



DOES MARKS IN GRADUATION EFFECT ON THE COGNITIVE COMPETENCY OF TRAINEE TEACHERS AT SECONDARY LEVEL?

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The performance of good teacher depends upon the specialization of the subject or fields to be taught and professional knowledge and skill, an understanding of educational process and teaching skills. To fulfill the competency of teachers the proper training is needed. In recent years in the state of Andhra Pradesh, the numbers of private B.Ed. colleges have come up. The numbers of B.Ed., seats are more than the suitable graduates. At present the candidate who secured 45% marks in graduation and qualified in entrance test conducted by APSCH-Ed.CET are also getting admission in B.Ed. Colleges. It reflects that there may be difference in their competency based their marks in graduation. It effects on quality of teacher education and training. Therefore, the investigator aims to know the cognitive competency of Trainee Teachers at Secondary Level in special relation to marks in graduation.

INTRODUCTION:

Teachers have always played a pivotal role in the society. The future of the nation is being shaped in our classrooms that are the children of classrooms are our future nation builders (Kothari, 1970)¹. Therefore, the teachers have great responsibility in moulding the character of children by giving quality education in the school.

The performance of good teacher depends upon the interest on the field and their educational background and good academic record. To prepare competency teachers at secondary level schools good academic background graduates are needed.

In Andhra Pradesh, the teacher training at secondary level is not up to the mark. In recent years the number of private B.Ed., colleges have come up. The numbers of B.Ed., seats are more than the requirement. The graduates are not interested to take up teaching as profession. Because, the numbers of private engineering, medical, pharmacy, M.B.A, M.C.A colleges have come up. Many graduates like merit, financially sound students are very much interested in taking admissions into the above said courses, because the software boom, attractive salaries and wider range of job opportunities. The remaining filtered graduates like economically backward, average and below average, only some of above average students are taking admissions into teacher training colleges. The admission criteria into B.Ed., colleges is that, as per the norms of NCTE and APSCH the candidate who have studied school subject as optional and scored the minimum of 45% (not included languages) marks in optional at degree level. The ratio of seats in each methodology such as Mathematics, Physical Science, Biological Science and Social Studies are 35%, 15%, 30% and 20% respectively. It affects on quality of teacher education and training. At present the candidate who secured 50% marks in graduation and qualified in entrance test conducted by APSCH-Ed.CET are also getting admission in B.Ed. Colleges. It reflects that there may be difference in their competency based their marks in graduation. It effects on quality of teacher education and training. Therefore, the investigator aims to know the cognitive competency of Trainee Teachers at Secondary Level in special relation to marks in graduation.



SIGNIFICANCE OF THE STUDY:

There is research evidence on variable of *Marks in graduation*. To pursue the B.Ed. course the eligibility qualification is the graduation. Earlier the competition is more to get a seat in B.Ed. colleges. The graduates who want to settle their life as a teacher, those candidates only very serious from the beginning of the degree. Now days, it was reversed, so many private B.Ed. colleges have come up. The students who got below 45% marks in their graduation are also getting admission in B.Ed. colleges. It reflects on competency of prospective teachers. Therefore, the investigator desires to know the difference in cognitive competency of secondary student teachers based on marks in graduation.

REVIEW OF LITERATURE:

In this section an attempt has been made to call out information relevant to the present study. A brief review of research done in areas related to the present investigation was:

Seetharam, Mavikar, and Sharada^[2] (1986) conducted a study on secondary teacher education – a status survey. The major finding of the study is that the criteria adopted by institutions for admission of candidates were varied. The most popular factors were class/division secured by students at qualifying examinations, teaching experience, subjects studied at degree or at post graduate level, marks secured by students in specific subjects, and socio-economic back ground. *Pradhan*^[3] (1989) compared the relationship between educational backgrounds and academic performance of B.Ed. Students. Findings in the study indicates that past achievement, medium of instruction, levels of qualification and stream of education as background factors were significantly related to the academic performance of the B.Ed. students. *Nayak*^[4] (1988) conducted a study of the quality of prospective teachers and the selection procedures in practice for admission to the B.Ed. course in Orissa. The findings of the study is that, the selection procedures of admission to the B.Ed. course adopted by the entire teacher training colleges have not made it possible to recruits a significantly high number of quality recruits.

Raju^[5] (2005) compared the competency of D.Ed. and B.Ed. trained teachers working in primary schools of Andhra Pradesh. Findings in the study indicates that there is a significant difference in teacher competency such as cognitive-based, performance-based, affective-based, and consequence-based competency between D.Ed. and B.Ed. trained teachers working at primary level. *Sharma*^[6] (1975) investigated a study into the development of teacher competencies of the B.Ed. student teachers in the training colleges of Rajasthan. The investigation yielded the following findings: (i) The development of competencies of the student teachers during the course of practice teaching was independent of their teaching experience, age and socio-economic status. (ii) The student teachers who obtained 60 percent marks or more or more in their final university B.Ed. practical examination showed better performance on the factor of pupil behaviour than those who obtained less than 48 percent marks. (iii) Marital status, sex, area of teaching experience (urban-rural), previous training, and graduation from college or done privately and academic



achievement of student teachers had no significant effect on the development of their competencies during practice teaching.

Behari^[7] (1998) analyzed secondary pre-service teacher education curriculum in the context of requisite abilities for selective teaching. *Singh^[8] (2004)* conducted a study of the effect of B.Ed. training programme on teaching competency of pupil teachers. *Chahar^[9] (2005)* made a study of teaching competency of student teachers in relation to certain non-cognitive variables.

Ibe-Bassey and George^[10] (1990) made an attempt to study the entry qualifications and level of performance of student-teachers in the design and production of instructional materials. The major findings of the study were: (i) There was a significant main effect for entry qualifications, and design and production. (ii) No significant interaction occurred between entry qualifications and design and production of instructional materials. (iii) There was a significant difference between the mean score on entry qualifications and design and production of instructional packages of subjects. (iv) There was no significant difference between the mean scores on the overall performances of the subjects. *Shukla^[11] (1995)* made a comparative study of state level selection procedure of admission to the B.Ed. courses institutions in Rajasthan and Madhya Pradesh, on the basis of survey of the opinions of teacher educators, B.Ed. students and administrators. *Kaur and kaur^[12] (2000)* intended to investigate the relationship between the entrance test as predictors and achievement of teacher trainees of correspondences of Punjab University, Patiala.

The studies reviewed indicate that very few studies were conducted on the cognitive performance of student teachers. There are no studies on the cognitive performance of student teachers at secondary level. Studies on the marks in graduation and its impact on cognitive competency is absent. This was the major research gap, and hence, this problem of marks in graduation effects on the competency of trainee teachers at secondary level to fill this gap, which is discussed in the succeeding section. However, the review of the literature helped the researchers, in developing the research design, problem and procedure, preparation of tool and administration of the tool, collection of data, analysis and interpretation of the results systematically.

PROBLEM AND PROCEDURE:

As this is a descriptive study, the present status of B.Ed. Colleges in the State of Andhra Pradesh. An attempt is made in this chapter to explain the problem and the procedure of the study. In other words, the whole design of the study is explained in this section.

THE PROBLEM:

As observed in the introduction of the study, every student who got 45% and qualified in Ed.CET are taking admission into B.Ed. Programme. No matter, whether they really interested in taking up teaching profession. Seats are available and fee reimbursement scheme is available in the state. Due to these reasons every graduate who got 45% and qualified in Ed.CET are taking admission into B.Ed. Programme. It reflects on the quality on the teacher training programmes, that there is a need to



maintain quality in admission criteria into B.Ed. Programmes in the State of Andhra Pradesh, and as found from the review of the literature, that no study was conducted so far in the competency of trainee teachers at secondary level, the statement of the problem is given below.

STATEMENT OF THE PROBLEM:

DOES MARKS IN GRADUATION EFFECT ON THE COGNITIVE COMPETENCY OF TRAINEE TEACHERS AT SECONDARY LEVEL?

OPERATIONAL DEFINITIONS:

MARKS IN GRADUATION:

In the Present study the investigators used Marks in Graduation as the total marks obtained by the candidate in optional subjects at graduation level.

COGNITIVE COMPETENCY:

In relation to the present study the investigators used the Cognitive Competency as the ability to identify the objectives of cognitive domain such as knowledge, understanding, application and synthesis with regard to content and to identify the appropriate pedagogical approach suitable to the content.

TRAINEE TEACHERS:

In the present study the Trainee Teachers is the student of B.Ed. Programme in the state of Andhra Pradesh

SECONDARY LEVEL:

In the present study the investigators used the Secondary Level as the Schools in the state of Andhra Pradesh upto 10+2 level.

OBJECTIVES OF THE STUDY:

The main purpose of the study is to know the cognitive competency of Trainee Teachers at Secondary Level based on their marks in graduation. Hence, the objectives of the study are given below:

1. To measure the cognitive competency of Trainee Teachers at Secondary Level based on their marks in graduation.
2. To compare the cognitive competency of Trainee Teachers at Secondary Level based on their marks in graduation.

HYPOTHESIS:

The following Null Hypotheses are formulated on the above mentioned objectives:

Hypothesis 1:

There is no significant difference in the cognitive competency of Trainee Teachers at Secondary Level based on their marks in graduation.



Hypothesis 1.1:

There is no significant difference in the content knowledge of Trainee Teachers at Secondary Level based on their marks in graduation.

Hypothesis 1.2:

There is no significant difference in the pedagogy knowledge of Trainee Teachers at Secondary Level based on their marks in graduation.

RESEARCH DESIGN:

The study would be descriptive research and being survey type in nature. As discussed in previous sections, the present study is concerned with the comparison of cognitive competency based on the marks in graduation. In this study, the investigator wants to test the content based knowledge which they selected methodologies as school subjects at secondary level school subjects. The investigator wanted to design the cognitive competency test to know the Trainee Teachers at Secondary Level content-based knowledge based on their marks in graduation.

VARIABLES OF THE STUDY:

A variable is any measure characteristic or attribute that from different subjects. These variables can be classified as quantitative and qualitative or they can be independent and dependent or continuous or discrete.

For this study, the investigators have chosen independent and dependent variables.

DEPENDENT VARIABLE:

Cognitive competency of the Trainee Teachers at Secondary Level

Independent Variable Marks in graduation **of the Trainee Teachers.**

SAMPLE:

POPULATION OF THE STUDY:

The Trainee Teachers at Secondary Level of Ranga Reddy district of Andhra Pradesh.

SAMPLE AND SAMPLING TECHNIQUE:

The sample of Trainee Teachers at Secondary level was chosen from the Ranga Reddy District at first level. The reason for selecting Ranga Reddy district as sample is that the only district less competition in teacher recruitments and more in number of backlog vacancies due to non availability of trained teachers as a result so many private B.Ed. colleges had come up. The graduates of this district are very much interested in pursuing B.Ed. course.

At the second level, from the list of B.Ed. colleges in the district four B.Ed. colleges were selected by using simple random technique. The strength of the each B.Ed. College is 100. For this present study, a sample of 320 Trainee Teachers was selected by using simple random sampling technique.



Table 1: Table showing the Sample Distribution (Marks in graduation as percentages)

Percentage	Frequency	Percentage
60% And Above	163	50.9
Between 50% & 60%	116	36.3
Below 50%	41	12.8
Total	320	100.0

The above table shows that there were 163 students got 60% And Above marks in degree, 116 students got between 50% and 60% marks, and 41 students got below 50% marks in degree.

RESEARCH TOOLS:

COGNITIVE COMPETENCY QUESTIONNAIRE:

Cognitive Competency Questionnaire was used to collect the data, which was developed by the investigators. It includes 60% of the items related to content questions, which cover the objectives of the cognitive domain from the 8th, 9th and 10th class textbooks of Mathematics, Physical Science, Biological Science and Social Studies of Andhra Pradesh. About 40% of the items related to concerned pedagogy.

TEACHER TRAINEE PROFILE:

Teacher trainee profile was used. It includes degree, marks in degree, optional subjects at degree level, methodologies selected in the B.Ed., programme.

RELIABILITY AND VAIDITY OF THE TEST:

RELIABILITY OF THE TEST:

In order to study the reliability and validity of the test, the investigators were conducted a pilot study on a small sample from the target population. For reliability of the test the investigator used test-retest method and the obtained value is 0.8.

VALIDITY OF THE TEST:

The test was constructed on the basis of school subjects at secondary level of government text books of Andhra Pradesh and concerned methodologies from Telugu Academy. The test items were drawn from the previous question papers of DSC (District Selection Committee) 1998, 2001, 2002, 2004 and 2006 of Department of School Education, Andhra Pradesh. These items all ready used in selection of teachers in competitive examination as such it had content validity.

ADMINISTRATION OF THE TEST:

In order to know the cognitive competency of the secondary student teachers based on marks in graduation. The test was administered during their course. It requires 1 hour. The test materials were distributed to them and were collected back.



after 1 hour. The reason for taking questionnaire back within 1 hour was that they should not get a chance to interact with others and be influenced in their responses.

COLLECTION OF DATA:

The scores of the cognitive competency test of the Trainee Teachers formed the vital data for the analysis.

STATISTICAL TECHNIQUES USED:

The purpose of the study was to know the cognitive competency test of the Trainee Teachers based on marks in graduation. To find out if there is any significant difference in the cognitive competency test of the Trainee Teachers based on marks in graduation to calculate the Mean, Standard Deviation for all variables ANOVA was used for the variable marks in graduation. Data was analyzed by using SPSS package.

LIMITATIONS OF THE STUDY:

The study has the following limitations:

- 1.The study is limited to the Trainee Teachers at Secondary Level of Andhra Pradesh.
- 2.The present study is limited to Ranga Reddy District only.
- 3.The present study is limited to Osmania University.
- 4.The present study was limited to cognitive competency of student teachers.

ANALYSIS AND INTERPRETATION:

This section deals with the analysis and calculating the percentage and calculating f-value have analyzed interpretation of the data on basis of cognitive competency of 320 students of B.Ed. colleges. The data was analyzed on the basis of formulated hypothesis.

RESULTS:

Having scored 320 questionnaires, the data was tabulated to calculate the mean, standard deviation on each section for the different groups separately. The lowest possible score on a section was 0 and the highest was 100.The difference in the means of the two groups and more than two groups were tested for significance by applying the test.

TESTING OF HYPOTHESES:

HYPOTHESIS :1

There is no significant difference in the cognitive competency of Trainee Teachers at Secondary Level based on their marks in graduation.

HYPOTHESIS 1.1:

There is no significant difference in the content knowledge of Trainee Teachers at Secondary Level based on their marks in graduation.



HYPOTHESIS 1.2:

There is no significant difference in the pedagogy knowledge of Trainee Teachers at Secondary Level based on their marks in graduation.

In order to test the above hypotheses, one-way analysis was carried out. The results are shown in the following table.

Table 2: One - way Descriptive for the cognitive competency of secondary student teachers based on marks in graduation

S.No.	Cognitive Competency	Marks/Percentage	N=320	Mean	SD
1	Content	60% & Above	163	42.12	12.15
		Between 50% & 60%	116	38.34	11.84
		Below 50%	41	39.32	11.01
2	Pedagogy	60% & Above	163	28.25	9.23
		Between 50% & 60%	116	25.19	7.81
		Below 50%	41	23.37	6.74
3	Overall	60% & Above	163	70.37	20.10
		Between 50% & 60%	116	63.53	17.83
		Below 50%	41	62.68	16.48

(On the basis percentage in degree of the student teacher, the sample is divided into three groups. Namely, (a) The percentage 60% & Above. (b) The percentage between 50% & 60% (c) The percentage below 50%)

The items related with the content knowledge of the secondary student teachers. From the above table 2, it is observed that the percentage 60% & above students scored higher mean (42.12) than other groups.

The items related with the pedagogy knowledge of the secondary student teachers. From the above table 2, it is observed that the percentage 60% & above students scored higher mean (28.25) than other groups.

The items related with the overall cognitive competency of the secondary student teachers. From the above table 2, it is observed that the percentage 60% & above students scored higher mean (70.37) than other groups.

Table 3: One - way ANOVA for the cognitive competency of secondary student teachers based on marks in graduation

S.No.	Cognitive Competency	Source Variation	Sum Squares	df	Mean Square	F
1	Content	Between groups	1021.76	2	510.88	3.61
		Within groups	44908.63	317	141.67	
2	Pedagogy	Between groups	1098.43	2	549.21	7.69



3	Overall	Within groups	22633.52	317	71.39	5.62
		Between groups	4003.53	2	2001.77	
		Within groups	112873.7	317	356.07	

ns – Not significant difference at 0.05 level

The items related with the content knowledge of the secondary student teachers. From the above table 3, it is clear that the obtained F – value (3.61) which is greater than the table value (3.02) for a degree freedom of 2 and 317 at 0.05 level. Therefore, the null hypothesis 1.1 can be rejected and accepted as “there is a significant difference in the content knowledge of secondary student teachers based on marks in graduation”.

The items related with the pedagogy knowledge of the secondary student teachers. From the above table 3, it is clear that the obtained F – value (7.69) which is greater than the table value (3.02) for a degree freedom of 2 and 317 at 0.05 level. Therefore, the null hypothesis 1.2 can be rejected and accepted as “there is a significant difference in the pedagogy knowledge of secondary student teachers based on marks in graduation”.

The ‘F’ value presented in the Table 3 revealed that overall there is a significant difference in cognitive competency of the secondary student teachers. Therefore, the null hypothesis 1 can be rejected as “there is a significant difference in the cognitive competency of secondary student teachers based on marks in graduation”.

MAJOR FINDINGS, EDUCATIONAL IMPLICATIONS OF THE STUDY, SUGGESTIONS FOR FURTHER RESEARCH:

Under this heading important findings of the study and suggestions for the further study were discussed:

MAJOR FINDINGS:

After analysis of the data some of the major findings are drawn and are listed as follows:

1. As there is a significant difference in the content knowledge of Trainee Teachers at Secondary Level based on marks in graduation level. It shows that the students who got marks in graduation 60% & above have higher mean 42.12 than other two groups. It revealed that marks in graduation effects on the content knowledge of trainee teachers at secondary level.
2. As there is a significant difference in the pedagogy knowledge of Trainee Teachers at Secondary Level based on marks in graduation level. It shows that the students who got marks in graduation 60% & above have higher mean 28.25 than other two groups. It revealed that marks in graduation effects on the pedagogical knowledge of trainee teachers at secondary level.
3. As there is a significant difference in the cognitive competency of Trainee Teachers at Secondary Level based on marks in graduation. It shows that the students who got marks in graduation 60% & above have higher mean 70.37 than other two



groups. It revealed that marks in graduation effects on the cognitive competency of trainee teachers at secondary level.

The present findings of the study support the research findings of *Pradhan (1989)*, *Seetharam, Mavikar, and Sharada (1986)* who compared the relationship between educational backgrounds and academic performance of B.Ed. Students. The major finding of the studies is that the criteria adopted by institutions for admission of candidates were varied. The most popular factors were class/division secured by students at qualifying examinations, subjects studied at graduate level. The levels of qualification and stream of education as background factors were significantly related to the academic performance of the B.Ed. students. And also support the research findings of *Nayak (1988)* who studied the quality of prospective teachers and the selection procedures in practice for admission to the B.Ed. course in Orissa. The findings of the study is that, the selection procedures of admission to the B.Ed. course adopted by the entire teacher training colleges have not made it possible to recruits a significantly high number of quality recruits.

EDUCATIONAL IMPLICATIONS OF THE STUDY:

1. There is significant difference in the content & pedagogical knowledge of Trainee Teachers at Secondary Level based on marks in graduation level. Therefore, there is need put some cut off marks in admissions of B.Ed. Programme.
2. There is significant difference in the cognitive competency of Trainee Teachers at Secondary Level based on marks in graduation level. Therefore, APSCE immediately wind up the relaxation in the admission criteria into B.Ed. Programme is that those who scored 45% in graduation. If it continuous then it may effect on quality of teacher education.

SUGGESTIONS FOR THE FURTHER RESEARCH:

The investigators suggest the following for further research:

1. As the present study restricted only to Osmania University, such studies covering other universities may be taken up.
2. As the present study restricted only to Ranga Reddy District of Andhra Pradesh such studies may be extended to all other districts in the state of Andhra Pradesh
3. As the study was undertaken only regular B.Ed. Students, such studies may be conducted to regular as well as distance learners of secondary student teachers.

REFERENCES:

- Kothari, D.S. (1970). **Education and national development**. Report of the educational Commission (1964-66). NCERT, New Delhi.
- Seetharam, A.S. & Mavikar, Sharada (1986). **Secondary teacher education - a status survey**, ISEC, Bangalore.
- Pradhan, S.K. (1989). **A study of the relationship between educational backgrounds and academic performance of B.Ed. students**. M.Phil. Edu. Th. Maharaja Sayajirao Univ. of Baroda.



- Nayak, G. (1988). **A study of the quality of prospective teachers and the selection procedures in practice for admission to the B.Ed. course in Orissa.** Ph.D. Edu., Utkal Univ.
- Raju, Bondu. (2005). **A comparative study of the competency of D.Ed., and B.Ed. trained teachers working in primary schools of Andhra Pradesh.** M.Ed. dissertation, RIE, Mysore.
- Sharma, M.L. (1975). **A study into the development of teacher competencies of the B.Ed. student teachers in the training colleges of Rajasthan.** Ph.D. Edu., Raj. Univ.
- Behari, Alka (1998). **Analysing teacher education curriculum in the context of requisite abilities for effective teaching.** *IER*, Vol. 33, (1), January 1998.
- Singh, S. (2005). **Effect of classroom questioning behavior training on teaching competence of student-teachers and their self-concept.** . Ph.D. Edu., Univ. of Luknow.
- Chahar, S.S. (2005). **A study of teaching competency of student teachers in relation to certain non-cognitive variables.** . Ph.D. Edu., Maharshi Dayand. Univ.
- Ibe-Bassey & George, S. (1990). **Entry qualifications and level of performance of student-teachers in the design and production of instructional materials.** *Indian Educational Review*, Vol.25 (2): pp.21-29.
- Shukla, M. (1995). **A comparative study of state level selection procedure of admission to the B.Ed. courses institutions in Rajasthan and Madhya Pradesh.**
- Kaur, Harvinder & kaur, Puspender (2000). **Entrance Test Scores as predictor of achievement of teacher trainees.** *Journal of AIAER*, Vol. 12 [1&2], March 2000.