TEACHING APTITUDE AND TEACHING COMPETENCY OF STUDENT TEACHERS

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Abstract

The main purpose of this study was to investigate the teaching aptitude and teaching competency of student teachers. Moreover, the present study was to examine the differences in teaching aptitude and teaching competency in terms of gender, reason of professional selection, subject stream and the relationship between teaching aptitude and teaching competency. The descriptive research design and quantitative survey method were used. A total of 101 fifth year student teachers (male=26, female=75) was chosen from Sagaing University of Education by using simple random sampling technique. In this study, Teaching Aptitude Test Battery (TATB) developed by Karim and Dixit (1986) consisting of 80 items was used to measure teaching aptitude and General Teaching Competency Scale (GTCS) developed and standardized by Passi and Lalita (2011)) consisting of 21 items to measure teaching competency of student teachers. The reliability coefficients of Teaching Aptitude Test Battery (TATB) and General Teaching Competency (GTCS) were 0.964 and 0.918 respectively. According to the descriptive statistics, student teachers from Sagaing University of Education were satisfactory on teaching aptitude and teaching competency. The result of independent samples *t* test showed that there were no significant differences in teaching aptitude and teaching competency by gender. Furthermore, there was no significant differences in teaching aptitude but there were significantly differences in teaching competency by reason of professional selection. The result of ANOVA showed that there were no significant differences in teaching aptitude and teaching competency by subject stream. The Pearson Product-Moment Correlation result revealed that there were significant positive relationships between teaching aptitude and teaching competency. It can be concluded that those who have high teaching aptitude are also high in teaching competency. Finally, the regression analysis indicated that 30% of teaching competency can be predicted from teaching aptitude.

Keywords: Aptitude, Teaching Aptitude, Teaching Competency

Introduction

People differ from one another and within themselves in their performance in one or the other field of human activity such as leadership, music, art, mechanical work, teaching etc. Many individuals under similar circumstances outperform others in acquiring certain knowledge or skills and efficient in certain jobs. This is because of their natural or acquired ability or capacity. Such natural acquired ability or capacity of a teacher for teaching is most important to be a successful teacher. Such ability or capacity can be further developed through the appropriate training.

Teacher education system is an important vehicle to improve the quality of education. The revitalization and strengthening of the teacher education system is a powerful means for the upliftment of education standards. It inculcates the necessary pedagogical skills, and competencies among the teachers and makes them professionally competent to meet the demands of the society. The success of any educational process depends on teaching aptitude, teaching competency, teaching attitude, teaching interest and many more factors. A modern view of teaching aptitude includes professional activities in the school, such as co-operating in teams, building professional learning communities, participating in school development and evaluating and changing working conditions. Furthermore, teaching competency is the competency of the teachers and their planning and preparing the lesson for teaching, classroom management, subject

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knowledge, interpersonal relationship, attitude towards the children, usage of teaching aids and time management during teaching-learning. Therefore, teaching aptitude and teaching competency can be considered as the determinant factor of effective teaching.

Purpose of the Study

The main purpose of this study is to investigate the teaching aptitude and teaching competency of student teachers from Sagaing University of Education. The specific objectives are:

(1) To find out teaching aptitude and teaching competency of student teachers
(2) To examine the differences in teaching aptitude of student teachers by gender, reason of professional selection and subject stream
(3) To compare the differences in teaching competency of student teachers by gender, reason of professional selection and subject stream
(4) To explore any relationship between teaching aptitude and teaching competency of student teachers
(5) To examine the impact of teaching aptitude on teaching competency of student teachers

Definition of Key Terms

Aptitude: Aptitude is defined as a condition or set of characteristics which is regarded as symptomatic of the ability of an individual (fitness or capacity) of which one essential aspect is his readiness to develop an interest in exercising his ability (Bingham, 1937, cited in Kaur, 2014).

Teaching Aptitude: Teaching aptitude can be defined as a special ability or specific capacity which is distinct from the general intellectual ability of an individual, indicative of his probable success in a particular field after receiving appropriate opportunity for learning or training (Kaur, 2014).

Teaching Competency: Teaching competency is an integrated set of personal characteristics, knowledge, skills and attitude which are needed for effective performance in various teaching context (Jena, 2012).

Review of Related Literature

Teaching Aptitude

Teaching is considered to be the noblest of all the profession. It is named as the profession of the prophets. A person serving in any profession must have aptitude and competence in his profession. Aptitude of teachers towards teaching may be considered the most important factor, which may predict the success in that profession. Teaching aptitude helps the teachers in teaching effectively with great vigour and glamour.

Certain aspects of aptitude are inborn and it is also influenced by the environment. It is the ability to acquire, reflecting cumulative influence of the array of experience in everyday life. Teaching aptitude is a special ability or specific capacity of an individual to be skilled in teaching by receiving formal or informal training. Therefore, teaching aptitude is a condition or set of characteristics that estimates the extent to which the individual will profit from the specified training or course of studying or forecast the quality of his/her achievement in a new situation.

Various studies have proposed different criteria on how to assess teaching aptitude. In this research, the researcher used eight subscales of teaching aptitude test battery: co-operative attitude, consideration, wide interest and scholarly taste, fair mindedness and impartiality, moral character and discipline, optimistic attitude, motivational aspect and dynamic personality.

Teaching Competency

A teacher with good aptitude must be conscious of the essentials of components of teaching such as lesson planning, motivating students, content learning materials, learning strategies, consolidation, elaborations, group activity, continuous and comprehensive evaluation, discipline, multi- level and multi-grade activities, effective communication and interaction etc. Furthermore, teachers had to face innumerable problems inside and outside classrooms such as cognitive, methodological, parental, societal, administrative, managerial, communicative, interactive and students related.

Teaching competency includes the acquisition and demonstration of the composite skills required for teaching like introducing of lesson, questioning, explaining, reinforcement, understanding child psychology, recognizing behaviour, classroom management and giving assignments with clear instruction (Shukla, 2014). In this research, the facets of teaching competency are planning, presentation, closing, evaluation and managerial.

Method

Research Method

Descriptive research design and quantitative survey method was used.

Participants of the Study

The population for this study included fifth year second semester student teachers from Sagaing University of Education (2019-2020 Academic Year, 2021 May-June). A total of 101 student teachers (26 males and 75 females) would be selected by using simple random sampling technique.

Instruments

In this study, Teaching Aptitude Test Battery (TATB) developed by Karim and Dixit (1986) consisting of 80 items and General Teaching Competency Scale (GTCS) developed and standardized by Passi and Lalita (2011) consisting of 21 items were used to measure teaching aptitude and teaching competency of student teachers. Teaching Aptitude Test Battery (TATB) was composed of eight subscales: co-operative attitude, consideration, wide interest and scholarly taste, fair mindedness and impartiality, moral character and discipline, optimistic attitude, motivational aspect and dynamic personality. It was five-point Likert scale. General Teaching Competency Scale (GTCS) was composed of five subscales: planning, presentation, closing, evaluation and managerial. It was also five-point Likert scale. The reliability coefficients of Teaching Aptitude Test Battery (TATB) and General Teaching Competency Scale (GTCS) were 0.964 and 0.918 respectively.

Procedure

In this study, the related literature was gathered from several available books, journal and internet sources. And then, appropriate research instruments were prepared to use in this study. The instruments were assessed by the experts in the field of Educational Psychology and Methodology. The data collection procedure was begun to assess student teachers' teaching aptitude and teaching competency. After getting the required data, they were analyzed step by step. Finally, the interpretation of the findings was made and conclusion was drawn.

Analysis of the Data

The data were analyzed by using descriptive statistics, independent samples *t*- test and one-way ANOVA. The independent samples *t*-test was applied to compare the differences between teaching aptitude and teaching competency by gender and reason of professional

selection. One-way ANOVA was applied to compare the differences of teaching aptitude and teaching competency by subject stream. The Pearson Product Moment correlation was used to find the relationship between teaching aptitude and teaching competency of student teachers. Finally, simple linear regression was used to predict teaching competency from teaching aptitude of student teachers.

Data Analysis and Findings

Teaching Aptitude of Student Teachers

Descriptive statistics for student teachers' teaching aptitude was shown in Table 1.

Table 1 Descriptive Statistics for Student Teachers' Teaching Aptitude by Components

Subscales	N	No. of items	Mini	Max	Mean	*SD*
Co-operative Attitude	101	10	32	50	42.96	4.09
Consideration	101	10	35	50	43.11	3.97
Wide Interest & Scholarly Taste	101	10	32	50	42.41	3.92
Fair Mindedness & Impartiality	101	10	33	50	42.39	3.95
Moral Character & Discipline	101	10	34	50	44.33	3.94
Optimistic Attitude	101	10	29	50	41.31	4.32
Motivational Aspect	101	10	32	50	43.40	3.97
Dynamic Personality	101	10	26	50	42.67	4.23
Total	**101**	**80**	**276**	**395**	**342.56**	**27.54**

As shown in Table 1, the total mean of student teachers' teaching aptitude (342.56) was higher than the theoretical mean (240). It can be concluded that student teachers' teaching aptitude was satisfactory. The mean score of moral character and discipline subscale (44.33) had the highest and that of optimistic attitude subscale (41.31) had the lowest.

Comparison of Student Teachers' Teaching Aptitude by Gender

To explore the student teachers' teaching aptitude by gender, independent samples *t*-test was used. The results were shown in Table 2.

Table 2 Mean Comparisons and Results of Independent Samples *t* Test for Teaching Aptitude by Gender

Variable	Gender	N	Mean	*SD*	*t*	*df*	*p*	*MD*
Teaching Aptitude	Male	26	339.27	29.57	- .706	99	.482	-4.44
	Female	75	343.71	26.92				

In Table 2, the mean and standard deviation of male student teachers' teaching aptitude were 339.27 and 29.57 and those of female student teachers' teaching aptitude were 343.71 and 26.92. The mean score of female student teachers' teaching aptitude exceeded 4.44 points than that of male student teachers' teaching aptitude. According to the result of independent samples *t* test, there was no significant difference in student teachers' teaching aptitude by gender ($t = -.706$, $p > .05$).

Comparison of Student Teachers' Teaching Aptitude by Reason of Professional Selection

To explore the student teachers' teaching aptitude by reason of professional selection, independent samples *t* test was used. The results were shown in Table 3.

Table 3 Mean Comparisons and Results of Independent Samples *t* Test for Teaching Aptitude by Reason of Professional Selection

Variable	Reason	N	Mean	*SD*	*t*	*df*	*p*	*MD*
Teaching Aptitude	self	73	344.33	26.25	1.040	99	.301	6.37
	others	28	337.96	30.69				

In Table 3, the mean and standard deviation of student teachers who selected teaching profession by self were 344.33 and 26.25 and those of student teachers who selected teaching profession by others were 337.96 and 30.69. The mean score of student teachers who selected teaching profession by self was exceeded 6.37 points than that of student teachers who selected teaching profession by others. According to the result of independent samples *t* test, there was no significant difference in student teachers' teaching aptitude by reason of professional selection ($t = 1.040$, $p > .05$).

Comparison of Student Teachers' Teaching Aptitude by Subject Stream

In order to examine the differences in student teachers' teaching aptitude among subject stream, descriptive statistics was conducted.

Table 4 Descriptive Statistics of Student Teachers' Teaching Aptitude by Subject Stream

Variable	Subject Stream	N	Min	Max	Mean	*SD*
Teaching Aptitude	Science	63	276	395	340.60	29.76
	Arts	24	284	391	344.75	24.11
	Arts-Science	14	320	385	347.64	22.97

In Table 4, the mean of student teachers who took arts-science subject stream (347.64) was the highest and the mean of student teachers who took science subject stream (340.60) was the lowest in teaching aptitude. To explore whether student teachers' teaching aptitude by subject stream had significant difference or not, one-way ANOVA was conducted.

Table 5 ANOVA Results for Teaching Aptitude of Student Teachers by Subject Stream

Variable		Sum of Squares	*df*	Mean Square	*F*	*p*
Teaching Aptitude	**Between Groups**	718.038	2	359.019	.468	.628
	Within Groups	75168.794	98	767.029		
	Total	75886.832	100			

According to Table 5, there was no significant difference in student teachers' teaching aptitude according to subject stream. It can be interpreted that student teachers from Sagaing University of Education were not different in teaching aptitude.

Teaching Competency of Student Teachers

Descriptive statistics for student teachers' teaching competency was shown in Table 6.

Table 6 Descriptive Statistics for Student Teachers' Teaching Competency by Components

Components	N	No. of items	Mini	Max	Mean	Mean%	*SD*
Planning	101	4	10	20	16.56	82.8%	2.08
Presentation	101	11	29	55	46.12	83.85%	4.92
Closing	101	2	3	10	8.36	83.6%	1.18
Evaluation	101	2	4	10	8.14	81.4%	1.19
Managerial	101	2	5	10	8.60	86%	1.15
Total	**101**	**21**	**63**	**105**	**87.85**	**83.66%**	**8.91**

As shown in Table 6, the total mean of student teachers' teaching competency (87.85) was higher than the theoretical mean (63). It can be concluded that student teachers' teaching competency was satisfactory. The mean percent of managerial (86 %) had the highest and that of evaluation (81.4 %) had the lowest.

Comparison of Student Teachers' Teaching Competency by Gender

To explore the student teachers' teaching competency by gender, independent samples *t*-test was used. The results were shown in Table 7.

Table 7 Mean Comparisons and Results of Independent Samples *t* Test for Teaching Competency by Gender

Variable	Gender	N	Mean	*SD*	*t*	*df*	*p*	*MD*
Teaching Competency	Male	26	88.69	9.47	.556	99	.579	1.13
	Female	75	87.56	8.75				

In Table 7, the mean and standard deviation of male student teachers' teaching competency were 88.69 and 9.47 and those of female student teachers' teaching competency were 87.56 and 8.75. The mean score of male student teachers' teaching competency exceeded 1.13 points than that of female student teachers' teaching competency. According to the result of independent samples *t* test, there was no significant difference in student teachers' teaching competency by gender ($t = .556$, $p > .05$).

Comparison of Student Teachers' Teaching Competency by Reason of Professional Selection

To explore the student teachers' teaching competency by reason of professional selection, independent samples *t*-test was used. The results were shown in Table 8.

Table 8 Mean Comparisons and Results of Independent Samples *t* Test for Teaching Competency by Reason of Professional Selection

Variable	Reason	N	Mean	*SD*	*t*	*df*	*p*	*MD*
Teaching Competency	self	73	88.97	8.16	2.075	99	.041*	4.04
	others	28	84.93	10.19				

Note. * The mean difference is significant at .05 level.

In Table 8, the mean and standard deviation of student teachers' teaching competency who selected teaching profession by self were 88.97 and 8.16 and those of student teachers' teaching competency who selected the teaching profession by others were 84.93 and 10.19. The mean score of student teachers' teaching competency who selected the teaching profession by self was exceeded 4.04 points than that of student teachers' teaching competency who selected teaching profession by others. According to the result of independent samples *t* test, there was significant difference in student teachers' teaching competency by reason of professional selection ($t = 2.075$, $p < .05$).

Comparison of Student Teachers' Teaching Competency by Subject Stream

In order to examine the differences in student teachers' teaching competency among subject stream, descriptive statistics was conducted.

Table 9 Mean Comparisons for Teaching Competency by Subject Combination

Variable	Subject Combination	N	Min	Max	Mean	*SD*
Teaching Competency	Science	63	63	105	88.41	9.48
	Arts	24	76	102	88.50	6.48
	Arts-Science	14	70	105	84.21	9.55

In Table 9, the mean of student teachers who took arts subject stream (88.50) was the highest and those of student teachers who took arts-science subject stream (84.21) was the lowest in teaching competency. To explore whether student teachers' teaching competency by subject stream had significant difference or not, one-way ANOVA was conducted.

Table 10 ANOVA Results for Teaching Competency of Student Teachers by Subject Stream

Variable		Sum of Squares	*df*	Mean Square	*F*	*p*
Teaching Competency	**Between Groups**	215.145	2	107.573	1.365	.260
	Within Groups	7725.627	98	78.833		
	Total	7940.772	100			

According to Table 10, there was no significant difference in student teachers' teaching competency according to subject stream. It can be interpreted that student teachers from Sagaing University of Education were not different in teaching competency.

Relationship Between Student Teachers' Teaching Aptitude and Teaching Competency of Student Teachers

In order to explore the relationship between student teachers' teaching aptitude and teaching competency, Pearson Product-Moment Correlation Coefficient was calculated.

Table 11 Correlation Matrix Between Student Teachers' Teaching Aptitude and Teaching Competency

Variable	Teaching Competency
Teaching Aptitude	.557**
Sig. (2-tailed)	0.00

Note. ** Correlation is significant at 0.01 level (2-tailed)

According to Table 11, there is a significant positive relationship between teacher aptitude and teaching competency. It can be concluded that those who have high teaching aptitude are also high in teaching competency.

Simple Linear Regression for Teaching Competency from Teaching Aptitude

Simple linear regression is computed to predict teaching competency from teaching aptitude. The result was presented in Table 12.

Table 12 Simple Linear Regression Analysis Summary for Teaching Competency from Teaching Aptitude

	B	**β**	***t***	***R***	***R²***	***Adj R²***	***F***
Constant	26.114						
Teaching Aptitude	.184	.557	6.675	.557	.310	.303	44.561***

Note: ***p<.001**

According to the result, a significant regression was found (F = 44.561, p <.001) that show to determine whether the model is a good fit for the data according to the p-value. The result showed that the teaching competency significantly predicted from teaching aptitude. R^2 for model was 0.310 and adjusted R^2 was 0.303. This indicates that 30% of the variance in the teaching aptitude was explained by the model. The model can be defined by the following equation:

Teaching Competency = 26.114 + 0.184 Teaching Aptitude

Discussion, Suggestions and Conclusion

Discussion

The main aim of this study is to explore teaching aptitude and teaching competency of student teachers. The mean of student teachers' teaching aptitude was 342.56 and it can be interpreted that the student teachers' teaching aptitude was satisfactory. And, the mean of teaching competency was 87.85 and it can be said that student teachers' teaching competency was favorable.

Gender Difference: There was no significant difference in student teachers' teaching aptitude by gender. Female student teachers had slightly higher mean scores than male student teachers. This result was consistent with the findings of Ranganathan (2008), Augustine (2010), Pany (2013), Kalita (2016), Ei Mon Mon Aung (2019) and Yar Zar Chit (2020).

For teaching competency, there was no significant difference between male and female student teachers. Male student teachers had slightly higher mean scores than female student teachers. This result was consistent with the findings of Kandhavel and Nellaiyapen (2016).

Type of Professional Selection: There was no significant difference in student teachers' teaching aptitude by type of professional selection. The mean score of student teachers' teaching aptitude who selected teaching profession by myself was higher than that of student teachers' teaching aptitude who selected teaching profession by others.

For teaching competency, according to the result of independent samples t test, there was significant difference in student teachers' teaching competency by type of professional selection (t = 2.075, p < .05). The mean score of student teachers' teaching competency who selected

teaching profession by myself was significantly higher than that of student teachers' teaching competency who selected teaching profession by others.

Subject Stream: Descriptive statistics was used to compare means of student teachers' teaching aptitude by subject stream. According to this result, the mean of student teachers who took arts-science subject stream was the highest and those of student teachers who took science subject stream was the lowest in teaching aptitude. However, there was no significant difference according to subject stream in ANOVA result.

For teaching competency, descriptive statistics was also used to compare mean by subject stream. According to this result, the mean of student teachers who took arts subject stream was the highest and those of student teachers who took arts-science subject stream was the lowest in teaching competency. Depending on the results of one-way ANOVA, there was no significant difference in teaching competency among student teachers' subject stream.

Correlation between Teaching Aptitude and Teaching Competency of Student Teachers: According to the relationship between teaching aptitude and teaching competency of student teachers, there was significant and positive relationship. This result was consistent with the findings of Jena (2012), Bala and Singh (2013), and Kandhavel and Nellaiyapen (2016).

Simple Linear Regression Analysis Summary for Teaching Competency from   Teaching Aptitude: According to the result, the teaching competency significantly predicted from teaching aptitude and 30% of teaching competency can be predicted from teaching aptitude.

Suggestions

The effectiveness of education depends upon quality of teachers in an institution. The quality of teacher's depends upon the quality of training received by them in different training institutions. Although teaching aptitude and teaching competency of student teachers from Sagaing University of Education were satisfactory, teaching aptitude test should be included in the selection of student teachers for teacher education institutions. The teacher trainers should use more attractive, interested and effective teaching learning activities. The student teachers should also be performed teaching learning activities (presentation, discussion, observation, making teaching aids and test construction) in and out of classes. Finally, the duration of teaching practice (peer-group teaching and bloc teaching) should be increased to improve their teaching aptitude and teaching competency.

Conclusion

Teaching aptitude and teaching competency shows the estimation of student teachers' abilities for the future performance. Therefore, this paper hoped that the teacher educators and administrators from teacher education institutions will get some ideas to promote the teaching aptitude and teaching competency of their student teachers. It can upgrade training to become competent teachers who should keep themselves abreast with development in their field.

Acknowledgements

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