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FACTORS AFFECTING THE ACADEMIC RESULTS OF MASTER STUDENTS IN MATHEMATICS EDUCATION AT CAN THO UNIVERSITY, VIETNAM: A SURVEY STUDY

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Abstract:
The study results were based on the survey data of 24 students studying the master program in math education at Can Tho University, Vietnam. We used the questionnaire to find out the factors affecting students' learning outcomes: Learning time, learning conditions, learning environment, personal level, learning methods, collaborative learning, learning attitudes. The results show factors such as learning conditions, learning environment, time for leaning, qualifications, teaching methods, learning methods, cooperation in learning, attitude in learning are factors that significantly affect the learning of master students in Mathematics education. Therefore, universities with high-level training programs should have adequate facilities for students' learning; lecturers know how to use teaching methods to promote self-study and self-study for students, improve their ability to work independently, the ability to cooperate in the learning and research process of students. In other words, universities must uphold their responsibilities when implementing intensive training programs, helping learners with necessary competencies as expected of the community and society.

Keywords: learning conditions, learning facilities, learning plan, learning result, factors affecting learning achievements, master student in mathematics education

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1. Introduction

Can Tho University is one of the leading universities in Vietnam for training and education, especially in Mekong Delta region of Vietnam. The university has been continually expanding the size and quality of training to create favourable conditions for students to learn better. Since 2010, Can Tho University has been allowed by the Ministry of Education and Training to carry out the master program in Mathematics Education. Continuously improving the academic achievement of graduate students is the top concern of school leaders and teachers. One of the issues that help managers make practical improvements is to seek out the opinions of the students themselves who receive the training program on aspects related to the implementation of the curriculum. Continuously improving the academic achievement of graduate students is the top concern of school leaders and teachers. One of the issues that help managers make practical improvements is to seek the opinions of students themselves who receive the training program on aspects related to the implementation of the curriculum. Therefore, we conduct graduate students' perceptions and opinions on the factors that affect their academic performance. Our survey was conducted with students in postgraduate studies in mathematics education. The results will help us better understand the aspirations of our students so that we can make changes so that the training program will be more effective in the following years.

2. Factors affecting master students' performance: international experiences

One of the significant factors that affect performance in mathematics among master students at the university comprises of poor learning conditions. The master students are exposed to poor living conditions at the school residence and the communities that host nonresidential learners (Thai et al., 2017). Low-income family and specific economic conditions and lack of academic support from the students' employers are factors that lead to poor learning conditions to such students and in turn, affect their academics. The learning environment that the university offers the students also affects the apprentices' academic results in various ways (Amer et al., 2019). Some of the significant issues affecting masters' students under the learning environment entail poor classroom atmosphere, poor lecturers teaching methods, uncertified training programs within the university, and backdated or lack of enough equipment and facilities use in the master students learning.

Another factor that contributes to poor results by the mathematics master students at the university includes lack of time for personal studies and time for class attendance. This is as a result that most of the postgraduate students are employed and have minimum time to focus on their studies (Pruekpramool et al., 2018). Low personal qualification is another factor resulting in such students' poor academics. For instance, the students are not capable of absorbing teachings in class, do research on their own and lack of additional skills such as computer knowledge. Jensen et al. (2015) state that

ignorance in self-study methods, negative attitude towards learning and lack of students' collaboration in education are additional factors attributing to the master students' poor academic performance.

In order to enhance the academic results of students, the role of university leadership and teachers also are very vital. Reynold (1998) has done a study on the factors that can enhance the achievement of the students in education organization, resulting in five factors that have been explored that are affecting the performance of the student such as teaching basic skills to students, actively expecting from each student, formative assessment activities, safe institutional environment and dynamic institutional leadership. Khurshid (2014) showed that management of higher education plays an essential role in successful students if they devise management methods in collaboration with the needs and aspirations of teachers and students. Universities can provide a favourable learning environment with maximum learning resources to each learning. Teachers should encourage and can create an open learning environment that supports brilliant success. Furthermore, teachers who are interested in their subjects arouse students to become interested in it.

3. Research purpose

The purpose of the study is to find out factors that directly or indirectly affect the learning of master students in Mathematics Education.

4. Research methods

4.1 Subjects surveyed

24 master students studying in Mathematics Education program (2018-2020), Can Tho University, Vietnam.

4.2 Survey method

Using the 5 - level Likert scale questionnaire with 7 categories (25 items) related to factors affecting student learning outcomes as follows:

A. Learning conditions

1) Living conditions;
2) Economic conditions;
3) Workplace;

B. Learning environment

4) Classroom atmosphere;
5) Teaching methods of lecturers;
6) University's training program;
7) Facilities, equipment for learning;

C. Time for study

8) Time for self-study;

9) Time for leaning in a group;
10) Time for learning in the classroom;

D. Personal qualifications

11) Knowledge at the university level;
12) Ability to absorb in class;
13) Ability to research documents;
14) English proficiency;
15) Computer skills;

E. Self-study methods

16) Setting learning plans and goals;
17) Method of learning;
18) Thinking, being creative in learning;

F. Self-learning attitudes

19) Motivation for learning;
20) Being disciplined, persistent in learning;
21) Ability to self-assess learning results;
22) Competition in learning;

G. Collaborating in learning

23) Collaborating among students;
24) Cooperating with lecturers;
25) Cooperating in scientific research.

5. Data and statistical analysis

The statistical method used to summarize data and evaluate results.

6. Research results

Table 1: The results of the survey (N=24)

Factor	Level / Item	Absolutely unimportant	unimportant	Normal	Important	Very important
Conditions of study	1. Living conditions of yourself	0 (0.00%)	1 (4.16%)	2 (8.33%)	17 (70.83%)	4 (16.66%)
	2. Economic conditions of self and family	0 (0.00%)	0 (0.00%)	1 (4.16%)	9 (37.5%)	14 (58.33%)
	3. Conditions of workplace support	0 (0.00%)	0 (0.00%)	5 (20.83%)	7 (29.16%)	12 (50%)
Learning environment	4. Classroom atmosphere	1 (4.16%)	0 (0.00%)	8 (33.33%)	12 (50%)	3 (12.5%)
	5. Teaching methods of lecturers	0 (0.00%)	0 (0.00%)	0 (0.00%)	9 (37.5%)	15 (62.5%)
	6. The training program at the university level	0 (0.00%)	0 (0.00%)	1 (4.16%)	13 (54.16%)	10 (41.66%)
	7. Facilities, equipment for learning	1 (4.16%)	0 (0.00%)	5 (20.83%)	15 (62.5%)	3 (12.5%)

Time for self - study	8. Time for self-study	0 (0.00%)	0 (0.00%)	1 (4.16%)	14 (58.33%)	9 (37.5%)
	9. Time for learning in a group	0 (0.00%)	1 (4.16%)	2 (8.33%)	17 (70.83%)	4 (16.66%)
	10. Time for learning in the classroom	0 (0.00%)	0 (0.00%)	5 (20.83%)	16 (66.66%)	3 (12.5%)
Personal qualifications	11 Knowledge remains at the university level	0 (0.00%)	0 (0.00%)	5 (20.83%)	15 (62.5%)	4 (16.66%)
	12. Ability to absorb in class	0 (0.00%)	0 (0.00%)	2 (8.33%)	17 (70.83%)	5 (20.83%)
	13. Ability to study documents	0 (0.00%)	0 (0.00%)	1 (4.16%)	15 (62.5%)	9 (37.5%)
	14. English skills	0 (0.00%)	0 (0.00%)	3 (12.5%)	14 (58.33%)	7 (29.16%)
	15. Computer skills	0 (0.00%)	0 (0.00%)	5 (20.83%)	13 (54.16%)	6 (25%)
Self-study methods	16. Setting learning plans and goals	0 (0.00%)	1 (4.16%)	2 (8.33%)	14 (58.33%)	7 (29.16%)
	17. Method of learning each subject	0 (0.00%)	1 (4.16%)	2 (8.33%)	16 (66.66%)	5 (20.83%)
	18. Critical and creative thinking in learning	0 (0.00%)	0 (0.00%)	4 (16.66%)	14 (58.33%)	6 (25%)
Self-study attitudes	19. Determining motivation for learning	0 (0.00%)	1 (4.16%)	3 (12.5%)	8 (33.33%)	12 (50%)
	20. Being disciplined, persistent in learning	0 (0.00%)	1 (4.16%)	2 (8.33%)	12 (50%)	9 (37.5%)
	21. Ability to self-assess learning results	0 (0.00%)	0 (0.00%)	4 (16.66%)	15 (62.5%)	5 (20.83%)
	22. Always create competition in learning	0 (0.00%)	2 (8.33%)	15 (62.5%)	7 (29.16%)	0 (0.00%)
Collaborating in learning	23. Collaborating among classmates	0 (0.00%)	0 (0.00%)	2 (8.33%)	9 (37.5%)	13 (54.16%)
	24. Cooperating with lecturers	0 (0.00%)	0 (0.00%)	4 (16.66%)	8 (33.33%)	12 (50%)
	25. Cooperating in scientific research	0 (0.00%)	0 (0.00%)	2 (8.33%)	15 (62.5%)	7 (29.16%)

7. Discussion

The above data Table 1 revealed the following results:

A. About learning conditions

Among factors of learning conditions, the comfortable workplace was considered as the most important factors. Because the support conditions of the workplace are also evaluated as necessary: important (37.5%); and very important (58.83%). In the meanwhile, living conditions of students is an essential factor (70.83%), Economic conditions of students are factors that students are very interested in and account for a high proportion (58.33%)

B. About learning environment

The Table showed that classroom atmosphere, as assessed by students, is normal (33.33%), important (50%). Meanwhile, completely unimportant is 4.16%; teaching methods of

teachers are one of the important factors that determine the learning quality of students, so most of them think that they are important and very important (37.5% and 62.5%, respectively). No student thought this was below the critical level; the element of the training program is also classified as important and very important by students (54.16% and 41.6%); in terms of facilities, the majority of students rated the importance of 62.5%. However, there are still very few people who think that it is entirely unimportant (4.16%). From the above data of the learning environment, we find out that teaching methods of lectures, training curriculum and facilities are critical elements affecting many academic results of students.

C. About time for study

The majority of students rated important and very important as follows: Class time (63.63%), time to class (77.27%), time for learning in the classroom (72.72%).

D. About personal qualifications

Knowledge stored in the University is an important factor, 62.5% is the foundation for students to access new and better knowledge easily. The ability to learn in class what is necessary to be able to understand the issues from lecturers is considered an important level by most students (70.83%). The ability to study materials to help students better understand the issues that lecturers mentioned (important accounts for 62.5% and very important accounts for 37.5%). English proficiency is due to some subjects using English documents, so language proficiency is quite large so that students can study materials, so most of them evaluate the importance of 54.16%. Informatics is an essential element because master students in Mathematics Education often use ICT to search for materials and for presentation in classroom hours.

E. About self-study methods

*S*et a plan - learning goals; to achieve good results, each student needs to have a separate study plan to suit himself / herself, setting goals to strive to achieve is an important assessment factor 58.3%. Method of learning each subject rated at an important level of 66.66%. Always thinking, creativity in learning is assessed an important level of 58.33%.

F. About self-study attitudes

The learning motivation was rated the importance and very important (33.33% and 50%). Studying high results requires each student to have discipline and perseverance in order to achieve the desired results, so students all rated them as important and very important (50% and 37.5). %). The ability to self-assess learning is a really important factor for each student accounting for 62.5%. Competition in learning is a factor that most students do not agree with being important or very important.

G. Cooperation in learning

Collaboration between students is essential to improve learning ability, the ability to work in groups, most of whom consider it as an important and very important factor (37.5% and 51.16%). However, a number of individuals who think that group study is normal (8.33%). Collaboration with lecturers is rated by the majority of students as important at 33.3% and very important by 50%. Collaborative scientific research is an essential element for students to get acquainted with scientific research as well as the foundation for đoing thesis; it is 62.5% at an important level.

8. Conclusions

Research results show that graduate students are well aware of the factors that affect their academic performance. Therefore, universities with high-level training programs should have adequate facilities for students' learning; lecturers know how to use teaching methods to promote self-study and self-study for students, improve their ability to work independently, the ability to cooperate in the learning and research process of students. After finishing the graduate program Master's students in mathematics education in particular and other fields, in general, will be experts in their field of study. Therefore, universities must uphold their responsibilities when implementing intensive training programs, helping learners with necessary competencies as expected of the community and society.

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References

Amer, Y., Doan, L. T. T., Lee, S. H., Phuc, P. N. K., & Tran, D. T. M. (2019, July). Optimizing a Reverse Supply Chain Model Using Fuzzy Mathematical Programming. In *2019 International Conference on System Science and Engineering (ICSSE)* (pp. 372-378). IEEE.

Jensen, J. L., Kummer, T. A., & Godoy, P. D. D. M. (2015). Improvements from a flipped classroom may simply be the fruits of active learning. *CBE—Life Sciences Education*, *14*(1), ar5.

Khurshid, F. (2014). Factors Affecting Higher Education Students' Success. *Asia Pacific Journal of Education, Arts and Sciences,* Vol. 1, No. 5, November 2014

Pruekpramool, C., Kanyaprasith, K., Phonphok, N., & Diem, H. T. T. (2018, January). Exploring science and mathematics teaching experiences in Thailand using reflective journals of an internship program between Vietnamese and Thai students. In *AIP Conference Proceedings* (Vol. 1923, No. 1, p. 030040). AIP

Reynolds, A. J. (1998). Confirmatory program evaluation: A method for strengthening causal inference. *American Journal of Evaluation, 19, 203-221.*

Thai, N. T. T., De Wever, B., & Valcke, M. (2017). The impact of a flipped classroom design on learning performance in higher education: Looking for the best "blend" of lectures and guiding questions with feedback. *Computers & Education*, *107*, 113-126