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Research Article

APPLYING MICRO-TEACHING TO DEVELOP CONTENT COMPETENCE FOR GEOGRAPHY PRE-SERVICE TEACHERS

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ABSTRACT

This article reports a study on applying micro-teaching to develop content competencies for Geography pre-service teachers in the High School Geography teaching methods module. The study applied an experimental design. The results have demonstrated the effectiveness of micro-teaching for the development of teaching competencies for Geography pre-service teachers. The results of the competence assessment after the experiment in applying geography teaching methods and techniques (AGTMT) are better than before the treatment. In addition, the post-experiment student survey provides specific assessments of the need, impact, and effectiveness of each component of micro-teaching. This study is valuable for teacher training institutions as regards teaching and learning reforms.

Keywords: Geography education competencies; Geography teaching methods and techniques; micro-teaching method; vocational capacity

1. Introduction

Resolution No.29-NQ/TW of Vietnam emphasizes the importance of training teachers to meet the requirements of education innovation. This goal requires educational universities to reform their training and development related to teaching methods. First of all, it requires to reform the education of pre-service teachers in compliance with new National General Education after 2018 (Bui, 2017). Micro-teaching is one of the typical methods in teacher training. In Vietnam, the micro-teaching has been widely used in educational universities recently. The objective of this method is to practice individual teaching skills to gradually develop core competencies for pre-service teachers. They will be trained with this method to meet the teachers' professional standards upon graduation. In another aspect, the development of teaching competence for geography student-teacher has its peculiarities (Tran, 2013). The geography education competence (GEC) has been

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redefined from the geography education competence to serve as the basis for training geography teachers according to the competency approach. This approach responds to the change of the General geography education curriculum after 2018 (Nguyen & Ha, 2019). In the current context, the goal of teacher training changes to meet the teacher professional competences issued by MOET. This orientation leads to higher requirements for innovation in teaching methods. Students need to transform their knowledge and skills into core educational competencies that they can use in teaching after graduation. Based on this approach, this study focuses on enhancing micro-teaching methods related to geography education competencies in a specific teaching context at the Department of Geography in the HCMUE.

2. Research objectives and methodology

2.1. Literature review

2.1.1. Related studies

Elias (2018) analyzes the contribution of micro-teaching from the perspective of pre-service teachers based on their teaching practice at the University of Education in the Eritrean Institute of Technology. The research participants are undergraduate diploma students who are in the department of teacher education in a diploma program in the 2015-2016 academic years. Students implemented a lesson in the middle school curriculum through micro-teaching. Semi-structured interviews were used to assess their views on General Teaching Methods in the classroom at the end of the training. The results of the interview show that student teachers believe that micro-teaching provides an opportunity to assess their strengths and weaknesses in various aspects of teaching. Students were able to establish skills: planning, questioning, evaluating, assessing, managing student misbehavior, applying instructional materials, and positive attitude toward the profession during the process of teaching (Elias, 2018). Arsal (2014) examined the impact of micro-teaching through self-assessment of effectiveness by pre-service teachers under the Special education teacher preparation program (Arsal, 2014). Pre- and post-trial evaluations were designed for both experimental and control groups, using the same scale. The results indicated that students in the experimental group showed a statistically significant improvement in self-assessment of teaching effectiveness than teachers in the control group. In addition, the results highlighted that micro-teaching had a positive impact on developing pre-service teachers' sense of self-efficacy in teaching (Arsal, 2014). Ismail (2011) aimed to investigate the views of 61 female trainee teachers from the English Language Education Program at the Faculty of Education of the United Arab Emirates University (UAEU) on the micro-educational component offered in two courses on the English language teaching methods. Data was collected through a combination of qualitative and quantitative techniques using questionnaires and interviews. Findings indicate that prospective teachers described many of the benefits they gained from micro-

teaching experiences (Ismail, 2011). Golightly and Westhuizen (2016) explores how implementing a specific collaborative learning design (classroom-based and web-based), in the micro-teaching of Geography, can assist teachers and students in planning and presenting learner-centered micro-lessons. In this one-off empirical case study, a mixed-methods approach involving the collection and analysis of qualitative and quantitative data was employed. Data were collected through structured focus group interview questionnaires, learning diaries, and comparisons of teacher-student teaching and learning activities carried out during micro-lessons in the classroom for four weeks. The results from the study indicate that teaching students view implementing associative cooperative learning during micro-teaching sessions as a positive learning experience. The collaborative learning environment in micro-teaching has created opportunities and facilitated experiences that develop the capacity of pedagogical students. Student micro-lessons posted on "VideoANT" provide evidence that the new learning environment in micro-teaching supports and assists students in effectively planning, designing, and implementing instruction learner-centered instruction for micro-lessons of geography (Golightly & Westhuizen, 2016). These studies apply micro-teaching as a key method in training pre-service teachers of subjects including Geography. A pedagogical experiment is the main method in these studies. Efficacy assessments were performed with the same criteria before and after the experiment. Research data was collected using quantitative and qualitative techniques through questionnaires and interviews. The research results assure the effectiveness of micro-teaching for the development of teaching competencies of pre-service teachers.

Truong (2014) analyzed studies on micro-teaching and applied micro-teaching in teaching skills training in the world and Vietnam. On this basis, the author defined concepts and discussed research directions. Phan & Truong (2018) presented the results of a study to determine the system of teaching skills that can be practiced by micro-method and the process of practicing teaching skills by this method. The process was applied in the training of teachers in general and secondary school teachers to form and develop teaching skills to improve professional competence. Tran (2013) researched training teaching skills for Geography pedagogical students with the micro-teaching. This study identifies the necessary skills for them and the applying micro-teaching process to practice each skill.

The author's publications on the application of micro-teaching in the training of students of geography pedagogy are studies that apply micro-teaching in the development of some basic teaching skills, combined with teaching micro with lesson study to improve the effectiveness of teaching skill development (Ha, 2018). In another study, the author presents the method and process of designing and testing observation-evaluation models to serve the organization of micro-teaching techniques for students in the practice of teaching skills (Ha, 2019). Following previous publications, this study develops processes and

solutions for applying micro-teaching to develop core geographical teaching competencies for students. Those competencies have not been previously defined. This study aims to improve the training effectiveness of geography students through the application and improvement of micro-teaching techniques in Geography Teaching modules at the Department of Geography, Ho Chi Minh City University of Education (HCMUE).

2.1.2. Some basic concepts

This study applies two concepts to establish a theoretical basis for research approach and design including Geography education competence and micro-teaching.*" GEC is the ability that a teacher identifies and implements specific strategies, processes, and measures to formulate and develop Geography Competencies for their students based on subject curriculum requirements, cognitive characteristics, learners' behavior, and diverse learning situations"* (Nguyen & Ha, 2019). GEC components include Geography Competency, Applying education knowledge to Geography Education in high school, and Supportive Competency. Each GEC component is divided into elements, which are then concretized through its behavioral qualities (Do, 2019). *"Applying geography teaching methods and techniques"* that belong to the Education competence component in the GEC structure. Its behavioral indicators include using general geography knowledge, selecting teaching methods for specific geography knowledge, choosing teaching techniques for teaching methods, geographical contents and learning organization form, performing operations of methods and techniques of geography teaching, combining methods and techniques in organizing learning activities for students (Nguyen & Ha, 2019).

Tran Thi Thanh Thuy (2013) has defined micro-teaching based on the concept of Allen (1966), Bush (1968), Bruce (1970), U. Mc Aleese (1971), Clif et al. (1976). *Micro-teaching is a specific method for training teachers, in which each pedagogical student practices several teaching skills through a short micro-lesson in a small group.* Characteristics of the micro-teaching are: 1) It is a specific method for training teachers; 2) Students practice in the simplified training environment; 3) Students' practice is based on the simulations of real classes; 4) Comments are given as soon as the end of the micro lesson; 5) Video is used for recording and playback purposes; 6) A closely monitored practice environment; and 7) The individual practicing requirements for each student (Tran, 2013).

2.2. Research objectives and research questions

The objective of this study is the application of micro-teaching techniques to develop core teaching competencies for Geography pre-service teachers. In particular, GEC includes applying the teaching geography methods and techniques competence, ability to evaluate in teaching geography competence, ability to apply ICT in teaching geography competence, ability to design Geography lesson plans competence. On the other hand, micro-teaching techniques need to be improved in terms of process and usage; combining

micro-teaching with supporting methods to improve the effectiveness of training teaching competencies for geography pre-service teacher students in specific contexts. This study was conducted on the seniors (43rd course) at the Department of Geography in the HCMUE in Geography teaching methods in the high school module. There are three research questions: *1) How does micro-teaching affect the development of core teaching competencies for Geography pre-service teachers? 2) How should the process, methods, and elements of micro-teaching techniques be improved to effectively train students' teaching competencies? 3) What methods should micro-teaching be combined with to promote its effectiveness?*

2.3. Methodology

The research process consists of steps shown in the flow chart of quantitative research (Figure 1). The author uses the quantitative research method, specifically experimental research. The experimental study was designed according to the before and after test model for a single group (Trinh & Dang, 2020). The researcher conducted a test of the competencies to be assessed before applying micro-teaching, then examining the experiment effects, and finally the 2nd test after the treatment to evaluate the effectiveness. The results are calculated through the comparison of the post-test and pre-test.

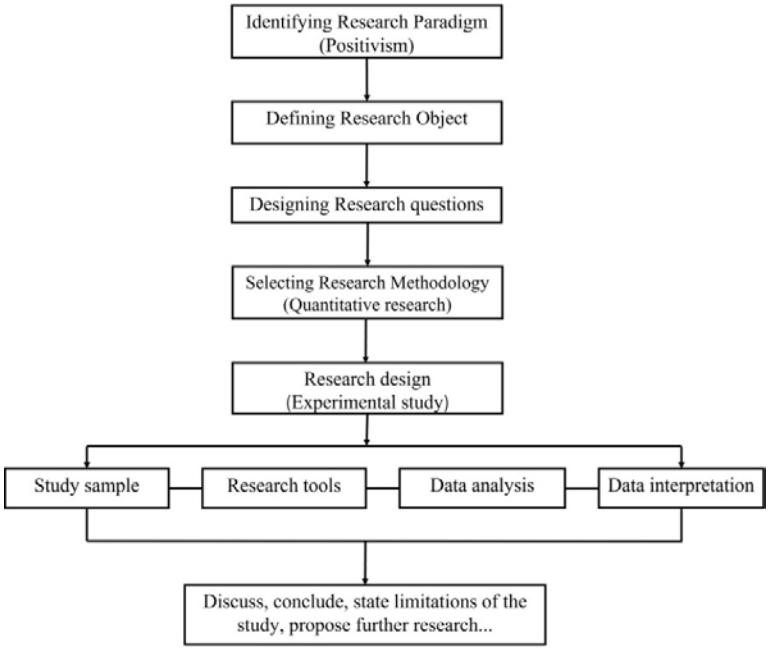

Figure 1. *The study process adapted from Tran Van Dat and Vo Van Thang (2016)*

The participants for the experiment are 44 senior students (43rd course) at the Department of Geography in the HCMUE. These students have accumulated required credits by the time of taking this module. They are eligible to take the course. This course is a 4 credit course, equivalent to 30 hours of theory, 60 hours of practice, and 90 hours of self-study. The duration of the course is four months.

Scales and variables: The criterion for assessing the ability to apply geography teaching methods and techniques is a measurement of the progress of the experiment. This criterion includes five behavioral indicators: 1) presenting theoretical geography methods and techniques, 2) choosing teaching methods for specific geography contents, 3) choosing teaching techniques for methods, geography content, 4) carrying out operations to organize geography teaching methods and teaching techniques, 5) combining methods and techniques in organizing learning activities for students. Each behavioral index has five behavioral quality criteria built on the Five-Stage Model of Adult Skill Acquisition from Novice, Advanced Beginner, Competence Proficiency to Expertise (Dreyfus, 2004). This scale is concretized into Rubrik-type evaluation criteria and competence development path (Figure 2).

Experimental research tools: the study used multiple-choice tests and practice tests to assess before and after the experiment on the applicability of geography teaching methods and techniques. Matrix of test questions and practice evaluation criteria is built based on the description of the applying geography teaching methods and techniques component and the competence development path.

Table 2. *Experimental process of developing the AGTMT competence by micro-teaching technique*

Stages	How to perform	Result/product
Pre-test	Students were assessed their ability to apply geography teaching methods and techniques through two competency tests including: **1. The first test:** testing knowledge of geography teaching methods and techniques; apply geography teaching methods and techniques. This test includes multiple-choice and a short essay. **2. The second test:** testing the ability to practice applying geography teaching methods and techniques to specific content. Students practice teaching micro lesson plans for 10 minutes, assessed through recorded videos.	The results of the two tests are the basis for concluding about the ability to apply geography teaching methods and techniques at the time students begin this process of developing this capacity. On that basis, there are appropriate effects for each group of students in the experimental process of applying micro-teaching.
Intervention	Teachers organized micro teaching in three processes: 1. Process of training geography teaching competencies by micro-technologies carried out in class with teacher. 2.The process of practicing geography teaching competencies by micro-teaching was done outside the classroom with the group of students in the pedagogical practice room. 3. The practice process combined geography teaching skills by micro-teaching techniques	- Videos of micro-teaching applying geography teaching methods and techniques includes the first video and the best quality practice video.
Post-test	At the end of the experimental process, students were assessed on their ability to apply teaching methods and techniques through two tests: **1. The first test:** Groups of students conducted a complete geography lesson. This lecture was conducted in class with classmates acting like high school students. Lectures were recorded, and these videos were used for evaluation. **2. The second test:** The final essay exam. The exam was designed to assess the ability to apply geography teaching methods and techniques.	- Micro videos of the complete lesson - Final exam results

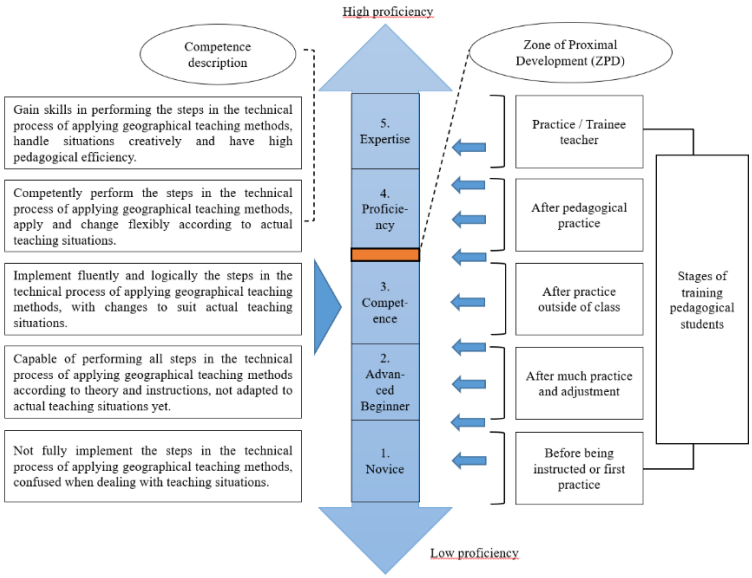

Figure 2. *AGTMT competence development path (by author)*

Data collection and analysis: The data of this study were collected from competency tests and student questionnaires. Before the experiment, the scores of the two post-tests were calculated on a 100-point scale, then converted to a 10-point scale, finally, converted to a letter scale (A, B, C, D, F). Based on the letter scale, students were divided into groups according to the level of achievement based on the competence developed during the experiment. After the experiment, data were also collected from two post-tests which are the practice test and final essay exam. The calculation of the results is similar to the pre-experiment tests.

The test results collected after the experiment are compared with the ones collected before the experiment to assess the students' progress in the ability to apply geography teaching methods and techniques in a comprehensive and detailed manner for each indicator of competence. Besides, students answered a questionnaire after the end of the experiment to evaluate the details of micro-teaching techniques. SPSS was used to analyze the data. Paired sample t-test was used to compare the pre-tests and post-tests.

3. Results and discussion

3.1. The improvement of students' ability to apply geography teaching methods and techniques

3.1.1. Paired sample t-test results of the practical pre-tests and post-tests

Table 3. *Comparing the results of the pre-tests and post-tests on the AGTMT competence*

	Pair	Paired Differences		df	Sig. (2-tailed)
		Mean	Std. Deviation		
1	Pr.TM & Po.TM	0.186	2.130	42	0.570
2	Pr.MT & Po. MT	4.744	3.178	42	0.000
3	Pr.TN & Po.TN	4.093	2.959	42	0.000
4	Pr.OP &Po.OP	4.093	3.753	42	0.000
5	Pr.CM & Po.CM	4.000	3.024	42	0.000
6	Pr.OV & Po.OV	17.209	10.709	42	0.000

Note: df: Degrees of freedom; Sig. (2-tailed): 2-Tailed Statistical Significance; Pr: Pre-test; Po: Post-test

TM (Theoretical method): Presenting Theoretical geography methods and techniques

MT (Method): Choosing teaching methods for specific geography contents,

TN (Techniques): Choosing teaching techniques for methods, geography content,

OP (Operations): Carrying out operations to organize geography teaching methods and teaching techniques,

CM (Combine methods): Combine methods and techniques in organizing learning activities for students.

OV: (Overal): Overall indicators of competence

The result of paired sample t-test shows that students improved in all indicators of the component of applying geography teaching methods and techniques competence. However, there is a difference between the theoretical geography methods and techniques (TM) indicator compared to the others. Especially, the post-test mean is very low (0.186), while other indicators are better relatively equal around 4.0 ("proficiency" (figure 2)). For choosing teaching methods for specific geography contents (MT), students have the greatest improvement (0.47). The indicator of carrying out operations to organize geography teaching methods and techniques (OP), choosing teaching techniques for geography methods (TN), combining methods and techniques in organizing learning activities (CM) have a mean value that is not significantly lower by approximately 4.

The difference analysis (2-tailed) has been extracted to see if there is a mean difference between pre-test and post-test. The TM indicator reached 0.570, which means that there is no difference between the two tests despite the significance found with paired sample t-tests. The others have a sig value of 0.000 less than 0.05, which shows that they all have the mean difference between the two tests before and after the experiment. The Sig value of the composition of five indicators also satisfies the mean difference condition. Thus, the results of the TM indicator can be considered for reference.

Table 4. *Testing variance of the AGTMT competence indicators in practical pre and post-test*

Pair		Mean	N	Std. Deviation	Std. Error Mean
1	Pr.TM	15.35	43	1.494	0.228
	Po.TM	15.53	43	1.564	0.238
2	Pr.MT	13.86	43	2.366	0.361
	Po. MT	18.60	43	1.929	0.294
3	Pr.TN	13.12	43	2.195	0.335
	Po.TN	17.21	43	1.859	0.283
4	Pr.OP	12.28	43	2.374	0.362
	Po.OP	16.37	43	2.870	0.438
5	Pr.CM	11.91	43	2.689	0.410
	Po.CM	15.91	43	1.630	0.249
6	Pr.OV	66.42	43	8.822	1.345
	Po.OV	83.63	43	5.972	0.911

Analysis of variance of each indicator for each pre-test and post-test showed that the combined methods and techniques in organizing learning activities for students, choosing teaching methods for specific geography contents and choosing teaching techniques for methods, geography content decreased to 1.06, 0.44, and 0.34, respectively. This shows that the fluctuations of the test results after the experiment are not scattered but concentrated mainly on the average value. Meanwhile, the variance value of the TM and OP indicators increased slightly. For the TM, the mean tends to decrease, and at the same time, the test results also have a relatively small dispersion. For the OP index, although the average value increases, the dispersion of the results is quite high. This result shows that some students have not developed the ability to practice the teaching methods and techniques. Overall, a sharp decrease in variance shows an agreement with the hypotheses about student performance improvement.

3.1.2. Paired sample t-test results of theoretical pre-tests and post-tests

Five component indicators have mean score growth between post-test compared with the pre-experimental test. In which, OP indicator increased the most, reaching 6,488 average points; The TN indicator also increased sharply to 5,95. The two indicators of the MT and CM increased by an average of 3.79 and 2.95, respectively. The Theoretical geography methods and techniques showed almost no growth with only 0.140 average points. It is also the only variable with no mean difference between two tests when the Sig value (2-tailed) is higher than 0.05. The other component indicators all reached the difference between the two tests before and after the experiment. The test scores of the total 5 indicators showed very strong growth, the average score increased to 19,326. This result is higher than the practice test of the same comparison. The Sig (2-tailed) value of the theory test came in at 0.000 below the 0.05 level, indicating a difference in the mean between the two tests.

Table 5. *Comparing the results of the theoretical pre-tests and post-tests on the AGTMT competence*

Pair		Paired Differences		df	Sig. (2-tailed)
		Mean	Std. Deviation		
1	Pr.TM & Po.TM	0.140	3.277	42	0.781
2	Pr.MT & Po. MT	3.791	5.143	42	0.000
3	Pr.TN & Po.TN	5.953	5.744	42	0.000
4	Pr.OP & Po.OP	6.488	4.778	42	0.000
5	Pr.CM & Po.CM	2.953	4.840	42	0.000
6	Pr.OV & Po.OV	19.326	14.155	42	0.000

Table 6. *Testing the variance of indicators of the AGTMT competence in theoretical pre-test and post-test*

Pair		Mean	N	Std. Deviation	Std. Error Mean
1	Pr.TM	13.77	43	2.534	0.386
	Po.TM	13.91	43	2.348	0.358
2	Pr.MT	11.26	43	3.730	0.569
	Po. MT	15.05	43	3.000	0.457
3	Pr.TN	9.77	43	4.994	0.762
	Po. TN	15.72	43	2.814	0.429
4	Pr.OP	8.84	43	3.330	0.508
	Po. OP	15.33	43	2.884	0.440
5	Pr.CM	11.51	43	4.300	0.656
	Po. CM	14.47	43	2.613	0.398
6	Pr.OV	55.14	43	11.010	1.679
	Po.OV	74.47	43	10.027	1.529

The two indicators that saw a sharp decline in variance were TN and CM down to 2.18 and 1.69, respectively. The other component indicators decreased slightly in which the TM decreased by 0.73, and the OP was 0.45 points of variance. In particular, for the presenting theoretical geography methods and techniques indicator, its variance index decreased slowly, at 0.19 points. The variance of the sum for all indicators decreased by only 0.98 points.

3.1.3. Competencies achieved after the pre-test and post-test

The results of two pre-tests showed that the majority of students achieved the competencies of level 3 (72.1%). Table 7 compares this result with the competecy classification, showing that students can apply geography teaching methods and techniques, but they are incomplete and fragmentary. The percentage of students achieving level 4 accounted for 11.6%. The results demonstrate that they can apply geography teaching methods and techniques: State the teaching methods and techniques and their

essential characteristics; Can be applied to specific contents/ situations; Know how to combine teaching methods and techniques; Fluently implement the steps in the technical process of applying geography teaching methods and techniques. Thus, 83.7% of students achieved levels 3 and 4 in the scale, which means that they have demonstrated their ability to apply geography teaching methods and techniques. From this result, students were classified into three groups with different effects on the treatment: **Group 1.** Students with level 3: Full impact, moderate learning tasks and gradually increasing difficulty and complexity; **Group 2.** Students with level 4: Moderate impact, requiring higher learning tasks; **Group 3.** Students with level 2: There are various supports from lecturers and classmates; learning tasks are structured from simple to complex; check and feedback regularly.

Table 7. *Comparing the percent of students by ability class achieved*

Letter scale	F	D	C	B	A
Score range	0-39	40-54	55-69	70-84	85-100
Rating competence	1	2	3	4	5
Student ratio (Pre-tests) %	0	16.3	72.1	11.6	0
Student radio (Post-tests) %	0	0	0	88.4	11.6

Note: ***Letter scale (A, B, C, D, F) and Score range:*** *are based on the scale of the credit-based training system at Vietnamese Universities;* ***Rating competence:*** *following Competence development path (Figure 2);* ***Student ratio (Pre-tests & Post-tests):*** *the percentage of students achieving the score level out of the total number of students taking 2 tests*

From the results of two post-tests, the percentage of students achieving level 4 doubled, from 11.6% to 88.4%; There are no students in the 5th level in the pre-test, an increase of 11.6% in the post-tests. Thus, 100% of students demonstrated the ability to apply geography teaching methods and techniques from clearly to proficiently. The increase in the percentage of students achieving the high level reflects an improvement in the ability to apply geography teaching methods and techniques of the students participating in the experiment.

3.2. Student survey results about components in the micro-teaching method

Students were surveyed about the necessity and impact of micro-teaching components on their teaching competence development. Besides, they also assessed the level of improvement for each component. The results are presented in Tables 8, 9, 10.

Table 8. *Student's assessment of the need and extent of improvement of the micro-teaching method elements*

No	Components of micro-teaching	The necessity			The need to improve		
		Mean	Median	Std. Deviation	N	Percent	Percent of Cases
1	Process	4.32	4.00	0.687	29	13.2	70.7
2	Video recording	4.24	4.00	0.767	23	10.5	56.1
3	Feedback	4.63	5.00	0.581	32	14.5	78.0
4	Criteria, observation forms	4.32	4.00	0.722	27	12.3	65.9
5	Repeated practice	4.22	4.00	0.613	/	/	/
6	Practice each micro-lesson	4.34	4.00	0.693	/	/	/
7	Self-assess	4.41	5.00	0.706	23	10.5	56.1
8	Attend real geography lessons	4.54	5.00	0.674	31	14.1	75.6
9	Learning diary	4.17	4.00	0.834	24	10.9	58.5
10	Experiencing the lectures' geography lessons as a student	4.59	5.00	0.631	31	14.1	75.6

Note: N (number): Number of students selected; "/": did not carry out the survey in the questionnaire

The mean of the micro-teaching method elements is greater than level 4 in the 5-level scale. This shows that most students recognize that micro-teaching is very necessary for the development of AGTMT competence. Most of students agreed with surveyed measures when as reflected in the median:4 and 5 of all factors. The standard deviations range from 0.6 to 0.7, representing a relatively small variation and centered on the mean. However, for the diary to monitor the learning progress factor, the standard deviation of the data is quite high, reaching 0.834, which means that there are some students who did not agree and strongly disagree with the surveyed items.

Table 9. *Students' assessment on the impact of each component on the effectiveness of the application of micro-teaching method*

No	Components of micro-teaching	Mean	Median	Std. Deviation
1	Students	4.34	5.00	0.794
2	Instructor	4.37	5.00	0.733
3	High school teachers	4.12	4.00	0.748
4	Classmates	4.10	4.00	0.664
5	Observation sheets, criteria	4.02	4.00	0.612
6	Facilities	**3.95**	4.00	**0.835**
7	Comments	4.44	5.00	0.673
8	Micro-lessons	4.22	4.00	**0.822**

Table 9 shows that most of the factors have a positive impact on the implementation of the micro-teaching method when the mean is approximately 4.0 on a 5-point scale. The standard deviations of the factors fluctuate from 0.6 to 0.7, which is still statistically consistent. There are two variables with high values above 0.8, Facilities (0.835) and Micro-lessons (0.822). The data show that facilities are one of the factors that have a weaker impact on

micro-teaching method. As for the micro-lessons, considering the standard deviation of the evaluation, this component still has a relatively high mean of 4.22; however, the standard deviation reached 0.882, thereby showing that some students did not feel that the micro-teaching lesson had a positive impact on the development of their geography education competence.

When students were asked about factors that need to be enhanced to improve the effectiveness of micro-teaching methods, most of them focused on the following components: feedback, attending geography lessons conducted by experienced teachers, and experience the methods and techniques of geography teaching applied by teachers in class (70%). From the students' point of view, the factors requiring no improvement are video recording, self-assess ability of practice videos, diary to monitor learning progress with 56.1% and 58.5% respectively. This result shows that the implementation process has ensured the relatively effective operation of the fundamental elements of the micro-teaching (Table 8)

3.3. Limitations of the study

This study has some technical limitations in its design, including a small experimental sample size Therefore, the generalizability of the topic is limited. It is necessary to increase the number of samples for further studies to assess more accurately the improvement of students' teaching competencies. Experimental design has not been able to connect each component of the micro-teaching method to the progress of the ability to apply geography teaching methods and techniques. Further studies on pre-empirical design need to be conducted. The statistics and analysis of results have only been carried out in a geography education competence component. The other competencies have not been studied. Therefore, the prospects of this study are to summarize and evaluate the competence components of education.

4. Conclusion

This study results show that the micro-teaching is one of the optimal methods to develop the geography education competencies for Geography pre-service teachers. This conclusion is proved, firstly, from the obvious improvement of students in their abilities to apply geography teaching methods and techniques after the experiment. Secondly, student assessments as learners show the positive impact of each micro-teaching component on the competencies they are equipped with. The study's value is to show the relationship between building of student competences and the impact of micro-teaching in an evidence-based manner. The author finds it necessary to increase the application of micro-teaching in the training of teachers in general and geography teachers in particular in education training institutions.

❖ ***Conflict of Interest:*** *Author have no conflict of interest to declare.*

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VẬN DỤNG PHƯƠNG PHÁP DẠY HỌC VI MÔ ĐỂ PHÁT TRIỂN NĂNG LỰC GIÁO DỤC ĐỊA LÍ CHO SINH VIÊN NGÀNH SƯ PHẠM ĐỊA LÍ

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TÓM TẮT

Bài báo trình bày nghiên cứu vận dụng kĩ thuật dạy học vi mô (DHVM) để hình thành và phát triển năng lực dạy học cho sinh viên (SV) năm thứ tư ngành Sư phạm Địa lí (SPĐL) trong học phần Phương pháp dạy học Địa lí ở trường phổ thông. Nghiên cứu định lượng với thiết kế nghiên cứu thực nghiệm là phương pháp chủ đạo của công trình này. Kết quả nghiên cứu đã chứng minh tính hiệu quả của DHVM đối với việc phát triển các năng lực dạy học cho SV SPĐL. Điều này thể hiện ở sự cải thiện về kết quả đánh giá năng lực trước và sau thực nghiệm trong tất cả các chỉ báo của thành phần năng lực Vận dụng phương pháp và kĩ thuật dạy học Địa lí. Đồng thời, kết quả khảo sát SV sau thực nghiệm cung cấp những đánh giá cụ thể về sự cần thiết, tác động, tính hiệu quả của từng thành phần của DHVM. Nghiên cứu này có giá trị tham khảo đối với các ngành đào tạo giáo viên để tiếp cận đổi mới theo định hướng phát triển năng lực nghề nghiệp.

Từ khóa: năng lực giáo dục địa lí; phương pháp và kĩ thuật dạy học Địa lí; dạy học vi mô; năng lực nghề nghiệp