

The Impact of Achievement Motivation on Academic Achievement and Satisfaction of Adult Learners in an e-Learning Environment

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The purpose of this study is to measure the impact of motivation on academic achievement and satisfaction of adult learners in an e-Learning environment, and to come up with strategies to improve the effectiveness of e-Learning for adult learners. In order to find answer, devices were developed, tested for validity and reliability, and use for testing variables for 289 adult learners. To measure the impact of achievement motivation on learning in job training, a multiple regression analysis was performed. The analysis results show that achievement motivation has an impact on academic achievement with significance level .001, but does not have an impact on a learner's satisfaction. Further analyses on the subcategories of achievement motivation show that individual-oriented motivation affects achievement with significance level of .001, while social-oriented motivation does not. From this finding, some strategies to boost individual-oriented motivation are suggested to enhance effectiveness of job training in e-Learning environment. Further strategies to boost individual-oriented motivation should be developed by studying various aspects of e-Learning such as learning environments, learning culture, learning modes and methods, and evaluation.

Keywords : achievement motivation, individual-oriented achievement motivation, social-oriented achievement motivation

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Introduction

Job training is a factor which affects human performance. It is also identified as an important tool in human resources development to ensure that people do their jobs well in the present and the future. Thus, it can be considered a planned and organized activity of an organization that helps employees improve job knowledge and skills, creates attitudes to adopt to the organization environment, supports efficient job performance, and helps attain the organization's goal. In other words, in the information society, human resource development is a core function of an organization's strategies, and job training is directly related to the value-added productivity of an organization, and becomes a main contributing factor to the success of an organization. Considering this, there should be more systematic and well thought out plan for job training which considers factors which that affect training. In training in an e-Learning environment, various factors might affect a learner's learning. A learner's individual characteristics play very important role especially in an e-Learning environment on one's learning. There are enormous individual differences in the levels of learners' initiatives. Various individual characteristics need to be considered when designing training in e-Learning environment.

Researchers including Campbell (1988, 1989), Latham(1988), and Noe(1986) say understanding a learner's motivation when job training would provide useful insights on the effect of the training. Alliger, Janak(1989), Tannenbaum , Yukl(1992) saythat it is important to find the relationship between the effectiveness of job training and a learner's motivation. Learner's cognitive motivation derives more desirable learning outcomes (Mathieu, Tannennbaum, & Salas, 1992). In other words, academic achievement can be accomplished to a greater degree when a learner monitors and reflects deeply on one's learning than when a learner compare his/her achievement with others. This approach integrates the personal and contextual variances of learner's cognitive activities. It would be true, especially in e-

Learning environment, for an adult learner who has to perform his/her job responsibility and takes a class at the same time. Achievement motivation might play a more important role on a learner's achievement and satisfaction for an adult learner, who has a job responsibility and wants to excel in work environment, than a student whose ultimate goal is to take a class. Until now, there are not that many studies on achievement motivation of adult learners in e-Learning environment. Most research on e-Learning studied cognitive processes and teaching activities without considering the effect of learners' motivation. Even in research on motivation, very few studies were done on achievement motivation. Majority of motivation research was carried out on self-regulated learning or about self-efficacy.

The purpose of this study is to measure the impact of motivation on learning and satisfaction of adult learners in an e-Learning environment, and to come up with strategies to improve the effectiveness of e-Learning for adult learners. It would shed a light on the effectiveness of e-Learning for adult learners. Research questions for this study are as follows:

1. Is there a difference in achievement motivation by demographic characteristics of learner's in e-Learning environment?
2. Does achievement motivation affect the level of academic achievement in e-Learning environment?
3. Does achievement motivation affect the level of learner's satisfaction in e-Learning environment?

Theoretical Backgrounds

Achievement Motivation

In general, achievement motivation is a measure of an individual's willingness to achieve. Motivation can be defined as needs, values, attitudes, or interests. It is also

closely related to cognitive styles and controls such as uneasiness, locus of control, risks taking, extroversion/introversion (Jonassen & Grabowski 1993). Schunk(1989) defined the achievement motivation as 'a process in which goal oriented behavior gets activated and continued'. Noe & Schmitt(1986) define achievement motivation in learning as a 'participant's special need to learn the content of job training program'. Learning occurs as interactions between the learner, teacher, subject, and the learning environment. Among the four affecting factors of learning, achievement motivation is focused on the learner factor. Achievement motivation can be called the will to study or the attitude toward study, so it is considered a major factor to in a learner's academic outcome.

Achievement motivation was first described as the need to achieve by Murray (1938). He described human behavior as the result of the interaction between an individual and her environment. With this construct, the main force of human action can be defined as a need or a motivation, and a situation of one's learning can be defined as a cognitive stimulus (Jonassen & Grabowski, 1993). Murray's term for achievement motivation encompasses the 'need to achieve' as well as overcoming difficulties and obstacles. Achievement suggests evaluations on one's ability in terms of excellence (Ames & Archer, 1984), and a need suggests energizing and direction (Pintrich & Schunk, 1996; Reeve, 1996). In the 1950s, the concept of achievement motivation was mostly studied by psychologists such as McClelland, Atkinson, Clark, Lowell. They shared the common idea that one's achievement depends on the level of one's needs.

McClelland(1961) studied Murray's concept of needs for accomplishment and developed the concept of achievement motivation. However, he was not satisfied with the motivation theories from Freud or Hull, which were based on need (lack of something) or a desire to survive. Lack of food or fear stimulates one's reactive behavior in behaviorist theory. McClelland, however, emphasized that self-initiative behavior comes from one's needs for achievements but not from lack of food or fear. He defined motivation as a network of associations with emotional color. It is called

achievement motivation when a motivation creates an emotion in relation to competition with others, competition with one's own standards of excellence, special accomplishment, self esteem in long term plan(McClelland 1965).

Atkinson(1978) defined achievement motivation as an ability to feel pride in one's own accomplishments (Atkinson & Brich, 1978), and developed an achievement motivation theory with an expectancy-value framework. He suggested that a person with higher achievement motivation shows more expectations of success than fear of failure (Weiner, 1980). Depending on which tendency is higher between a 'tendency to approach success' and a 'tendency to avoid failure', a learner's decision will be made as 'the resultant tendency to approach or avoid an achievement activity'(Stipek, 1998). However, a learner's achievement motivation tendency can change through achievement motivation training(McClelland, 1965; Kolb, 1965).

As seen above, there are various perspectives on achievement motivation. In this study, we define achievement motivation as a continuing will and motivation to accomplish something with high standards. Therefore achievement motivation is an important factor which affects one's learning effect. Achievement motivation will have more effects on the learning of learners who have job responsibilities than on the learning of students in school. This is because learners with jobs have more specific goals to do better job and be competitive in the work force.

Studies on achievement motivation

Atkinson(1964) suggested that affecting factors in achievement motivation predict to success and failure, Recognition of difficulties on the subjects, incentives to success and so on, McClelland(1965) asserted that learners with high achievement motivation have special traits. He added factors such as responsibility for one's behavior, the will to control one's risks, and needs for resultant knowledge to achievement motivation(Biehler & Snowman, 1986). Humphrey & Revelle(1984) pointed out that situation factors such as feedback types, incentives, fear for

punishment, time, stimulant medicine, temperature, noise would affect achievement motivation.

Studies on relationships between achievement motivation and other affecting factors are as follows: Many study results report that there are relationships between achievement motivation and academic achievements (Atkinson, 1964; Kolb, 1965). Ukhwan Kim & et al. (1992) analyzed the study results of 65 Korean theses which were published between 1980 and 1988. They reported that factors such as study habits, achievement motivation, self-concepts, personality, and anxiety affect achievement motivation. Among these factors, achievement motivation is found as the most influencing factor with $r = .752$. McClelland(1961) reported that the relationship between achievement motivation and academic achievement for college students were highly related with correlation coefficient .51. Kolb(1965) found that children with achievement motivation training did better academically than children without the training. Edwards & Waters(1981) say that achievement motivation plays an intermediary role between academic ability and academic achievement. Parvathi & Rama-Ra(1982) find that there is a relationship between achievement motivation and expectation of academic achievement.

Even though we are sure that achievement motivation is very important for academic achievement and job performance, there are some disagreements among researchers on what affects learner satisfaction on learning, what kinds of influence achievement motivation has on academic achievement, and how to enhance motivation to learn (Pintrich & Schunk, 1996). Because a learner's achievement motivation tendency can change through achievement motivation training (McClelland, 1965; Kolb, 1965), we'd like to study the degree of impact achievement motivation and find a way to enhance achievement motivation.

Academic achievement and satisfaction in e-Learning

The purpose of evaluation on training effects is to provide information on whether the training objectives are accomplished, to give feedback on the learning of

participants and the participants' employers, and to plan better training in future (Phillips, 1983; 1997). An overall evaluation of training and suggestions for quality improvements on training can be provided by finding the measure showing how much the training curriculum contributed to the training objectives and productivity of the employer's organization.

Kirkpatrick suggests a 4 level approach model to evaluate the effectiveness of training; evaluation on reaction/response, evaluation on learning, evaluation on behavior, evaluation on results. Level 1, evaluation on reaction/response evaluates how the learners feel about the program, i.e., evaluation on books, teacher, facilities, methodology, lecture content and etc. This evaluation can be used to collect necessary information to improve the training program from the learners' organization (Robinson & Robinson, 1989), and can be used as a main factor to select the HRD program. Level 2, evaluation on learning is to evaluate whether a learner attained the necessary principles, facts and skills from the training. The evaluation methods can be performed by pencil test, skill practice, job simulation and etc. Level 3, evaluation on behavior is to evaluate whether the learners were changed from the learning, whether the knowledge or skills the employee learned from the training improved his job performance. This evaluation can be done through the observation of his/her boss, sub-ordinates, and colleagues or through self-evaluation of his/her pre and post performance. Level 4, evaluation on results is to evaluate whether learner's behavior change affect to the organization in positive way. It can be carried out by monitoring the improvement of the organization in terms of cost reduction, changes in quality (Phillips, 1997).

Holton (1996) presented an evaluation framework which evaluates training programs based on the factors which affect to learning. He presented learning, individual performance, and organizational results as the ultimate outcome of the training. He identified ability, motivation and environment as the affecting factors to the outcome, and the second affecting factors as individual characteristics, attitudes and intervention. Holton's model presented not only a standard by which to evaluate

the program, but presented various factors which make knowledge transfer happen.

In addition to the evaluation on reaction/response, evaluation of learning, evaluation of behavior change, evaluation of results, evaluation of the learner course completion rate, the quantity and quality of a learner's interaction can be included in evaluating the effectiveness of e-Learning. Even though many evaluation methods exist, we will use Kirkpatrick's model with the level 1, evaluation on response/ reaction (satisfaction) and level 2, evaluation on learning(academic achievement). Recently the usefulness of the training material at work is used as a measure of satisfaction(Alliger & Janak, 1989; Warr & Bunce, 1995). Thus, we included overall satisfaction and usefulness of the training at work as subcategories of satisfaction.

From Holton, E. F.(1996). The flawed 4-level evaluation model. *Human Resources Development Quarterly*, 7, 5-26. In Lyle Yorks(2005). *Strategic Human Resources Development*. South-Western: Thomson, Corporation. p. 215.

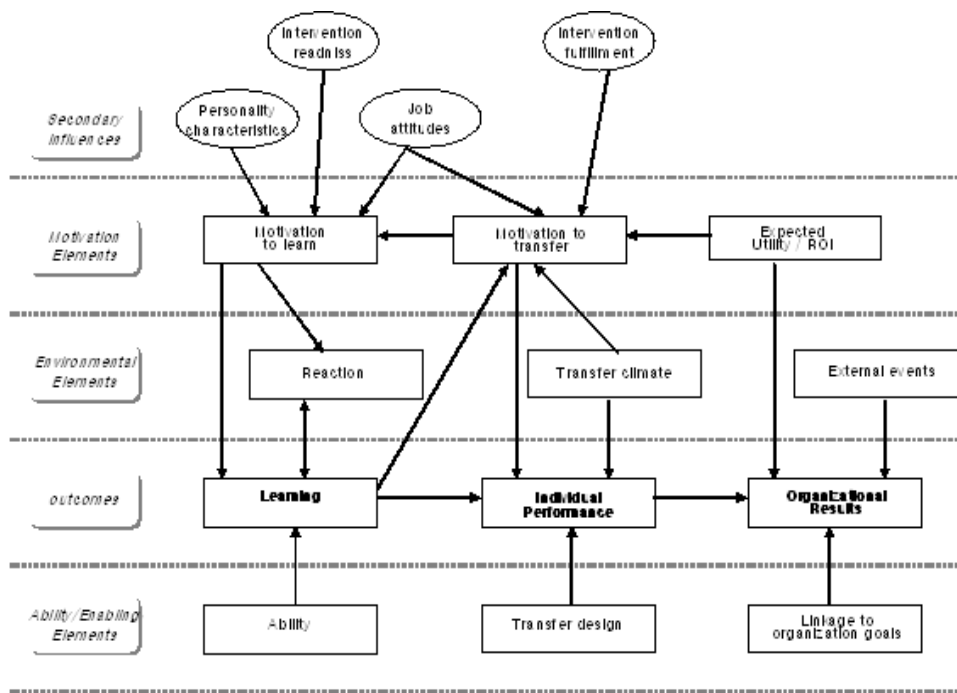


Figure 1. Holton's evaluation research and measurement model

Methodology

Subjects

289 subjects were recruited from civil servants who participated in job training classes through e-Learning. The job training was offered in 8 courses. Each course was consisted of 28 hours of lecture and the duration of the class was 4 weeks.

Survey Instruments

The questionnaire to test achievement motivation and satisfaction was developed to meet the operational definition of this study by adding and revising an existing questionnaire based on a pilot study. A newly developed questionnaire was reviewed by 4 professionals, 3 people who have ph. D. in education technology, 1 person with ph. D. in administration, and by 10 learners through a pilot study. Through this review process, items which might cause misunderstandings or confusion were modified. To obtain reliability and validity coefficients of the instrument, the second pre-test was performed with 50 learners who have online leaning experience. In the second pre-test, cronbach's alph coefficient was used to ensure reliability, and factor analysis was performed to ensure construct validity.

Achievement Motivation

In this study, a new questionnaire was developed by revising and modifying the achievement motivation instruments of Yu & Yang (1994) and Yu(1986) to meet the operational definition of this study. The instrument developed by Yu & Yang(1994) measures Individual Oriented Achievement Motivation (IOAM) and Social Oriented Achievement Motivation (SOAM) with 28 questionnaire items. They pointed out that the achievement motivation theory developed in the West can not be applied in East Asia without some modification, because the previous achievement motivation

theory did not take consideration of cultural contexts and the theory emphasizes individual oriented achievement motivation only. East Asian Confucian values tend to emphasize collective aspects, so in the Asian countries, social oriented achievement motivation, which emphasizes collective goodness, social responsibilities, needs to be measured as well (Yu & Yang, 1994). Instrument in Yu(1986) can measure both individual and collective achievement motivation. In this study, 13 questionnaire items were used and the reliability was .902. In sub-categories, the reliability of IOAM (7 items) was .926 and SOAM (6 items) was .838.

Satisfaction

In job training, the usefulness of the training program, and how helpful the training will be in real work, is important. Thus, this study measured the degree of satisfaction with the course in general, and the usefulness of the job. The survey instrument on satisfaction in general was developed by revising existing questionnaire items used in the training center after examining the validity and reliability of the instrument. The instrument for the usefulness of job training used the instrument of Al-ammar (1994), the concept of the training participants on the effectiveness of training and the instrument of Warr and Bunce (1995) with some modification. In the survey, 17 items were used and the reliability was .937.

Academic Achievement

For the survey on academic achievement, the existing instrument used in the training center was used as is. The test results were used as a basis of learner's academic achievement. There were differences in the degree of difficulties, so academic achievement score was standardized(z-score).

Data Analysis

For the statistical data analysis, SPS 12.0 for windows was used with significance level of .05, .01, and .001. To identify the individual differences on achievement

motivation, one way ANOVA was used. To identify the impact of achievement motivation on learning, multiple regression analysis was used.

Research Results

Factor analysis result on achievement motivation

A factor analysis was performed to see whether the two factors of the sub categories of the independent variable, achievement motivation, are independent from each other. For the factor analysis, principal components analysis was used and varimax rotation was used for the factor rotation method. From the analysis, each factor efficient of the items for the IOAM and SOAM was above .0647 (see table 1). Thus, we could confirm that the IOAM and SOAM are independent concept from each other. More over these two types of achievement motivation explains 66.31% of total variance (see Table 2).

Table 1. Factor analysis result 1 on the achievement motivation items

items	factor 1	factor 2
Individual-Oriented 5	.877	.194
Individual-Oriented 2	.873	.178
Individual-Oriented 4	.860	.154
Individual-Oriented 6	.856	.103
Individual-Oriented 3	.853	.227
Individual-Oriented 1	.791	.202
Individual-Oriented 7	.647	.164
Social-Oriented 12	.244	.814
Social-Oriented 13	.317	.738
Social-Oriented 10	.379	.736
Social-Oriented 11	-.039	.723
Social-Oriented 8	.341	.702
Social-Oriented 9	.013	.660

Table 2. Factor analysis result 2 on the achievement motivation items

component	Initial Eigenvalues			Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings	
	total	% of Variance	Cumulative %	% of Variance	Cumulative %	% of Variance	Cumulative %
Individual-Oriented	6.441	49.547	49.547	49.547	49.547	39.990	39.990
Social-Oriented	2.179	16.763	66.310	16.763	66.310	26.320	66.310

Differences in achievement motivation by demographic and individual characteristics

To verify the differences in achievement motivation due to demographic and individual characteristics, one-way ANOVA was performed and the result is as table 3.

First, for gender differences, even though the male achievement motivation ($M = 3.63$) was higher than that of females ($M = 3.53$), there was no significant difference.

Second, for age differences, the older a person was the higher the achievement motivation. The achievement motivation differences by age difference were statistically significant with significance level .001. Scheffe's test($F(3, 285) = 6.115, p < .001$) for the post comparative analysis shows that the differences between age 20-29 and age above 50 and the differences between the age group of 20-29 and the group of 40-49 were statistically significant.

Third, in years of employment differences, the descending order of achievement motivation was as follows: years of 11-15($M = 3.87$), more than 20 years($M = 3.68$), years of 16-20($M = 3.52$), years of 6-10($M = 3.43$), and years below 5($M = 3.24$). Scheffe's test($F(4, 284) = 13.117, p < .001$) shows that there were significant statistical

differences between years below 5 and years of 11-15, years below 5 and more than 20 years, and years of 6-10 and years of 11-15.

Table 3. Differences in achievement motivation by demographic and individual characteristics

		N	M	SD	F
Gender	male	155	3.63	.58	2.870
	female	134	3.53	.44	
Age	20-29	14	3.19	.64	6.115***
	30-39	111	3.49	.56	
	40-49	115	3.68	.47	
	above 50	49	3.69	.45	
Years of employment	below 5	39	3.24	.64	13.117***
	6-10	53	3.43	.58	
	11-15	62	3.87	.39	
	16-20	55	3.52	.41	
	more than 20	80	3.68	.43	
Job category	administration group	158	3.66	.39	15.470***
	technical service group	84	3.34	.65	
	skills group	47	3.77	.51	
Job class	class 5	28	3.92	.27	10.641***
	class 6	32	3.37	.50	
	class 7	98	3.60	.49	
	class 8	110	3.46	.54	
	class 9 below	21	4.02	.37	
Education level	high school graduate	67	3.71	.39	9.731***
	community college graduate	69	3.31	.66	
	college graduate	134	3.64	.47	
	graduate school graduate	19	3.74	.32	
total		289	3.59	.52	

*** $p < .001$

Fourth, for job category differences, achievement motivation by descending order was by skills group ($M = 3.77$), administration group ($M = 3.66$), and technical service group ($M = 3.34$). There were statistically significant differences at significance level .001. Sheffe's test ($F(2, 286) = 15.470, p < .001$) shows that there were significant differences between the administration group and the technical service group, and the technical service group and the skills group.

Fifth, for job class differences, achievement motivation by descending order was by class 9 below ($M = 4.02$), class 5 ($M = 3.92$), class 7 ($M = 3.60$), class 8 ($M = 3.46$), and class 6 ($M = 3.37$). There were statistically significant differences at significance level .001. Sheffe's test ($F(4, 284) = 10.641, p < .001$) shows that there were significant differences between class 6 and class 9 below, class 7 and class 9 below, and class 8 and class 9.

Sixth, for education level differences, achievement motivation by descending order was by graduate school graduate ($M = 3.74$), high school graduate ($M = 3.71$), college graduate ($M = 3.64$), and community college graduate ($M = 3.31$). There were statistically significant differences at significance level .001. Sheffe's test ($F(3, 285) = 9.731, p < .001$) shows that there were significant differences between graduate school graduate and community college graduate.

The impact of achievement motivation on academic achievement

From the analysis of the impact of achievement motivation on academic achievement, we can see that achievement motivation explains 10.1% of academic achievement with significance level of .001. Analyzing the impact of the sub-categories of achievement motivation, IOAM has the biggest impact ($\beta = .322$) on academic achievement with a significance level of .001. The SOAM does not have any impact on academic achievement ($\beta = .062$) as seen table 4.

Table 4. The impact of achievement motivation on academic achievement

	unstandardized coefficient		standardized coefficient	<i>t</i>	<i>p</i>
	B	SD	β		
constant	-2.098	.389		-5.394***	.000
Individual Oriented	.504	.087	.322	5.761***	.000
Social Oriented	.107	.108	.062	.994	.321
R = .322 R ² = .104 R ² _{adj} = .101					

* $p < .05$, ** $p < .01$, *** $p < .001$

The impact of achievement motivation on satisfaction

From the analysis of the impact of achievement on satisfaction, we can see that achievement motivation explains 7.3% of satisfaction with significance level .001. For the sub-categories of achievement motivation, the impact of IOAM was significant ($\beta = .182$) with significance level of .001 and the impact of SOAM was significant ($\beta = .148$) with significance level of .05. However, only 7.3% of total variance was explained by both IOAM and SOAM, so it is difficult to say that the achievement motivation has any impact on degree of one's satisfaction as seen table5.

Table 5. The impact of achievement motivation on satisfaction

	unstandardized coefficient		standardized coefficient	<i>t</i>	<i>p</i>
	B	SD	β		
constant	2.958	.199		14.866***	.000
Individual Oriented	.143	.050	.182	2.863**	.005
Social Oriented	.129	.055	.148	2.337*	.020
R = .281 R ² = .079 R ² _{adj} = .073					

* $p < .05$, ** $p < .01$, *** $p < .001$

Discussion and conclusion

First, to verify the differences in achievement motivation due to demographic and individual characteristics, one-way ANOVA was performed. At significance level .001, there were significant differences on achievement motivation by age, years of employment, job category, job class, and level of education. There were no significant differences by gender. This result suggests that when we design a training curriculum in e-Learning, we should plan a more detailed curriculum which considers the learner's individual differences and abilities. It also suggests that we should support more diverse instructional strategies and a flexible organization culture to enforce learner's achievement motivation.

Second, to verify the impact of achievement motivation on academic achievement, a multiple regression test was performed. The analysis results show that achievement motivation has an impact on academic achievement with significance level of .001. Further analysis was done on the impact of the sub-categories of achievement motivation. IOAM has a significant impact on academic achievement with a significance level of .001. SOAM does not have any impact on academic achievement.

Third, from the analysis of the impact of achievement motivation on satisfaction, we can see that the impact of IOAM was significant with significance level of .001 and the impact of SOAM was significant with significance level of .05. However, less than 8% of total variance was explained by both IOAM and SOAM, so it is difficult to say that achievement motivation has any impact on learner's satisfaction.

This study result confirms other research results which support that achievement motivation has a significant relationship to a learner's learning in job training(Kolb, 1965; Parvathi & Rama-Rao, 1982; Verma, 1986). Achievement motivation can be suggested as an important factor which affects learner's learning in an e-Learning environment. It would provide a more explanation on learning in e-Learning, because the self-controlled learning ability of a learner itself can not explain the learner's

learning in e-Learning(Lee, 2003).

From the research analysis and results above, we can make following suggestions to improve academic achievement and satisfaction of adult learners in job training through e-Learning environment.

First, there should be changes in organization and learning culture to support achievement motivation and provide training on it.

Second, it is necessary to make a learning environment, instructional design and teaching strategies which promote individual oriented achievement motivation. We made some attempts to identify what types of e-Learning environments, e-Learning types, methodology, and evaluation methods would help learners improve their achievement motivation.

- The e-Learning environment: a place where a learner can learn at their learning ability and build achievement motivation and positive self-concept.
- The e-Learning types and methods: to improve achievement motivation, let a learner select one's own attainable goal with challenges. Let a learner deal with his/her own failure and select his/her own learning activities. Let learner focus on his/her own achievement rather than comparing his/her achievement with others.
- The evaluation: Instead of evaluating a learner's knowledge accumulation in an e-Learning environment, evaluate a learner's ability to work in a team, work with his/her plan, and problem solve with other learners, etc..

This research only studied the impacts of achievement motivation on learner's learning in job training through e-Learning. Environment did not give any explanation on what factors might affect achievement motivation. Thus, in the future more studies need to be done to identify concrete factors of achievement motivation. Even though some strategies to improve achievement motivation were suggested here, more studies need to be done to identify strategies in the context of organization structure and learner characteristics.

References

- Al-ammam, S. A. (1994). *The influence of individual and organizational characteristics on training motivation and effectiveness*. Unpublished doctoral dissertation, The State University of New York, Albany.
- Alliger, G. M., & Janak, E. A. (1989). Kirkpatrick's levels of training criteria: Thirty years later. *Personnel Psychology*, *42*, 331-342.
- Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Student learning strategies and motivation processes. *Journal of Educational Psychology*, *80*, 260-267.
- Atkinson, J. (1964). *An introduction to motivation*. Princeton, NY: Van Nostrand.
- Atkinson, J. W., & Brich, D. (1978). *Introduction to motivation*. NY: Van Nostrand.
- Biehler, R. F., & Snowman, J. (1986). *Psychology applied to teaching*. Boston: Houghton Mifflin.
- Borges, M. A., & Laning, B. (1979). Relationships between assertiveness, achievement motivation, feminist attitudes, and locus of control in the college population. *Psychological Reports*, *44*(2), 545-546.
- Campbell, J. P. (1988). Training design for performance improvement. In J. P. Campbell, R. J. Campbell (Eds.). *Productivity in organization: New perspective from industrial and organizational psychology*. San Francisco: Jossey Bass.
- Edward, J. E., and Waters, L. K. (1981). Moderating effect of achievement motivation and locus of control on the relationship between academic ability and academic performance. *Educational and Psychology Measurement*, *41*(2), 219-224.
- Gage, N. L. & Berliner, D. C. (1984). *Educational psychology*. Boston: Houghton Mifflin.
- Harackiewicz, J., & Elliot, A. (1993). Achievement goals and intrinsic motivation. *Journal of Personality and Social Psychology*, *65*, 904-915.
- Holton, E. F. (1996). The flawed 4-level evaluation model. *Human Resources Development Quarterly*, *7*(1), 5-26.
- Hrebiniak, L. G. & Alutto, J. A. (1972). Personal and Role-related factors in

- the development of organizational commitment. *Administrative Science Quarterly*, 17, 555-573.
- Humphrey, M. S., & Revelle, W. (1984). Personality, motivation, and performance: A theory of the relationship between individual differences and information processing. *Psychological Review*, 91(2), 153-184.
- Hwang, K., Kim, H., Park, S., Song, K., Yang, I., Yang, H., Lee, K., & Lee, C. (2001). *Chojikbaengdongui ehae*. Seoul: Pakyoungsa
- Jonassen, D. H., & Grabowski, B. L. (1993). *Handbook of individual differences, learning, and instruction*. Lawrence Erlbaum Associates.
- Kim, C. (1997). Effectiveness of Job Training and Significant Factors. Doctoral Dissertation. Seoul National University.
- Kolb, D. A. (1965). Achievement motivation training for under achieving boys. *Journal of Personality and social psychology*, 2(6), 783-792.
- Lee, I. (2003). Designing e-Learning Environment and Self-Regulated Strategies, Self-efficacy, and e-Learning Academic Achievement and Finding Relational Factors. *Journal of Educational Technology*, 19(3), 41-68.
- Maehr, M. (1982). *Motivational factors in school achievement*. Paper commissioned by the National Commission on Excellence in Education.
- Mathieu, J. E., Tannenbaum, S. I., & Salas, E. (1992), Influence of individual and situational characteristics on measures of training effectiveness. *Academy of Management Journal*, 35(4), 828-847.
- McClelland, D. C. (1965). Toward a theory of motive acquisition. *American Psychologist*, 20, 321-333.
- Noe, R. A. (1986). Trainee's attributes and attitudes: Neglected influences on training effectiveness. *Academy of Management Review*, 11, 736-749.
- Noe, R. A. and Schmitt, N. (1986). The influence of trainee attitudes on training effectiveness: Test of model. *Personnel Psychology*, 39, 497-523.
- Parvathi, S., & Rama-Rao, P. (1982). Problem solving, need for achievement and social desirability. *Journal of Psychological Research*, 26(2). 88-92.

- Phillips, J. J. (1983). Training programs: A results-based model for managing the development of human resources. *Personnel*, May/June, 11-18.
- Phillips, J. J. (1997). *Handbook of training evaluation and measurement method* (3rd ed.). Texas, Houston: Gulf Publishing Company.
- Pintrich, P. R., & Schunk, D. H. (1996). *Motivation in Education: Theory, Research, and applications*. Englewood Cliffs, NJ: Prentice-Hall.
- Reeve, J. (1996). *Understanding motivation emotion*. Fort Worth, TX: Harcourt Brace Jovanovich College Publishers.
- Robinson, D. G., & Robinson, J. C. (1989). *Training for impact: How to link training to business needs and measure the results*. San Francisco, CA: Jossey-Bass.
- Schunk, D. H. (1989). Self-efficacy and cognitive skill learning. In C. Ames & R. Ames(Eds.), *Research on motivation in education: Goals and cognition*. San Diego: Academic Press.
- Stipeck, D. (1998). *Motivation to learn from theory to practice* (3rd ed.). Boston: Allyn & Bacon.
- Tannenbaum, S. I., & Yukl, G. (1992). Training and Development in work organizations. *Annual Review of Psychology*, 43, 399-441.
- Verma, O. P. (1986). Achievement motivation: A multivariate study. *Indian Psychological Review*, 30(2), 1-10.
- Warr, P., & Bunce, D. (1995). Trainee characteristics and the outcomes of open learning. *Personnel Psychology*, 48(2), 347-375.
- Weiner, B. (1980). A theory of motivation for some classroom experiences. *Journal of Educational Psychology*, 71, 3-25.
- Weiner, B. (1985). *Human motivation*. New York: Springer.
- Yu, A. B. & Yang, K. S. (1994). The nature of achievement motivation in collectivistic societies. In U. Kim, H. C. Triandis, C. Kagitcibasi, S. C. Choi. S., & G. Yoon(Eds.), *Individualism and collectivism: theory, method, and application*, 18, Cross-cultural research and methodology series. CA: Sage publication, 239-250.

Yu, C. (1986). Development of Measurement Criteria for Academic Motivation, *Chungnam Daehakkyo Kongup Kyoyuk Yunguso nonmunjip*, 8(3), 10-16.



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