An Integrated model for increasing the motivation of disciplinary science students

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Abstract

In this research conducted to examine the factors affecting the projection of incentive and introduction of the integrated model to increase research incentive, the researchers achieved an appropriate conceptual framework through studying the backgrounds and theories related to motivation and the factors affecting incentive and the relationship between endeavor, commitment, ability, bonus, justice, and other effective elements and relations, and then they have introduced their model by providing a main hypothesis and thirteen secondary hypothesis. The research has been conducted by document mining method, library studies, essay examination, and based on the researcher – made questionnaire and considering the Herzberg model, and after collecting the information using Microsoft Excel software, the entire information were codified and relying on Likert model, the answer were analyzed and considering the drawing of different diagrams, based on Table 3, the Pearson adhesive index between the considered factors was extracted and the meaningfulness of the factors was proven and finally for the dependent variable in the regression equation, the indexes of any of the dependent factors were calculated and the general equation indicating the linear relationship between dependent and independent variables is mentioned and by drawing the reaction diagrams the relation between the variables is indicated, proving the linear relationship between the variables. Finally the researchers concluded and approved their hypotheses.

Keywords: Endeavor, objectives and expectations, ability and talent, performance, results, equity and justice, remarkable and timely bonuses, commitment and responsibility, satisfaction, absence and substitution.

Introduction

One of the most important and influential factors which impresses educational progress, is motivation. (Francis, Gohir, Hover, Ditter, Kaplan, Kastetre Kerk, Leo, Tomas 2004). People select the goal following their various motivate process; they behave in a way to adjust their activities according to those activities by using various strategies or achievable process (Volterz and Rozental, 2000).

Motivation can be defined as educational occupation meaning recognition, excitement and behavior criterion for students’ investing and focusing on attaching and having desire to learning. (Tako, Zieko and Herman, 2002). So it is clear that those students, who don’t have motivation to be successful, are not serious in their learning and studying. (Francis and others). As a matter of fact, most of researchers believe that just motivation can influence on educational progress directly and other factors can influence on educational progress just through the influence on motivation (Tacker and others). One of the theories about method of motivating students is goal theory according to which there are 2 kinds of motivations for educational progress: those students who have orientation of ability of function based on goal. these students try to obtain good grades.
in order to prove their worthiness or have a better function in comparison with other students (Anderman and Midgeli, 1997, Maher and Midgeli, 1991) and those students who just see education as a duty, they have desire to increase knowledge concentrated on position or they are motivated by enjoying learning lessons. Possibly these kinds of students will challenge with duty and when they feel the need for help, they will ask others to help them and they will use the useful recognition strategies and more importantly, they will be more happier than other students as a learner. (Iemz, 1992, Anderman and midgeli, 1997). These students resist more in doing difficult exercises and they use self adjustment and recognizing methods to solve the problems (Rozental and volterz, 2000). On the other side, 2 factors approach of obtaining goals according to function can also explain the teenagers 'motivation for educational progress. (Dawsen and Macinerni, 2001)

Maher and Avorden describe two kinds of social goals: social confirmation, social imitating, social consistency and social resources of which the results of research represents that educational orientation based on social goals have a meaningful relationship with educational progress.

Also students can avoid one of two goals based on function in a form of performance goals—applying and performance goals. Research founds show that focusing on performance—avoidance goals, will create incompatibility motivate results and incompatible educational progress in comparison with focusing on performance—applying goals. (Midelton and Midgeli, 1997)

One of the other motivate factors being important in educational progress is students' self efficient about the ability to complete their duty successfully which is applied for type of selection, speech and students' resistance in performing institutional duties. Those who have more self efficiency and are more powerful and try a lot in facing the problems, their self efficiency can influence the method of challenge and efforts and resistance in front of problems and this self efficiency is directly in relation with their function level in performing the institute duties as during a study, the amount of students' self efficiency would predict the final term marks of high school students and amount of their educational progress.

Another motivate factor according to self-determination theory represents that students need the feel of being worthiness, dependence to others and self-determination. Worthiness represents the ability to complete different duties and to believe that individual can do the desired duty and being dependant to others, indicates having a relationship and contact with their friends at the same age and self-determination indicates taking action to perform and adjust duties. The research results shows that the same age group can influence the individuals' interior values for school, educational progress and being useful and the importance of school. According to attribution theory beside goal orientation, students' being worthiness is impressed by his/her last function. This theory indicates that students are influenced by their own understand of what has made their defeat or being succeed more than being impressed by their real experience (now)

Furthermore, when students face problems, they will have motivation to try more just when they think that lack of study or another factor has been under their control that has been the cause of their defeat other than to think that their defeat is related to cases out of their control place. (Francis and others, 2004)

Also having self expectation to be succeed and subjective value on institutional duty is dependent on two direct predicting factors for institute function and selecting the (educational ) institute. In this direction, self expectation is defined as belief in degree of an individuals' success in performing a duty in the future, and the subjective value of duty or progress value which has been declared as amount of meeting individuals' different need for performing duties and these two factors are measured by factors such as importance of good performance of duties, interior joy of duty and being useful and cost of duty performance for students.

In research conducted by Sobhani nezhad and Abedi (2006), there was a meaningful relationship between self-adjustment learning strategy and educational progress motivation with Mathematics educational function of high school students in Esfahan.

Also Chang(1991) showed that there is a meaningful relation and dependency between automatic motivate factors and interior values with self adjustment learning strategies and educational function. During a research in Iran, it was determined that there is a more interior motivation among high school students (Pasha Sharifi, 2006) also considerably, the interior motivation of girls is more than boys'. May be it's because that girls have more desire and appeal to study at university than boys'. We should know that from the science and religion aspect, peoples' function also is under the influence of values and religious hypothesis and also some of writers mention to 24 ways to create motivation in individuals (Saadat and others, 2006) Anirosa also in his book with the name: "24 methods for increasing motivation and utility among staffs", introduced 24 tested tactics. Also Robert Bakal in his own book with the title of function management, has mentioned 24 lessons for improving staff function.
Research hypothesis

Main hypothesis: factors consisting the integrated model of increasing students’ motivation, amount of motivation, have create a meaningful relationship
Secondary hypothesis 1: there is a meaningful relation between effort and goals and expectations.
Secondary hypothesis 2: there is a meaningful relation between effort and ability.
Secondary hypothesis 3: there is a meaningful relation between function and equality and justice.
Secondary hypothesis 4: there is a meaningful relation between function and results declaration.
Secondary hypothesis 5: there is a meaningful relation between function and outstanding rewards.
Secondary hypothesis 6: there is a meaningful relation between equality and justice and results declaration.
Secondary hypothesis 7: there is a meaningful relation between outstanding and on time rewards and results.
Secondary hypothesis 8: there is a meaningful relation between results and satisfaction.
Secondary hypothesis 9: there is a meaningful relation between obligation and sense of responsibility and effort.
Secondary hypothesis 10: there is a meaningful relation between obligation and sense of responsibility and effort.
Secondary hypothesis 11: there is a meaningful relation between satisfaction and absence and replacement.
Secondary hypothesis 12: there is a meaningful relation between effort and obligation.
Secondary hypothesis 13: there is a meaningful relation between effort and obligation.

Theoretical basis and a review on literature
Motivation and motivation theories

Some describe motivation as needs, desires or interior powers of people and they believe that motivation is the reason of behavior but generally we can say that motivation or requirement is an interior motion which forces human being to Endeavour or activity. So being influential of management activities is dependent on individuals’ interior desire inside the organization to perform their own duties. Because individuals’ behavior is generally purposeful and it consists 2 behavior factors: motivation and goal.

So having motivation for staff in doing their duties of individuals’ goal with organizational goals plays an important and main role in the situation of organization as follows:

Types of motivation: behavior authorities have divided types of motivation as follows
1. Preliminary motivations; those which are not acquired and they have physiological basis such as starvation, thirstiness and sleeping.
2. General motivations: those which are not acquired but don’t have physiologic basis such as worthiness, merits.
3. Secondary motivation: those which are acquired such as power, affection.

Also it is motivation that forms individual, organizational and social behavior. Now a definition of organizational behavior is presented:

Definition of organizational behavior

It is a scientific and research field in which the impacts of individual, group and organization upon own behavior inside the organization is considered. The goal is to use this knowledge in path of improvement and being impressive of organization. The most powerful motivations, will determine behavior needs.
Meeting and satisfying needs:
When a need is met its not behavior motivation . Meeting the need means the need to be satisfied at a level to replace the need of another competitor who is now more powerful.

Prevent to satisfy the need
Through meeting the need we may face to obstacle or problem however the result will be decreasing the need power . But this will not happen from first time and a desire may be found for following adaptability behaviors . this effort is in the direction of overcoming the obstacle and its performed through solving problem by method of test and error .
Failures and defeats

Defeat is effort being futile in the path of obtaining goal and aims or facing with problem or creating an obstacle or being barrier in reaching goal. Some of the illogical behaviors which result from defeat are:
1- Protestation; such as cursing and fighting, this behavior can be destructive and rude and hostile.
2- Devising a subterfuge.; to come up with excuse or to put the blame on others such as saying ;it was my boss’ fault.
3- Regression; means not behaving according to age, for example to kick the car when it’s out of order.
4- Establishment or become accustomed: to fox the past usual and general behaviors and prevent from being new and update.
5- Being yield or indifferent: after a long time defeat, individual lose his/her hope to obtain the goal or goals in special situation.

Various needs

People have different needs such hungriness, thirstiness or being tired but here we should consider that the most powerful need determines type of behavior.

Classifying activities

1- Activities in the direction of goal : part of activities will be incited to obtain the goal
2- Goal activities: part of activities which are directly in relation with meeting needs.
3-
Also, in reviewing the literature of motivation and its relation with organizational obligation, there are some other factors which influence increase or decrease of motivation such as efficiency, ability, perception as follow:

1. Organizational obligation is the most important factor of perception. Conducted research shows a positive relationship between organizational obligation and individuals' function.
2. Organizational obligation force individuals to be present in organization and their desire to continue activities in the institute and finally his/her occupation function will be increased. Managers can be aware of efficiency and potential and actual abilities of staffs being under their own control in order to improve quality of human force and through this, they can obtain the goal of an elevated organization.
3. Quatan (1987) tested the relation between function and organizational obligation in Arabia. Ahmad Roghi (1996) considered the influence of organizational obligation on managers' and staffs' desire to leave duty and found a reversed relation between them.
4. More occupational dependency has a reverse relation with absence and resignation. But it seems that we can better predict by this way staffs' replacement in comparison with absence.
5. Chatman and Oriali (1968) define organizational obligation as emotional support with goals and values of an organization for organizations' own sake and far from its' tool values as a means to obtain other goals.

But in relation with motivation and organizational obligation following ideas have been declared:

1. Obligation has a reciprocal relation with amount of rewards and quality of individuals' motivation in organization and regarding rewards especially in professional and non-professional groups has a special role and if it causes increasing their obligation, in next step again it will be with increasing in amount of rewards.
2. Organizational obligation is in related with motivation and job satisfaction and it is observed more among the older staffs and those who have motivation to progress.
3. Researches show that organizational obligation has a positive relation with consequences such as occupational satisfaction, presence and occupational function and has a negative relation with desire to job resignation.
4. Goal acceptance and organization values, desire to cooperate with organization and desire to remain in organization results from obligation.
5. Results of a research show that there is a positive relation between organizational justice and organizational obligation.
6. Function is a guess that staff meets obligations.

Result of a research shows that distribution of rewards and other facilities between colleagues should be done according to determined disciplines and legal and justly manners now the question is that how managers in different management levels use motivation. One of the scientists of organization science believes that managers in each level need three skills as follow:

1. Technical skills: the ability to apply knowledge, methods, techniques and tools necessary to perform specific tasks, and through experience, education and training is to get.
2. Human skills: the ability and judgment in working with people and work done by them, including perception, understanding, motivation and apply effective leadership.
3. Perception skills: the ability to understand the complexities and problems throughout the organization and determine where its activity is a person with appropriate organizations. This awareness makes a person rather than just based on the purposes and requirements of their season around and acts immediately, their actions based organization which aims suitable and appropriate to combine these skills with an enhanced level of management to oversee the overall management of change.

Tip 1 - Cognitive skills is considered at three levels: (A) Recognition of past behavior (B) Predict future behavior (C) Direction control and behavior change.
Tip 2 - Human skills is also presented in three forms: (A) Individual level (B) Group level (C) Organizational level
Tip 3 - Two scientists named Portero Lover and Kurt Lewin with scientific logic and coherence of research and tests to determine the appropriateness of the following models with the relevant components have been introduced:

Motivation theory and expected (Wrom)
The authors proposed model
According to the literature and the above principles, the authors first provide a conceptual model (3) and through solidarity and cohesiveness fit the model and the test has been approved.
Research Methodology

Survey methodology as books, papers, documents and various views of scholars and the Pearson correlation coefficient, hypothesis is confirmed.

Statistical Society

Statistical study of 1350 students from different schools Raahvar Police - Criminal Police and the security that all students studying and considering the formula for determining the number of samples of 7400 individuals were selected. Sampling method was simple Random.

Data Analysis

As you see in the data analysis, ten factors of the number of observed, frequency and rate of Likert scale, the numbers automatically assigned statistical conclusions based on the Likert, it has drawn the level of desirability and undesirability. For the measure of value based on the distance scale, the following numbers is considered. The desirability and undesirability of it is drawn.

Figure No. 12 variables are presented as cumulative analyst about the weaknesses and failures of each standard to consider. Here is the performance variables and the results should more attention be absence varies as the inverse (negative) in the model affects this means that any increase in absenteeism in the workplace, the less motivated students in their study demonstrated and effort and commitment is lower.

Table number 1

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Very low</td>
</tr>
<tr>
<td>2</td>
<td>Low</td>
</tr>
<tr>
<td>3</td>
<td>Average</td>
</tr>
<tr>
<td>4</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>Very high</td>
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Model Number 3
<table>
<thead>
<tr>
<th>Row</th>
<th>Variable</th>
<th>Total view (X)</th>
<th>Percent Abundance</th>
<th>Variable rate based on Likert</th>
<th>Conclusion based on scale Likert</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Effort</td>
<td>74</td>
<td>100</td>
<td>2.71</td>
<td>Almost optimal</td>
</tr>
<tr>
<td>2</td>
<td>Goals and expectations</td>
<td>74</td>
<td>100</td>
<td>2.44</td>
<td>Almost optimal</td>
</tr>
<tr>
<td>3</td>
<td>Ability and talent</td>
<td>74</td>
<td>100</td>
<td>2.45</td>
<td>Almost optimal</td>
</tr>
<tr>
<td>4</td>
<td>Performance</td>
<td>74</td>
<td>100</td>
<td>2.23</td>
<td>Adverse</td>
</tr>
<tr>
<td>5</td>
<td>Results</td>
<td>73</td>
<td>98.6</td>
<td>2.31</td>
<td>Adverse</td>
</tr>
<tr>
<td>6</td>
<td>Equity and justice</td>
<td>74</td>
<td>100</td>
<td>2.61</td>
<td>Almost optimal</td>
</tr>
<tr>
<td>7</td>
<td>Outstanding and timely rewards</td>
<td>69</td>
<td>93.2</td>
<td>2.49</td>
<td>Almost optimal</td>
</tr>
<tr>
<td>8</td>
<td>Commitment and sense of responsibility</td>
<td>69</td>
<td>93.2</td>
<td>2.72</td>
<td>Almost optimal</td>
</tr>
<tr>
<td>9</td>
<td>Satisfaction</td>
<td>74</td>
<td>100</td>
<td>2.46</td>
<td>Almost optimal</td>
</tr>
<tr>
<td>10</td>
<td>Absent and substitution</td>
<td>93.2</td>
<td></td>
<td>2.97</td>
<td>Almost optimal</td>
</tr>
</tbody>
</table>

**Figure 1. Goals and Expectations**

**Figure 2. Goals and Expectations**
Figure 3. Goals and Expectations

Figure 4. Average Responses

Figure 5. Average Responses
Figure 6. Average Responses

Figure 7. Average Responses

Figure 8. Average Responses
Figure 9. Average Responses

Figure 10. Average Responses

Figure 11. Average Responses
In table 3 Pearson correlation between variables in table 2 with the dependent variable (Motivation value) and sided probability values for significant relationships between variables, shown according to the probability values given in the bottom row, the proposed model has been approved.

<table>
<thead>
<tr>
<th>Pearson's correlation coefficient</th>
<th>0.61</th>
<th>0.64</th>
<th>0.52</th>
<th>0.72</th>
<th>0.76</th>
<th>0.51</th>
<th>0.64</th>
<th>0.58</th>
<th>0.58</th>
<th>-0.43</th>
</tr>
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<tbody>
<tr>
<td>Two domains significant</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of samples</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
</tr>
</tbody>
</table>

Table 4. Correlation Coefficient

<table>
<thead>
<tr>
<th>Model variables</th>
<th>Motivation changes value</th>
<th>T- student test</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed coefficient</td>
<td>---</td>
<td>28.687</td>
<td>0</td>
</tr>
<tr>
<td>Effort</td>
<td>0.171</td>
<td>30/687</td>
<td>0</td>
</tr>
<tr>
<td>Results</td>
<td>0.195</td>
<td>40/946</td>
<td>0</td>
</tr>
<tr>
<td>Absence</td>
<td>-0.262</td>
<td>-68/759</td>
<td>0</td>
</tr>
<tr>
<td>Justice</td>
<td>0.187</td>
<td>30/891</td>
<td>0</td>
</tr>
<tr>
<td>Reward</td>
<td>0.181</td>
<td>43/792</td>
<td>0</td>
</tr>
<tr>
<td>Performance</td>
<td>0.203</td>
<td>40/229</td>
<td>0</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.149</td>
<td>32/830</td>
<td>0</td>
</tr>
<tr>
<td>Commitment</td>
<td>0.153</td>
<td>34/068</td>
<td>0</td>
</tr>
<tr>
<td>Ability</td>
<td>0.119</td>
<td>32/278</td>
<td>0</td>
</tr>
<tr>
<td>Expectations</td>
<td>0.145</td>
<td>26/456</td>
<td>0</td>
</tr>
</tbody>
</table>

In Table 4 Regression coefficients for variables in Table 2 with the motivation and the motivation changes and the corresponding coefficients, standard deviations, per unit increase in standard deviation (of Table 2) are in the last column, the values given for the probability Significant relationships between independent variables and the dependent variable are shown in the multiple regression model equation is as follows:

That the amount invested, as is shown by the following equation:

\[ Y = X_1 \cdot X_2 \cdot X_3 \cdot X_4 \cdot X_5 \cdot X_6 \cdot X_7 \cdot X_8 \cdot X_9 \cdot X_{10} \]

As already described the reversal effect of this variable is negative. This means that any increase in absenteeism in the workplace, students are less motivated in their studies and the effort and commitment shown below. When two variables change in a way that the correlation between two variables in the opposite direction of the change is agreed, or both, a negative correlation or inverse relationship would be. In fact, the negative correlation when one variable is changed to increase, other variable decreases, and vice versa, when a variable is reduced, the other variable increases. Correlation analysis between two variables is done through the correlation coefficient.

Note: Compare charts 2 and 3 before indicate that the factors influencing the increase in student motivation than the average of how far the university and university planners on which of these factors should make more investment? Better words can be traced to a regression line in Figure 2 the weight of each component in the model and determine the appropriate point in the regression line, the standards are sufficient incentives for students, committed, efficient, enthusiastic, capable and satisfaction and performance is acceptable.
Discussion

A. - Discussion
1. The process theories of work motivation and expectations, motivation expectation according to this theory, when people are motivated to do something, motivation is equal to the value of the likelihood of goal for that purpose they may also be of value to achieve the goal that in this model the components of the expected, commitment, equality and justice, we can say that students are required to strengthen.
2. According to Porter's model and Lover They believe that motivation (effort force) is equal to the satisfaction and performance. Porter and Lover model specifies that the function does not lead to satisfaction and great events in the traditional ideas.
3. That in our model are also marked differences in their model of a conceptual model introduced in Porter and Lover having that solidarity is needed.
4. Combined with modern theories of motivation and integrate them with the need to develop and strengthen a great time is included it means, who feel a strong need to make progress with the ambition of trying to reach personal goals.
5. Ability and motivation, encouragement, having been the target of the components
6. In the traditional model of motivation, physical aspects of salary increase affects motivation.
7. The human relations model of monetary, reduce repetitive tasks and increases social behavior it is (Seyed Javadin, 1382)
8. Human resources by providing two sets of model assumptions and pessimistic and optimistic aspects of relations between processes, motivation and performance in their efforts to increase its ability and performance is (Seyed Javadin, 1382)
9. Hakman and Valdham in their model to the high internal motivation, high performance, low absenteeism and quit work, sense of responsibility, an awareness refers to the actual results of work activities (Hakman and Valdham 1980)
10. Coherence model of personality, motivations, and why the behavior started and continue the activities of every human being needs, and each of these needs are competing in shaping behavior. What one person from all these needs through its activities to satisfy the need that the activity will be intense. Generally, whenever you need to be satisfied or be an obstacle in the way of its intensity is reduced, resulting in severe need to be replaced by another.
11. Motivated by the desire to provide the organization's hard work in such a way that attempts to satisfy some individual needs to be pushed.
12. Fundamental variable in motivation: 1 - religious beliefs 2-The fair 3 - Good supply of subsistence needs 4 - Guiding objectives 5 - To encourage attention and accolades 6 - Good job design (Olani Page 160) and the relationship between injustice and lack of another form of motivation in the theory of equality has been according to this theory, process not only that amount of money and reward people for their work to get their attention, but try what the others are between the amount of money, than to take action.

Conclusion

The first aim of this study was to investigate the main hypothesis, the main factors increasing the incentive to introduce an integrated model that researchers using theoretical principles of research and give coherence and integration of models and theories of motivation Lover Porter and motivation to achieve a model with the following components:1-Effort 2-Objectives and expectations 3-Ability and talent 4-Operation 5-Results 6-Equality and justice 7-Rewards outstanding and timely 8- Commitment and sense of responsibility 9- Satisfaction 10-Absence and substitution.

The second objective of the study highlight the significant relationships between other components of the model due to the significant test of the Pearson correlation coefficient method, all components and ultimately prove to be a significant model was confirmed.

The third goal for planners is that due to the weight and influence of each component, to compensate for deficiencies and weaknesses to overcome.

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The fourth goal: Among the factors influencing the direction of influence which was a more effective and stronger and a weaker inhibitory effect is reversed and so, as in Figure 11 the average distribution of responses given to the factors in Table 1 you see, effort and commitment to equality and justice among the factors that has more weight and this means that the reverse has the greatest impact on absenteeism and replacement this means that any increase in absenteeism in the workplace, less motivated students in their education and shown below is the effort and commitment.

References


