The predictive model of academic performance of students of distance education based on individual variables self-regulation strategies and motivational beliefs

Nasibeh Poursghar¹, Ali Rezakiamanesh², Mohammadreza Sarmadi³, Hossien Zare⁴
¹Department of Educational Sciences and Psychology, Payamenoor University, pobox 193953697Tehran, IR of IRAN
²Professor. Department of Education, Faculty of humanities, Islamic Azad University, Tehran, Iran
³Professor, Department of Educational Sciences and Psychology, Payamenoor University, pobox 193953697Tehran, IR of IRAN
⁴Professor, Department of Educational Sciences and Psychology, Payamenoor University, pobox 193953697Tehran, IR of IRAN

Abstract

The purpose of this paper is to present a predictive model of the academic performance of distance education students based on motivational beliefs variables and self-regulated learning strategies. The relationship among studied variables has been investigated through a proposed model. In order to achieve this, 280 undergraduate students (140 female and 140 male) from Payame Noor University of Ardebil were chosen through relative class sampling. Subscales of self-efficacy, task value, goal orientation, and regulatory learning strategies were used which were selected from the motivated strategies for learning questionnaire (MSLQ) By Pintich et al (1991) and the average scores of students were used as an assessment instrument to assess their academic performance. Findings from data analysis have shown that the data were good fitted with conceptual model. In the model, self-efficacy and self-regulated learning strategies mediate the effects of goal orientation (internal and external) and task value on academic performance. On the whole one can say that in case of the effects of internal and external variables on distance educational model, internal goal orientation and self-efficacy and self-regulated learning strategies have the most effect on academic performance. Therefore, intervention and help improve academic performance of students in the education system should be based on the influential variables.

Keywords: academic performance; self-regularity learning strategies; students of blended learning.
1. Introduction
Since the mid-1990s, there has been a boom in the number of colleges and universities providing courses and degree programs via distance education - education or training courses delivered to off-campus locations via audio, live or prerecorded video, or computer technologies (Lewis, Snow, Farris, & Levin, 2000). This change is due to the need to expand higher education and lack of capacity in traditional teaching (face to face), developments in information and communication technologies was conducted. Distance education is the most renowned descriptor used when referencing distance learning. It often describes the effort of providing access to learning for those who are geographically distant. During the last two decades, the relevant literature shows that various authors and researchers use inconsistent definitions of distance education and distance learning. As computers became involved in the delivery of education, a proposed definition identified the delivery of instructional materials, using both print and electronic media (Moore, 1990). The instructional delivery included an instructor who was physically located in a different place from the learner, as well as possibly providing the instruction at disparate times. As new technologies become apparent, learning seemed to be the focus of all types of instruction, and the term distance learning once again was used to focus on its limitations associated with “distance”, i.e. time and place (Guilar & Loring, 2008). This type of education in the country of Iran applied in the educational system Payame Noor University.

2. Theoretical background
With the rapid development of distance education, our understanding of teaching and learning in this new environment is lagging behind. In a comprehensive review of the literature, Tallent-Runnels, Thomas, Lan, Cooper, Ahern, and Liu (2006) indicated many important issues of distance instruction and learning which have yet to be addressed in research. As such, existing principles and theories of educational psychology need to be reexamined or modified to reflect unique characteristics of the distance learning environment and help us to understand distance teaching and learning (Broad, 1999; Barnard, Lan, To, Paton, Lai, 2009).

Two dominant theories in the contemporary literature of achievement motivation in education are achievement goal theory (Ames, 1992) and expectancy-value theory (Eccles et al., 1983). Grounded in a socio-cognitive perspective of motivation, both theories focus on how students construe meanings of their experiences in their achievement contexts (Wigfield & Eccles, 2000). From socio-cognitive perspective, motivational and cognitive internal variables influence academic performance and also they believe in order to be academic achievement, learners need cognitive skills, beliefs and motivational willingness. According to this view, learners can supervise, control and regulate aspects of cognitive (such as goal setting, implementation and monitoring of cognitive strategies), motivation (such as self-efficacy, task value, interests), behavior (such as asking for help, maintenance and monitoring efforts time), and characteristics of their learning environment (such as evaluation and monitoring of changes in the conditions obligation) in the learning process. Control and supervising of cognition is part of self-regulated learning which is done by self-regulated learning strategies. Thus, this view explains motivational and cognitive internal factors simultaneously and in interaction with each other the academic performance. These cognitive skills and motivational beliefs in distance education classes are important influential for academic performance of students. Since in distant education
learner is responsible for his learning and actively follows his learning process and student is at the center of learning activities. Individuals, who have much motivation and also use better cognitive strategies, would have much probability of academic improvement. Therefore these factors as internal individual factors influence on academic performance of students of all kinds of learning and distance education.

Paying attention to cognitive skills and motivational beliefs is one of the most important problems in distance education, which needs to be investigated (Pintrich, De Groot, 1990, 2010; pintrich, 1999; Hartley, Bendixen, 2001; Winters, Greene, Costich, 2008; Ozar & Akgun, 2015).

Self-regulated learning is a kind of concept that considers the role of individual in the learning process. According research done by Hartley and Bendixen (2001), traditional learning environments don't provide students with higher level self-regulated learning in comparison to environments based on working with computer and web. Self-regulation would then refer to students' monitoring, controlling, and regulating their own cognitive activities and actual behavior. According to research done by Winters and et.al (2008); Pintrich & DeGroot, 1990, 2010; Pintrich, 1990; Trouillet, Doron& Combes (2016); Grunschel, Schwinger, Steinmayr & Fries (2016), there is a positive correlation between self-regulated learning and academic performance.

Although there are many models of motivation that may be relevant to student learning (Pintrich & Schunk, 1996), we have concentrated on three general types of motivational beliefs in our work including: (a) self-efficacy beliefs, (b) task value beliefs, and (c) goal orientations. Theoretical framework of the study includes socio-cognitive perspective and Expectancy-value theory. In an achievement context, self-efficacy includes students' confidence in their cognitive skills to learn or perform the academic course work. The findings for self-efficacy showed very positive relations between self-efficacy and self-regulated learning for both middle school and college students (Pintrich & De Groot, 1990; Pintrich& Garcia, 1991). Eccles (1983 quoted by Pintrich, 1999) has proposed that three components of task value are important in achievement dynamics: the individual's perception of the importance of the task, their personal interest in the task, and their perception of the utility value of the task for future goals. For students this may include beliefs that the course will be useful for them immediately in some way (e.g., help them cope with college), in their major (e.g., they need this information for upper level courses), or their career and life in general (e.g., this will help them somehow in graduate school). Pintrich & Garcia (1991) found that task value was correlated to performance, albeit these relations were not as strong as those for self-efficacy. Although a number of researchers have discussed goal orientation (e.g., Ames, 1992; Dweck& Leggett, 1988; Nicholls, 1984) using alternative terms and definitions, in the concept of goal orientation, we have focused on two general orientations (Pintrich & De Groot, 1990). Internal goal orientation refers to a concern with learning and mastering the task using self-set standards and self-improvement. An extrinsic orientation includes a focus on getting good grades and pleasing others (teachers, parents) as the main criterion for judging success. This work on goal orientation it's nicely with self-regulated learning theory because it is assumed that in order for students to self-regulate their learning, performance, and behavior, they must have some goal or standard or criterion against which to compare their progress. According to the research results (Hartley & Bendixen 2001; Winters and et.al, 2008; Pintrich & De Groot, 1990, 2010) internal goal orientation has a strong positive relation via using cognitive strategies and also self-regulated strategies and self-efficacy.
External goal orientation is the only motivational variable that shows there is a negative enduring relation with self-regulated learning. Self-regulated learning strategies are assumed as an internal cognitive factor which influences behavior and performance of individual in interaction with internal motivational factors (self-efficacy, task value and goal orientation). On the whole regarding literature and precedent studies, the main question of this study is clarifying the relations among motivational variables, cognitive variables, and the way of their influencing as a pattern on the academic performance of distance education students.

3. Research model and hypotheses
The optimal way to describe relationships within a set of interlinked variables is by means of a causal path model. The distinctive feature of the causal path modeling is that it allows the identification of both direct and indirect relationships between the variables in the set and, hence, it enables the estimation of the total sizes of relationships (total effects) instead of just the sizes of direct relationships between variables (Garson, 2010). The aim of the present research is to study the indirect relationships between goal orientation and task value variables with academic performance through mediation of self-efficacy and self-regulated learning strategies. To achieve this goal, by the help of socio-cognitive perspective and Expectancy-value theory and also, empirical research backgrounds, a conceptual model (showed in fig.1) was proposed as a likely conceptual model and was tested by means of the path analysis.

With regard to the suggested model the following main hypotheses is investigated.
H: self- efficacy and self-regulated learning strategies mediate the effects of task value and goal orientation on academic performance.

Fig.1. a theoretical model of academic performance, depicting the relations between goal orientation and task value with self-efficacy, self-regulated strategies and academic performance.

Note: + indicates a hypothesized positive relation; _ indicates a hypothesized negative relation.
3. Method

3.1. Participants
The sample consisted of 280 Iranian undergraduate students from the University of Ardebil Payame Noor from 27 classes. Participants were 140 females and 140 males.

3.2. Measures
3.2.1. Motivated Strategies and Learning Questionnaire
Data gathering instruments for self-regulated learning strategies and motivational beliefs variables are Motivated Strategies and Learning Questionnaire (MSLQ) which was made by Pintrich and De Groot (1990). reliability of this instrument was investigated by using Cronbach α coefficients method by Pintrich et al (1991) constructional validity of this instrument was done by Pintrich et al in a research with 380 students in 14 course and 5 field of study in order to testing theoretical model applying. In the study self-regulated learning strategies scale has been used for measuring self-regulated learning strategies variable and for measuring motivational beliefs variable from 3 subscale of task value, self-efficacy and internal and external goal orientation. The self-regulated learning strategies scale included thirty one items, subscale of task value included six items, self-efficacy seven items, and goal orientation ten items used a seven-point scale, where 1 is “completely disagree” and 7 is “completely agree”.

3.2.2. Academic Performance
The average scores of the students in the course of the fields were used for measuring this variable then.

3.3. Procedure
The questionnaire was administered collectively at the end of the semester. All participants were volunteers. First the number of male and female students in every class was prepared. In every class 9-12 students randomly was taken proportional to the total number of students.

4. Results
Before examining the relations between variables and testing the conceptual model, a more detailed description of our sample will be presented. Mean age was 20.89 years with a standard deviation of 3.69. The range was between 18 and 27 years of age. Reliability measures for self-regulated learning strategies, Self-efficacy, task value, internal goal orientation, external goal orientation and academic performance assessed by Cronbach α coefficients, were 0.802, 0.826, 0.830 0.715 0.861 and 0.851 respectively.

4.1. Descriptive statistics and correlation analysis
Research hypotheses were investigated with regards to the intended goals mentioned before. Table 1 displays means, standard deviations, and correlations of the variables studied. Relations between variables were examined with zero-order correlations for all variables. As it can be seen, according to data of correlation matrix all correlations between variables are significant except correlations between gender with computer self-efficacy and computer performance.
Table 1
Correlation coefficients, means, and standard deviations of variables included in the model of the academic performance of distance education students

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
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<tr>
<td>1. academic</td>
<td>1.00</td>
<td>0.60**</td>
<td>0.52**</td>
<td>0.49**</td>
<td>0.31**</td>
<td>0.48**</td>
</tr>
<tr>
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<td></td>
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<td></td>
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<td>2. task value</td>
<td>1.00</td>
<td>0.49**</td>
<td>0.66**</td>
<td>0.40**</td>
<td>0.65**</td>
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<td>3. self-efficacy</td>
<td></td>
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<td>0.36**</td>
<td>0.20**</td>
<td>0.33**</td>
<td></td>
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<td>4. internal goal</td>
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<td></td>
<td>0.58**</td>
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<td></td>
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<tr>
<td>orientation</td>
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<tr>
<td>5. external goal</td>
<td>1.00</td>
<td>0.48**</td>
<td></td>
<td></td>
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<td>orientation</td>
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<tr>
<td>6. self-regulated</td>
<td>1.00</td>
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<tr>
<td>learning</td>
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<tr>
<td>strategies</td>
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<tr>
<td><strong>Means</strong></td>
<td>14.03</td>
<td>4.58</td>
<td>4.42</td>
<td>4.37</td>
<td>4.67</td>
<td>4.03</td>
</tr>
<tr>
<td>**Standard</td>
<td>1.40</td>
<td>1.41</td>
<td>1.19</td>
<td>1.28</td>
<td>1.50</td>
<td>0.57</td>
</tr>
<tr>
<td>deviations</td>
<td></td>
<td></td>
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</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the level 0.01 (2-tailed).

4.2. Path analysis
In order to test the theoretical path model presented in Fig. 1, we applied the path analysis by LISREL software (version 8.54). Maximum likelihood method was used in order to estimate parameters. So, to test hypotheses in Table 2, total, indirect and direct effects of variables, T value to estimate parameters and error variance or residual path coefficient will be presented along with their meaningful levels.

4.3. Final model and its modification
Testing the relation among variables was investigated in a suggested conceptual model frame in a sample of 280 individuals. Then insignificant paths were omitted and were done in the final model frame. In the final model, the direct effect (path) of external goal orientation on self-regulated learning strategies, the direct effect of (path) internal goal orientation on self-regulated learning strategies and direct effect (path) of task value on insignificant self-regulated learning strategies were omitted. The findings are shown in fig. 2.

Table 2
Standardized direct, indirect, and total effects in the final model

<table>
<thead>
<tr>
<th>Effects</th>
<th>Direct effect</th>
<th>t</th>
<th>Indirect effect</th>
<th>t</th>
<th>Total effect</th>
<th>t</th>
<th>residual path coefficient</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>On academic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.55</td>
</tr>
<tr>
<td>performance</td>
<td>0.12*</td>
<td>2.01</td>
<td>0.16**</td>
<td>4.78</td>
<td>0.27**</td>
<td>4.60</td>
<td></td>
<td></td>
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<tr>
<td>Of task value</td>
<td>0.12*</td>
<td>2.01</td>
<td>0.18**</td>
<td>5.07</td>
<td>0.30**</td>
<td>4.96</td>
<td></td>
<td></td>
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<tr>
<td>Of Internal goal</td>
<td>--</td>
<td>--</td>
<td>0.06**</td>
<td>2.70</td>
<td>0.06**</td>
<td>2.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>orientation</td>
<td>0.31**</td>
<td>4.32</td>
<td>0.14**</td>
<td>4.81</td>
<td>0.45**</td>
<td>6.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of external goal</td>
<td>0.29**</td>
<td>5.60</td>
<td>--</td>
<td>--</td>
<td>0.29**</td>
<td>5.60</td>
<td></td>
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<tr>
<td>orientation</td>
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<tr>
<td>Of self-efficacy</td>
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</table>
Of self-regulated learning strategies

<table>
<thead>
<tr>
<th></th>
<th>On self-regulated learning strategies</th>
<th>Of task value</th>
<th>Of Internal goal orientation</th>
<th>Of external goal orientation</th>
<th>Of self-efficacy</th>
</tr>
</thead>
<tbody>
<tr>
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<td>--</td>
<td>0.17**</td>
<td>0.49**</td>
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<td></td>
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<td>--</td>
<td>0.20**</td>
<td>0.31**</td>
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<td></td>
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<td>--</td>
<td>--</td>
<td>-0.07**</td>
<td>0.40**</td>
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<tr>
<td></td>
<td></td>
<td>0.49**</td>
<td>9.43</td>
<td>--</td>
<td>0.29**</td>
</tr>
</tbody>
</table>

* P< 0.05. ** P< 0.01.

As can be seen, academic performance is the first endogenous variable. The direct and indirect effect of task value on academic performance of students (0.12, 0.16) is significant. Also, the direct and indirect effect of internal goal orientation on academic performance (0.12, 0.18) is significant. External goal orientation had no direct significant effect on academic performance so path was omitted in fitting of the early model but it has the indirect significant effect on academic performance (0.06). The direct and indirect effect of self-efficacy on academic performance (0.31, 0.14) is significant at the level 0.01. The direct effect of self-regulated learning strategies on academic performance (0.29) is significant at the level 0.01. The second endogenous variable is self-regulated learning strategies which task value, internal goal orientation and external goal orientation had no direct effect on self-regulated learning strategies but they have the indirect significant effect on self-regulated learning strategies (0.17, 0.20, and 0.07). The direct effect of self-efficacy on self-regulated learning strategies (0.49) is significant at the level 0.01. In the third endogenous variable i.e. self-efficacy, the direct effects of task value, internal goal orientation and external goal orientation on self-efficacy (0.35, 0.40, 0.14) are significant at the level 0.01. There are no indirect effects of this variable on self-efficacy. The total effects of all variables are significant in the adjusted model.

Among exogenous variables, the review and comparison of direct, indirect and total effects of task value variable on endogenous variables indicates that this variable has the most direct effect on self-efficacy. The review of direct, indirect and total effects of internal goal orientation variable on the endogenous variables indicates that this variable has the most direct effect on self-efficacy. Among the endogenous variables, self-efficacy has the most explained variance (0.56). The high amount of explained variance indicates that these three variables have an essential role on self-efficacy of student. Also, among exogenous and endogenous variables, self-efficacy variable has the most direct effects (0.31) on the self-regulated learning strategies and academic performance. Internal goal orientation variable has the most direct effects (0.31) on the self-efficacy.
With regard to study hypotheses, the following findings are obtained. Obtained results from for fitting proposed model which actually tested main research hypothesis show that self-efficacy and self-regulated learning strategies mediate the effects task value and goal orientation on academic performance. According to the results, internal goal orientation has an indirect and positive effect (0.18) on academic performance through the average mediation of self-efficacy and self-regulated strategies at the level 0.01. Internal goal orientation has an indirect and positive effect (0.20) on self-regulated strategies with the mediation of self-efficacy at the level 0.01. External goal orientation has an indirect and negative effect (-0.07) on self-regulated strategies with the mediation of self-efficacy at the level 0.01. Task value has an indirect and positive effect (0.16) on self-regulated strategies through the average mediation of self-efficacy and self-regulated strategies at the level 0.01. Task value has an indirect and positive effect (0.17) on self-regulated strategies with the mediation of self-efficacy at the level 0.01. Self-efficacy has an indirect and positive effect (0.14) on academic performance with the mediation of self-regulated strategies at the level 0.01. Self-regulated strategies have direct and positive effect (0.29) on academic performance at the level 0.01.

In these findings, it is interesting that the indirect effect of internal goal orientation on academic performance is more than its direct effect. Self-efficacy variable has a strongly significant direct effect (0.31, 0.41) on self-regulated learning strategies and academic performance and this effect is much more than the effects of other variables in the model.

With regard to the table of estimating coefficients (direct effects), the figure of variables path along with model fitness features are shown in fig. 2.

Fig. 2. The final fitted model of academic performance, depicting the relations between goal orientation and task value with self-efficacy, self-regulated strategies and academic performance. Now with regard to the parameters presented in Table 2, the fitted model of academic performance accompanied with its fit indices is being exhibited. In Table 3, the fit indices of academic performance model are presented. We assessed the overall fit of the model according to several indices: the goodness-of-fit index (GFI), adjusted the goodness-of-fit index (AGFI), comparative fit index (CFI), Normal Fit Index (NFI), Non-Norm Fit Index (NNFI), Root Mean Square Residual (RMR) and root mean square error of approximation (RMSEA). Generally speaking, GFI and AGFI values above 0.90 and CFI above 0.90 (Kline, 2005; Bentler, 1990) are indicative of optimal model fit and good fit. The other index is Chi-square. The amount of Chi-square calculates the test for the assumption of zero being an acceptable model in population. Data in table 3 shows that the amount of Chi-square (df= 4, P= 0.642) isn’t significant. In RMSEA regarding mean square, low estimating errors are expected. It indicates the favorability
of fitting model. Taken together, these statistics indicate a fairly reasonable fit of the measurement model to the data.

Table 3
Fit indices of academic performance model.

<table>
<thead>
<tr>
<th>DF</th>
<th>$\chi^2/df$</th>
<th>P</th>
<th>RMSEA</th>
<th>RMR</th>
<th>NFI</th>
<th>NNFI</th>
<th>GFI</th>
<th>AGFI</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.51</td>
<td>4</td>
<td>0.627</td>
<td>0.642</td>
<td>0.001</td>
<td>0.015</td>
<td>1.00</td>
<td>1.01</td>
<td>1.00</td>
<td>0.98</td>
</tr>
</tbody>
</table>

5. Discussion and conclusion
The purpose of this survey is to present a predictive model of the academic performance of blended education students based on motivational beliefs variables and self-regulated learning strategies. Theoretical framework of the study includes socio-cognitive perspective and Expectancy-value theory. The concentration of the study is on motivational beliefs such as self-efficacy, goal orientation and task value from motivation factors; and self-regulated strategies from cognitive factors. The results of data analysis showed that the amount of obtained indexes for fitting conceptual general model confirmed good and suitable fit. Also all indirect effects of exogenous variables on the endogenous variables in the model are significant. Obtained indexes for fitting final model shows its good fit. Obtained results from for fitting proposed model which actually tested main research hypothesis show that self-efficacy and self-regulated learning strategies mediate the effects task value and goal orientation on academic performance and have shown their mediator roles. This means that the amount of relationship among the overt exogenous variables of model on academic performance is affected by self-efficacy and self-regulated learning strategies. These findings were expected regarding theoretical and research framework and correspond with socio-cognitive perspective and expectancy-value theory related to self-regulated learning and self-efficacy. According to expectancy-value theory (Eccles et al., 1983), students’ Beliefs concerning the degree to which they are confident in accomplishing an academic task (self-efficacy) and the degree to which they believe that the academic task is worth pursuing (task value) are two key components for understanding students’ achievement behaviors and academic outcomes. So according theory of performance is influenced by motivational beliefs. According to Pintrich (2000) self-regulated learning model, learning is an active and organized process in which learners choose same goals for their learning and then try to regulate, control and supervise their cognition, behavior and motivation. In fact, task value and goal orientation take form in the process of self-regulated learning and influence the self-regulated learning strategies. Thus, these strategies are mediator variables which both influence academic performance as motivational variables (value variable) through task value and goal orientation (internal and external) indirectly and academic performance directly. Self-efficacy beliefs take form as a motivational factor in self-regulated learning process which influences directly self-regulated learning strategies and the academic performance through mediation of self-regulated learning strategies indirectly. Thus self-efficacy and self-regulated learning strategies influence complicatedly all the learning process and also mediate and modifies the various individual and environment effects on learning.
Main hypothesis investigated in seven sub hypothesis. The first hypothesis investigated the effect of internal goal orientation on academic performance. The results showed that the direct effect of
internal goal orientation on academic performance was significant and positive; also the indirect effect of internal goal orientation on academic performance through mediation self-efficacy was both significant and positive. This finding supported the research results of Pintich (1999), Liem, Lau & Nie (2008), Diseth and Kobbeltvedt (2010), Dasta (2007) and Esfandyari (2008). Internal goal orientation as an internal individual factor refers to involvement of students in learning process because of being challenging and skilled. Thus according to goal orientation theory and socio-cognitive theory it is expected that there is positive relation between internal goal orientation and academic performance. Students who have internal goal orientation they also have internal motivation for involving in their task and this belief has a positive effect on academic performance. Wigfield & Eccles (2000) believes that goal orientation is able to explain the relation among learner beliefs on educational achievement (self-efficacy) and involvement and persistence or doing homework (self-regulated learning strategies).

The result of testing the second hypothesis showed that the direct effect of internal goal orientation on self-efficacy was significant and positive. This finding supported the research results of Pintich (1999), Liem, et.al (2008), and Mohsenpor, Hejazi and Kiamanesh (2008). On another part of the second hypothesis, the direct and indirect effect of internal goal orientation on self-regulated learning strategies was tested. The findings showed that the direct effect of internal goal orientation on self-regulated learning strategies was insignificant but the indirect effect of internal goal orientation on self-regulated learning strategies through mediation self-efficacy was significant. So, the results of our study supported hypothesis 2, and the results of some researchers such as Ames & Archer (1988), Middleron, & Midgley(1997), Elliot (1999), Pintrich (2000), Pintrich & De Groot (1999, 2010),Wolters (2004), Liem, et.al (2008). In explaining positive relation between internal goal orientation and self-efficacy one can say that internal goal orientation causes students concentrate a skill learning and mastery while doing activities, their activities, their accepting control, achieving goodness in those activities and natural value thus leading to creation of success expectancy belief (self-efficacy) in learner. Attention and orientation of student toward mastery and skill learning in doing homework and activities leads to increase in evaluating, control and cognition in learning process and in fact an increase in use of self-regulated learning strategies. So relation and indirect positive effect between internal goal orientation and self-regulated learning strategies through mediation of self-efficacy is expected.

The third hypothesis investigated the direct effect of external goal orientation on self-regulated learning strategies and self-efficacy. The findings showed the direct effect of external goal orientation on self-efficacy was positive and significant but the direct effect of external goal orientation on self-regulated learning strategies was insignificant. In second and third hypothesis the indirect effect of goal orientation (internal and external) on self-regulated learning strategies is meaningful which indicates learners who have belief on their abilities in successfully doing their homework probably want to master their homework and increase their merit. This goal orientation leads to more use of more advanced cognitive and metacognitive strategies and consequently achieving higher academic progress or they try to have better performance in the issue in comparison to their classmates and to be successful and have other student's confirmation. Regarding use of low level or high level strategies, in this orientation leads to desirable or undesirable academic progress. In explaining the relation between external goal orientation and self-efficacy one can conclude that external goal orientation through orientation
and directing student attention toward results and scores, probability of achieving results and value of this result for having superiority among others, increases self-efficacy of student. So the positive relation of external goal orientation and self-efficacy is expected. In other justification educational, system in Iran is a competitive one. So the students’ scores are the criteria for their educational capability getting higher scores leads to increase in self-efficacy of learners. Thus some of the students who want pursue achieving merit through getting higher scores, have external goal orientation.

On another part of the third hypothesis, the indirect effect of external goal orientation on self-regulated learning strategies through mediation self-efficacy was tested. It showed that the indirect effect of external goal orientation on self-regulated learning strategies was negative and significant. The results of our study supported hypothesis 3, socio-cognitive perspective and the results of some researchers such as Pintich (1999), Middleron, &Midgley (1997), Dasta (2007), Mohsenpor, et.al (2008). In justifying this findings one can say that students who have low self-efficacy and believe that they don’t have ability for doing special task, try hard to get only passing score. These students don’t want to seem incompetent that is their main goal is avoidance from failing and undesirable judgment of others, since they study with external motivation (external goal orientation). They only memorize their lessons and don’t use of advanced and deep learning cognitive strategies. In fact these students use less self-regulated learning strategies. Thus external goal orientation influences negatively the self-regulated learning strategies through low self-efficacy indirectly.

In forth hypothesis both direct and indirect effect of task value on academic performance was investigated and the results showed the direct and indirect effect of task value on academic performance was both significant and positive. This finding supported the research results of Eccles (1983), Pintich (1999), Liem, et.al (2008), and Mohsenpor, et.al (2008). This finding shows that students, who have higher task value, have positive evaluation of their task. They prefer achieving success in the task to not achieving it and believe in the importance and attractiveness of task. This belief has a direct effect on academic performance. Thus task value has indirect effect on academic performance upon self-regulated learning strategies and also has a direct positive effect on improving academic performance through creating motivation for comprehension and persistence in learning.

In fifth hypothesis, the direct and indirect effect of task value on self-regulated learning strategies and self-efficacy was tested. The findings showed that the direct effect of task value on self-regulated learning strategies was no significant but the direct effect of task value on self-efficacy was significant and also the indirect effect of task value on self-regulated learning strategies through mediation self-efficacy was significant. This finding supported the research results of Eccles (1983), Pintich (1999, 2000), Dasta (2007), Liem, et.al (2008), and Mohsenpor, et.al (2008). Task value restates student’s comments on usefulness and attractiveness of task. In fact task value motivates paying attention interest and deep cognitive involvement in doing homework. Pintrich (2000) believes that learners create more relation with high interest in task, and memorizing and processing the material, and have good processing. High interest is related to attempt and better cognitive strategies it extends deep learning. Pintrich and De Groot (1990, 2010) stated that learners who believe task is valuable mostly involve in metacognitive activities, use more supervising strategies and believe in success doing homework so they have higher academic achievement.
In sixth hypothesis, the direct effect of self-efficacy on self-regulated learning strategies and academic performance was investigated. The results showed that the direct effect of self-efficacy on self-regulated learning strategies and academic performance was both positive and significant. Also the indirect effect of self-efficacy on academic performance through mediation of self-regulated learning strategies was both significant and positive. This finding supported the research results of Pintrich (1999), Pintrich & De Groot (1990, 2010), Pintrich & Garcia (1991), Pajars (1999), Ames & Archer (1988), Zimmerman (2000), Liem, et.al (2008), Mohsenpor, et.al (2008), Artino Jr & Stephens (2009) and Beger & Karabenick (2011). These researchers showed self-efficacy has a strong predictive relation with using cognitive and metacognitive strategies.

Self-efficacy has been defined as individuals' beliefs about their performance capabilities in a particular domain (Bandura, 1986). In an achievement context (such as the aforementioned studies), it includes students' confidence in their cognitive skills to learn or perform the academic course work. Students use various cognitive and metacognitive strategies actively with high self-efficacy. These individuals regulate their motivational beliefs more accurately and delicately in comparison to individual with low self-efficacy. Students with high self-efficacy beliefs believe that they can cope with doing special homework, they use complicated strategies in learning and study their lessons and prefer learning challenging material which requires lessons and prefer learning challenging material which requires more mental work and spend more time in learning if they have to. So self-efficacy has a strong effect on self-regulated learning strategies.

In explaining these findings one can say that when individuals believe that they have abilities in doing task or activities, they spend more time on doing homework and would have better results. Thus ones understanding about himself influences his thought, motivation, excitement and performance. According to Wolters research finding (2004) self-efficacy has facilitative role in cognitive process and increasing self-efficacy beliefs lead to increasing use of cognitive strategies hence an increase in performance level of learners. This means that learners. This means that learners in order to achieve academic success should have both positive belief and willingness for succeeding in doing their homework and activities and necessary cognitive and metacognitive skills.

Finally in seventh hypothesis, the direct effect of self-regulated learning strategies on academic performance was investigated. The results showed that the direct effect of self-regulated learning strategies on academic performance was both significant and positive. This finding supported the research results of Pintrich & De Groot (1990, 2010), Zimmerman (2000), Mohsenpor, et.al (2008), Mojarad, Gavam, Shabani, & Gatab (2013), Grunschel, et.al (2016), and Trouillet, et.al (2016). Self-regulated learning strategies enable individuals to master their learning and studying process through organizing their minds and their way of studying students who use more self-regulated strategies when studying or listening to the teacher try to increase their academic performance through simultaneously making meaningful the data, creating logical relation with the preceding data, controlling the process and creating suitable learning environment. Thus self-regulated learning strategies have a positive and strong effect an academic performance of students.
References


