/000	0/542	1
Error	15/568	47	0/331				
Total	38/306	49					

$$R^2 = 0/594 \text{ Modified } \beta = 0.576 \quad R^2 = 0/542$$

According to table 4, after adjusting the effect of the dependent variable (pre-test) on the dependent variable and according to the calculated coefficient f , it is observed that among the modified mean scores of the participants' learning strategies by membership, there is a significant difference on the group membership (experimental group and control group) in the post-test ($P < 0.01$).

Therefore, the research hypothesis was confirmed. There is a significant difference between the mean scores of learning strategies of two groups and the intervention of the flipped learning method has affected

the increase in the scores of the participants' learning strategies in the post-test of the experiment group. The modified coefficient is 0.576, which shows that 57.6% of the variance of learning strategies scores can be explained by group membership and pre-test scores. The beta coefficient is equal to $\beta = 0/542$. This coefficient indicates that 54.2% of the variance in learning strategies' scores can be explained by the independent variable of intervention flipped learning method. The statistical power of one and the significance level of zero indicated the adequate size of the sample. Therefore, we can write the predicate equation of the self-directed learning variable as follows.

C: The flipped learning method has a positive effect on the component of learning activities.

Table 5. Results of analysis of variance for the impact of group membership on the scores of learning activities

variables	sum of squares	degree of freedom	mean of squares	F	significance	impact factor	power (statistics)
model	13/463	2	6/731	59/049	**0/000	0/715	1
y-intercept	9/995	1	9/995	87/673	**0/000	0/651	1
Pre-test	0/029	1	0/029	0/257	0/614	0/005	1
Group membership	12/39	1	12/39	108/684	**0/000	0/682	1
Error	5/358	47	0/114				
Total	18/821	49					

$$R^2 = 0/715 \text{ Modified } \beta = 0/703 \quad R^2 = 0/682$$

According to table 5, after modifying the effect of the dependent variable (pre-test) on the dependent variable and according to the calculated coefficient f, it is observed that among the modified mean scores of the participants' learning activities in terms of membership, there is a significant difference on the group membership (experiment group and control group) in the post-test ($P < 0.01$).

Therefore, the research hypothesis was confirmed. There is a significant difference between the mean scores of learning activities of two groups and the intervention of the flipped learning method has affected the increase in the scores of participants' activity in the post test of the experiment group. The modified coefficient is 0.703 which indicates that 70.3% of the variance of activity scores can be explained by group membership and pre-test scores. The beta coefficient is equal to $\beta = 682.6$. This coefficient shows that 68.2% of the variance of learning activity scores can be described and explained by the independent variable of intervention of the flipped learning method. The statistical power of one and the significance level of zero indicated the adequate size of the sample. Therefore, we can write the predicate equation of the self-directed learning variable as follows.

D: The flipped learning method has a positive effect on the component of interpersonal skills.

Table 6. Results of analysis of variance for the impact of group membership on the scores of inter-personal skills

variables	sum of squares	degree of freedom	mean of squares	F	significance	impact factor	power (statistics)
model	41/914	2	20/957	429/448	**0/000	0/948	1
y-intercept	3/852	1	3/852	78/931	**0/000	0/627	1
Pre-test	0/509	1	0/509	10/434	**0/002	0/182	1
Group membership	41/224	1	41/224	844/75	**0/000	0/854	1
Error	2/294	47	0/049				
Total	44/208	49					

$$R^2 = 0/948 \text{ Modified } \beta = 0/946 \quad R^2 = 0/854$$

According to table 6, after modifying the effect of the dependent variable (pre-test) on the dependent variable and according to the calculated coefficient f , it is observed that among the modified mean scores of the interpersonal skills scores of the participants, there is a significant difference on group membership (experiment group and control group) in the post-test ($P < 0.01$).

Therefore, the research hypothesis was confirmed. There is a significant difference between the mean scores of interpersonal skills in two groups and the intervention of the flipped learning method has had an effect on increasing the scores of interpersonal skills among the participants in the post-test of the experiment group. The modified coefficient is 0.946 which indicates that 94.6% of the variance of interpersonal skills scores can be explained by group membership and pre-test scores. The beta coefficient is equal to $\beta = 0.854$. This coefficient indicates that 85.4% of the variance in interpersonal skills scores can be explained by the independent variable of intervention of the flipped learning method. The statistical power of one and the significance level of zero indicated the adequate size of the sample. Therefore, we can write the predicate equation of the self-directed learning variable as follows.

E: The flipped learning method has a positive effect on the component of evaluation.

Table 7. Results of analysis of variance for the impact of group membership on the assessment scores

variables	sum of squares	degree of freedom	mean of squares	F	significance	impact factor	power (statistics)
model	41/284	2	20/642	149/164	**0/000	0.864	1
y-intercept	10/957	1	10/957	79/181	**0/000	0.628	1
Pre-test	0/182	1	0/182	1/315	0/257	0.027	1
Group membership	39/024	1	39/024	281/992	**0/000	0.834	1
Error	6/504	47	0/138				
Total	47.788	49					

$$R^2 = 0/864 \text{ Modified} \quad R^2 = 0/858 \quad \beta = 0/834$$

According to table 7, after modifying the effect of the dependent variable (pre-test) on the dependent variable and according to the calculated coefficient f , it is observed that among the modified mean scores of the participants' assessment on the group membership, there is a significant difference between the experiment group and the control group in the post-test ($P < 0/01$).

Therefore, the research hypothesis is confirmed. There is a significant difference between the mean scores of the two groups and the intervention of the flipped learning method has been affected by the increase in the scores of the participants in the post-test of the experiment group. The modified coefficient is 0.885, which shows that 85.8% of the variance of assessment scores can be explained by group membership and pre-test scores. The beta coefficient is $\beta = 0.834$. This coefficient indicates that 83.4% of the variance in the assessment scores can be explained by the independent variable of intervention of the flipped learning method. The statistical power of one and the significance level of zero indicated the adequate size of the sample. Therefore, we can write the predicate equation of the self-directed learning variable as follows.

5. Discussion

Entrepreneurship education plays an important role in student job creation; through this lesson, the students can take opportunities to start thinking about their business and gain experience. However, this lesson in entrepreneurship lessons as in other lessons does not work well and needs to be revised in the teaching style. Flipped-learning entrepreneurship education is a way to make students more involved in curriculum subjects in a way that they are oriented towards learning and mastering the content they want. The results of the research on the main hypothesis of the research showed that the flipped learning method has a positive effect on self-learning. The results of this study is consistent with the results of the research done by Bagheri and Joushghannajad (2016); Amani Tehrani (2015); Makarin Maleki et al (2015) indicating the flipped-learning education has an impact on self-directed learning and enriches the learning. Using flipped learning in the entrepreneur lesson will lead the students to focus on learning more and identify their learning needs and work to meet their learning needs. In such a case, they manage their learning.

The results of the research on the first hypothesis of the research showed that the flipped education method has a positive effect on the component of knowledge. Research results are consistent with these studies: the research done by Neck and Greene (2011); Lamer (2013), indicating the use of flipped learning in entrepreneurship lessons on self-directed learning in the field of awareness. The use of flipped learning in entrepreneurship lessons has been effective on the learners' knowledge, and this, in addition to increasing the level of knowledge, leads to self-esteem and self-confidence to learn more. While trying to give students a sense of self-esteem after completing entrepreneurial lessons, they individually try to increase their level of awareness. In this way, with entrepreneurial attitudes, they always create opportunities for themselves and the others.

The results of the research on the second hypothesis of the research showed that the flipped learning method has an effect on the learning strategies component. The results of the research are consistent with these studies: the researches done by Mobser Maleki et al (2015); Golzari and Attaran (2016); Evans (2011); Gresteen (2012); Fulton (2012); Bliemel (2014), indicating the use of the flipped classroom in entrepreneur lesson using different strategies from traditional practices, such as a comprehensive representation of learning processes and problem-based learning can add value to training. Flipped learning in the entrepreneurship lesson uses strategies in the learning process that engages and activates the students. In this way, learners will engage in topics and try to solve the problems in the learning process. Therefore, learning from the flipped learning of entrepreneurship lessons leads to positive learning in students. Learning positively means that students can use what they learn in the action phase, and actually present the things that matter in their mind objectively. Such students, as a result of positive learning, are trying to show their creativity as innovation, and thus achieve a degree of entrepreneurship.

The results of the research on the third sub-hypothesis of the research showed that the flipped learning method in the entrepreneurship lesson has a positive effect on the component of learning activities. The results of this study were consistent with these studies: researches done by Davoodi and Hojati, 2011; Rastegar Pourkiyan (2015); Amani Tehrani (2015); Phillips and Aflaherti(2015), indicating the flipped

learning method would diversify learning activity, and this makes the teaching-learning environment more attractive to students. Various learning activities will expand the opportunities and learning experiences, and this level of learning will increase to a high degree. As the entrepreneur attitude, learners should use flipped learning, because it encourages the students to use different and varied ways to learn and engage them in studying subjects. In such a case, students in the field of entrepreneur lessons are encouraged to carry out practical and applied projects, and the range of learning activities for them expands. Therefore, it will keep students from memorizing the lessons of entrepreneurship and internalize them for learning. The goal of entrepreneur lesson is learning to the extent that they have the skills to achieve career autonomy.

The results of the research on the fourth sub-hypothesis of the research showed that the flipped learning method has a positive effect on the interpersonal skills component. The results of the study are consistent with these studies: the researches done by Kheirabadi(2014); Isma'ilfarf et al(2015); Esprouz(2016); Bargoman(2014); indicating the flipped learning improves interpersonal skills such as communication skills, discussion methods, sharing the topics for dialogue and understanding. Using flipped learning in an entrepreneur lesson expands the interpersonal skills of learners (students). This leads to improving learners' communication with each other for further study and sharing knowledge and experiences in the field of business and entrepreneurship. With enhancing and improving the interpersonal skills, the ability to adapt and social cohesion of students increases, and this not only prevents the interpersonal conflicts, but also strengthens the cooperation, sympathy, empathy and more coordination among members of the learning group to implement creative ideas for entrepreneurship. One of the skills required for entrepreneurship is the ability to communicate with others in society and in the social environment because entrepreneurship is typically created with the help of others. As long as there is no other cooperation, even the most powerful entrepreneurial ideas cannot grow as they should, and perhaps in the community, to progress to the stage of action. Therefore, strengthening the interpersonal skills, such as the way of discussing, communicating or sharing knowledge and experience, and such skills, in the reciprocal classroom for entrepreneurship lessons will allow the students to develop ideas that are in the minds until the implementation stage goes ahead.

The results of the research on the fifth sub-hypothesis of the research showed that the flipped learning method has a positive effect on the component of evaluation. The results of the research were consistent with these studies: the results of the researches done by Zhao & Breslow, 2013; Goodwin & Miller, 2013, indicating the learners who participate in the flipped learning class, evaluate their learning and find the strength of judgment. In fact, the flipped teaching method provides the students with an opportunity to focus on the critical thinking and problem-solving, and to advance to a high level of learning. Assessing the results of student learning in entrepreneurship lessons in traditional ways and pencil-paper is unreliable and does not represent the expected changes. If flipped learning is used for entrepreneur lesson, the student evaluation becomes realistic. The flipped learning method is based on continuous evaluation of students. The expectation of entrepreneur lessons is that students' learning is visible in their performance. Therefore, the flipped learning method in teaching-learning processes emphasizes the activities of students based on the objectives of the course, and in this case, the teacher and the trainer continuously evaluate and review student learning activities. This empowerment ensures that the student's assessment of the entrepreneurship lessons emerges positively, to the extent that the teaching-learning (the professor and the student) are satisfied with what they have been doing during their entrepreneurship lessons.

According to the research findings, it is suggested that a flipped learning approach be used for entrepreneurship lessons so that the students can manage their learning. In order to use flipped learning practices in entrepreneurship lesson, professors should formulate their lesson plans based on student out-of-class learning activities.

Using flipped learning practices in entrepreneurship lessons, students will be given the opportunity to learn in order to enhance their interest in learning the topics studied. Creating learning opportunities can be provided on the basis of the obligation of students to conduct field and library studies or outcomes of observations and visits outside the classroom, and report on activities undertaken in the classroom.

Using flipped learning practices in entrepreneurship, students should be able to control their own learning and move towards learning goals and not deviate from goals. This platform can be provided to students based on their placement in real-world environments, such as engaging them in companies and industrial-service factories. In such a situation, students can put their ideas and attitudes into the environment to the test and control their implementation capability.



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