

The Role of Metacognition Awareness in EGP Progress Test

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Abstract – This paper aims to determine the relation between metacognition awareness and students' success in general English progress test among students of Azad university of Sirjan, Iran. The participants were all the researchers' students and consisted of 75 male and female students who were studying "Thoughts & Notions 2" by Patricia Ackert and Linda Lee (second edition) as their general English course. First of all, they were provided by the metacognition awareness inventory (Schraw & Dennison, 1994) and then they were given a progress test from their book including grammar and vocabulary questions. Before doing the correlation between the two variables, normality of the variables was tested by Kolmogorov-Smirnov test and the results showed metacognition variable was normal whereas the EGP (English for General Purposes) was not. Since one of the variables was not normal it was not possible to use Pearson correlation coefficient, therefore the Spearman correlation coefficient was applied and the results confirmed there was no significant relation between the two variables. Next the means of scores belonging to metacognition were compared between males and females. According to the Leven test results the variances were equal and also the T-test results showed the scores' means were equal between males and females. Afterwards the scores' means belonging to EGP were compared between males and females. Since the EGP variable was not normal, the data were considered non-parametric, therefore instead T-test, Mann-Whitney test was applied and the results showed the scores' means were different between males and females.

Keywords: metacognition awareness, EGP, progress test

I. INTRODUCTION AND BACKGROUND OF THE STUDY

A. What is metacognition?

Metacognition means language learners keep thinking about different ways they constantly use while learning a second language and how these ways affect their learning. (Anderson, 2002; Flavell, 1979). A student may ask himself "Am I really leaning or I am just wasting my time?" He may ask himself whether the strategy he is using is worthy or not or if there are other strategies which can be more beneficial for him.

Metacognition, metacognitive beliefs and metacognitive strategies can play an important role in learning a second language (Pintrich and de Groot, 1990; Pintrich et al., 1993; Rasekh and Ranjbary, 2003; Schunk and Zimmerman, 1994; Zimmerman, 2000).

According to Sinclair (2000), language learners cannot evaluate or judge their own learning without considering metacognition. When it comes to metacognition, we can feel something else. It is said cognitive activities refer to what we do or what happens while we are studying or learning in a class. All the analyses that we do belong to this category whereas metacognition goes beyond simple cognition. It is agreed that metacognition means what a person or student thinks of what is happening during studying or learning. For instance, a student may think how fast or how well or even how useful his studies are. He may think of the quality of what he is doing. This kind of thinking is known as metacognition.

Metacognitive beliefs change a language learner into an active learner who is all the time checking the quality of their learning instead of remaining passive (Paris and Winograd, 1990). When it comes to metacognition, there are some concepts accompanying it which ring a bell and they are self-appraisal, self-management and students' expectations from themselves. (Paris and Winograd, 1990). Actually when a student cares about the quality of his studies, he will not study only to hand in a project or his homework. He studies to learn something new and he wants to improve his status. He is always searching for ways to be different from yesterday. On the contrary there are some students who never care about the quality of their studies. They just want to do or finish a project and get rid of the responsibility they were assigned to do. Somehow the difference between active and passive students can become clear by this.

Thinking about one's learning and constant evaluation of the learning quality may lead to being a learner who is more goal oriented. Such learners are not usually afraid of failure because they know failure is a bridge which shows the path to more effort and more success. (Clifford, 1984). Sometimes a student may think he is not successful enough and he starts searching for new strategies of studying in order to succeed faster. At first, he may not be as successful as he thought. He may even fail at first but a real active student will never feel upset or depressed because of the failures on his way because every failure can be a valuable experience which teaches him how to move or try in future.

Metacognitive beliefs can be divided into three parts which are person knowledge, task knowledge and strategy knowledge (Wenden, 1991). As for person knowledge, students are first expected to know themselves very well from different aspects. How they learn different subjects, how they process information, which aspects are easy for them and which of them are hard to learn. They must know what their positive and negative behaviors are.

In addition students must have enough knowledge about the tasks they need to work on. They must have enough skills and information to be able to manage them in an educational setting or anywhere else. Last but not least, there is the strategy knowledge which links both cognition and metacognition. It means students must know where and when and how to use a special strategy of learning. They can choose, test, and review cognitive projects or tasks, aims and methods by consulting with others. (Flavell, 1979). Consulting with others is a great solution for many problems. There are a large number of students who feel shy to ask others' opinions about their problems because they think others may think they are not proficient enough. However it is not true and sometimes asking others for help can be very beneficial. A friend or colleague or even a teacher may provide that person only with a hint which might turn into a great idea or a big success.

Students who have a negative point of view towards using metacognitive strategies are not very successful and they tend to make more wrong decisions about their learning but students who have a positive point of view, tend to be more successful and more self-critical. (Gardner and Miller 1999). There are some pessimist students who just emit negative energy about anything. They always nag about their homework, their teachers, their own success in the future and so on. Such students demotivate both themselves and even other ones around them. Although if a student feels happy and energetic and full of positive energy he can motivate both himself and other students. As it is argued students with high spirits and more positive energy can attract more success to themselves.

Metacognitive strategies usually consist of some executive skills which check if the learner is successful or not (O'Maley and Chamot, 1990). Metacognitive strategies have to do with making a connection between old and new information, planning, evaluating learning and thinking (Dirkes, 1985). If a learner really cares about metacognition and tries to implement it in his own learning, it will lead that learner to more learning which eventually changes that learner into an autonomous learner. (Cohen, 1998; Hedge, 2000; Wenden, 1991; Williams and Burden, 1997). When a student first needs to consult with others about his problems, he receives a lot of hints from others which can be helpful and gradually that student himself learns how to do more research, how to find more books or articles and even how to solve his own problems and this state is famous as autonomy or independence.

Graham (1997) believes students who ignore metacognition are actually losing their direction while learning because metacognition keeps monitoring cognition. Anderson (2002) asserts when a student uses metacognitive strategies, he is actually boosting his cognitive capabilities which will lead to more successful performance and more fruitful learning.

B. Objectives of the Study

The present study is bound to determine if there is any relation between metacognitive awareness and students' success in general English progress test. Since metacognition centers around evaluating one's quality of learning or studying, and if a student engages themselves in such evaluations, they will attract more success towards themselves, it is beneficial to check whether these two variables are related to each other or not.

II. METHODOLOGY

A. Participants

This research is going to focus on the relation between metacognition awareness and students' success in their general English progress test. The participants in this research were chosen randomly by cluster sampling and were all studying general English in Azad university of Sirjan, Iran. The participants were totally 75 students, 39 males and 36 females.

B. Instruments

First of all, the researchers provided the participants with metacognition awareness inventory (Schraw& Dennison, 1994) and then they were given a progress test consisting of vocabulary and grammar questions from the book “Thoughts & Notions 2” by Patricia Ackert and Linda Lee (second edition) which they were studying as their general English course.

C. Data Collection

Next, to do the correlation between the variables and determine the difference between male and female students, Kolmogorov-Smirnov test, Spearman correlation coefficient, Leven test and also Mann-Whitney test were applied. Data analysis was done by means of SPSS software version IBM Corp. Released 2010. IBM SPSS Statistics for Windows, Version 19.0. Armonk, NY: IBM Corp.

III. RESULTS AND DISCUSSION

A. Correlation coefficient between metacognition and EGP variables

To investigate the correlation between two variables of metacognition awareness and EGP progress test, first of all, it must be assured if the two mentioned variables are confirmed to be normal. To this aim, Kolmogorov-Smirnov test is applied whose results are fully shown in Table 1. With regard to the obtained results in table 1 because the significance level of the metacognition variable is greater than 0.05, the mentioned variable is approved to be normal whereas the EGP variable whose significance level is confirmed to be less than 0.05, is not normal. Accordingly, since the two mentioned variables are not normal, it is not possible to use Pearson coefficient to test the relation between them, hence, it is Spearman correlation coefficient test which must be applied.

Table 1: One-Sample Kolmogorov-Smirnov Test

		metacognition	EGP
N		75	75
Normal Parameters ^a	Mean	37.4267	17.9867
	Std. Deviation	7.80363	2.11490
Most Extreme Differences	Absolute	.099	.191
	Positive	.084	.171
	Negative	-.099	-.191
Kolmogorov-Smirnov Z		.854	1.652
Asymp. Sig. (2-tailed)		.459	.009

a. Test distribution is not Normal.

Table 2 fully elaborates on the results obtained from Spearman correlation coefficient test. As the results in table 2 show, because the obtained significance level is greater than 0.05, there cannot be any relation between the two variables of metacognition awareness and EGP progress test.

Table 2 ,Correlations

			metacognition	EGP
Spearman's rho	metacognition	Correlation Coefficient	1.000	-.005
		Sig. (2-tailed)	.	.963
		N	75	75
	EGP	Correlation Coefficient	-.005	1.000
		Sig. (2-tailed)	.963	.
		N	75	75

B. Comparison of the scores means belonging to metacognition variable between EGP male and female students

To do this comparison, first of all it is necessary to check normality of the two variable and also variances must be equal. To test normality of metacognition variable, Kolmogorov-Smirnov test was applied and the normality of the variable was approved. To test equality of variances, Leven testis needed. Table 3 belongs to descriptive statistics of the metacognition variable in which the mean and standard deviation of this variable is shown between males and females.

Table 3 , Group Statistics

sex		N	Mean	Std. Deviation	Std. Error Mean
metacognition	Female	24	37.8333	7.62528	1.55650
	Male	51	37.2353	7.95384	1.11376

Table 4 illustrates the results of the Leven test to show equality of variances belonging to the metacognition variables between males and females and also T-test which compares the means of scores belonging to metacognition between males and females and also T-test which compares the means of scores belonging to metacognition between males and females. Leven test results showed the significance level is greater than 0.05 which means variances of metacognition scores are equal between males and females. In such condition T-test can be applied based on equality of variances between males and females. T-

test was applied and the results showed the obtained significance level is 0.759 and because it is greater than 0.05, it is deducted that means of scores are equal between male and female students of EGP.

Table 4, Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
metacognition	Equal variances assumed	.060	.808	.308	73	.759	.59804	1.94361	-3.27557	4.47165
	Equal variances not assumed			.312	46.924	.756	.59804	1.91394	-3.25248	4.44856

C. Comparison of the scores means belonging to EGP test between males and females

To do this comparison, first it is necessary that the scores of the two groups be normal and also they must have equal variances. To test normality of the EGP scores, Kolmogorov-Smirnov test was applied before and their normality was rejected. Therefore, it means the collected data are non-parametric and they are confirmed to be non-parametric. The non-parametric equivalence of T-test is called Mann-Whitney test and here this test is needed. Table 5 shows the mean and the sum of ranks belonging to EGP scores.

Table 5 , Ranks

sex	N	Mean Rank	Sum of Ranks
ESP	Female	49.17	1180.00
	Male	32.75	1670.00
Total	75		

Table 6 shows the results of Mann-Whitney test in which the obtained significance level is confirmed to be less than 0.05 and it means the scores means belonging to EGP test between males and females are different.

Table 6 , Test Statistics^a

	ESP
Mann-Whitney U	344.000
Wilcoxon W	1.670E3
Z	-3.125
Asymp. Sig. (2-tailed)	.002

a. Grouping Variable: sex

IV. CONCLUSION

Metacognition awareness is meant to play an important role in the quality of learning by evaluating the learning quality. It is not something hard to do. If students care about the strategies they use while learning or studying, they will come up with interesting results about their studying and learning methods which can be beneficial because they can see their strengths and weaknesses which pushes them forward or conversely keeps them behind. The research at hand showed there was no relation between the metacognition awareness level of the students and their success in their progress test although some other research somewhere else in another context may prove a result completely different from this. To sum up evaluation of any activity related to academic or educational settings can be useful in that it shows what right or wrong decisions we have made.

REFERENCES

- Anderson, N.J., (2002). The role of metacognition in second language teaching and learning. *ERIC Digest*. Education Resources Information Centre.
- Anderson, N.J., (2003). Metacognitive reading strategies increase L2 performance. *The Language Teacher*, 27, 20–22.
- Clifford, M.M., (1984). Thoughts on a theory of constructive failure. *Educational Psychologist*, 19, 108–120.
- Cohen, A.D., (1998). *Strategies in Learning and Using a Second Language*. Longman.
- Dirkes, M. Ann., (1985). Metacognition: students in charge of their thinking. *Roepers Review* 8, 96–100 (EJ 329 760).
- Flavell, J.H., (1979). Metacognition and cognitive monitoring: a new area of cognitive developmental inquiry. *American Psychologist* 34, 906–911.
- Gardner, D., Miller, L., (1999). *Establishing Self-access*. Cambridge University Press, Cambridge.
- Graham, S., (1997). *Effective Language Learning: Positive Strategies for Advanced level Language Learning*. Multilingual Matters, Clevedon, England.
- Hedge, T., (2000). *Teaching and Learning in the Language Classroom*. Oxford University Press.

- O'Maley, J.M., Chamot, A.U., (1990). *Learning Strategies in Second Language Acquisition*. Cambridge University Press, NY.
- Paris, S.G., Winograd, P., (1990). How metacognition can promote academic learning and instruction. In: Jones, B.F., Idol, L. (Eds.), *Dimensions of Thinking, Cognitive Instruction*. Erlbaum, Hillsdale, NJ, pp. 15–51
- Pintrich, P.R., de Groot, E., (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology* 82, 33–50.
- Pintrich, P.R., Smith, D.A., Garcia, T., McKeachie, W.J., (1993). Reliability and Predictive Validity of the Motivated Strategies for Learning Questionnaire (MSLQ) *Educational and Psychological Measurement* 53, 801–813.
- Rasekh, Z.E., Ranjbar, R., (2003). *Metacognitive strategy training for vocabulary learning*. TESL-
- Schraw, G. & Dennison, R.S. (1994). Assessing metacognitive awareness. *Contemporary Educational Psychology*, 19, 460-475.
- Schunk, D. H., & Zimmerman, B. J. (1994). *Self-regulation of learning and performance: Issues and educational applications*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Sinclair, B., (2000). Learner autonomy: the next phase? In: Sinclair, B., McGrath, I., Lamb, T. (Eds.), *Learner Autonomy, Teacher Autonomy: Future Directions*. Longman, pp. 4–14.
- Wang, J, Spencer .K, Xing .M (2008). Metacognitive beliefs and strategies in learning Chinese as a foreign language. *System* 37, 46-56.
- Wenden, A.L., (1991). *Learner Strategies for Learner Autonomy*. Prentice Hall, Hemel Hempstead.
- Wenden, A., (1999). An introduction to metacognitive knowledge and beliefs in language learning: beyond the basics. *System* 27, 435–441.
- Wenden, A.L., (1991). *Learner Strategies for Learner Autonomy*. Prentice Hall, Hemel Hempstead
- Williams, M., Burden, R.L., (1997). *Psychology for Language Teacher: a Social Constructivist Approach*. Cambridge, CUP.
- Zimmerman, J., (2000). Self-Efficacy: An essential motive to learn. *Contemporary educational psychology* 25, 82-91.

APPENDIX

Metacognitive Awareness Inventory (MAI)

Check True or False as appropriate. Use the Scoring Guide after completing the inventory. Contact Pamela Runge, Student Success Specialist at 443-412-2429 to discuss strategies to increase your metacognitive awareness.

- | | True | false |
|---|------|-------|
| 1. I ask myself periodically if I am meeting my goals. | | |
| 2. I consider several alternatives to a problem before I answer. | | |
| 3. I try to use strategies that have worked in the past. | | |
| 4. I pace myself while learning in order to have enough time. | | |
| 5. I understand my intellectual strengths and weaknesses. | | |
| 6. I think about what I really need to learn before I begin a task | | |
| 7. I know how well I did once I finish a test. | | |
| 8. I set specific goals before I begin a task. | | |
| 9. I slow down when I encounter important information. | | |
| 10. I know what kind of information is most important to learn. | | |
| 11. I ask myself if I have considered all options when solving a problem. | | |
| 12. I am good at organizing information. | | |
| 13. I consciously focus my attention on important information. | | |
| 14. I have a specific purpose for each strategy I use. | | |
| 15. I learn best when I know something about the topic. | | |
| 16. I know what the teacher expects me to learn. | | |
| 17. I am good at remembering information. | | |
| 18. I use different learning strategies depending on the situation. | | |
| 19. I ask myself if there was an easier way to do things after I finish a task. | | |
| 20. I have control over how well I learn. | | |
| 21. I periodically review to help me understand important relationships. | | |
| 22. I ask myself questions about the material before I begin. | | |
| 23. I think of several ways to solve a problem and choose the best one. | | |
| 24. I summarize what I've learned after I finish. | | |
| 25. I ask others for help when I don't understand something. | | |
| 26. I can motivate myself to learn when I need to | | |
| 27. I am aware of what strategies I use when I study. | | |
| 28. I find myself analyzing the usefulness of strategies while I study. | | |
| 29. I use my intellectual strengths to compensate for my weaknesses. | | |
| 30. I focus on the meaning and significance of new information. | | |
| 31. I create my own examples to make information more meaningful. | | |