

## **Correlation between Prospective Teachers Teaching Aptitude and Academic Achievement**

Mamoona Fatima  
M.Phil. Scholar  
Department of Education  
University of Sargodha

Dr. Shaista Khalid  
Assistant Professor  
Department of Education  
University of Sargodha

Dr. Ahmad Bilal Cheema  
Assistant Professor  
Department of Education  
University of Sargodha

### **Abstract**

*Aptitude is a distinct ability that differs from ordinary intellectual ability. It assists an individual in obtaining the necessary level of skill in a given subject, such as teaching. This descriptive study intended to find out the relationship between prospective teachers' aptitude for teaching and their academic achievement at university. Quantitative correlational research design was adopted. Population consisted of all newly admitted undergraduate and graduate university students from department of Education and sample was 282. Data was collect through purposive sampling technique and based on (TATB) by Singh and Sharma (1998). Questionnaire was adopted and consisted of 30 items included open-ended and close-ended questions was based on National Professional Standards and follow the knowledge, skills and dispositions. The reliability of the questionnaire was 0.753 and validate from 5 experts from the Department of Education. This study found that the majority of prospective teachers in undergraduate program had an average level of teaching aptitude, whereas graduate prospective teachers had a low level of teaching aptitude. The correlation with GPA, Knowledge, skills and disposition there was significant weak positive correlation. It is recommended that a teacher aptitude test may be taken for the admission in teacher education programs.*

**Keywords:** *Prospective teachers' aptitude, and academic achievement*

### **Introduction**

The modern era is one of science and technology. It is also known as the competitive age. In order to compete in today's competitive environment, education is essential. The level of education delivered to our pupils is determined by the caliber of our instructors. In turn, the quality of instructors is determined by how they were trained. Teaching is the art of influencing a learner's behaviour and assisting them in acquiring valuable skills for their overall development.

To make the teaching process successful, effective teachers are essential. A number of qualities tend to be connected with instructor Aptitude and are based on specific personal features, both intellectual and temperamental, that frequently allow the instructor to overcome even severe limitations placed upon his performance. In the education field teaching is one of the crucial component, and its primary function is to deliver knowledge and competence among pupils. The relationship among three main points of education, the instructor, the students, and the subject, is defined as teaching. Teaching is the practice of bringing students together with a topic. The teacher and instructor are both active participants, with the latter instructing while the former learns. Aptitude is a unique ability in a given area of performance. Aptitude must be defined as the ability to acquire specific skills and capabilities required for success in a particular activity. Teaching aptitude is defined as the capacity or potential for flourishing in teaching under appropriate conditions (Naidu, 2017, p.30).

"Aptitude" is defined as "an innate, acquired, learned, or developed component of a competency to a specific kind of work at a certain level" (Sharma, 2016). According to Bingham, aptitude includes the ability to learn skills, information, attitudes, and so on, as well as the readiness to acquire and enjoyment with the activity. Aptitude is defined as an individual's inherent or natural capability or talent at a particular skill or ability. In contrast, teaching is the practice of passing on knowledge, skills, and information to others. Teaching is the process of changing a learner's behaviour and teaching him skills that will benefit his overall growth. To ensure the success of the educational process, effective teachers are essential. A teacher's self-control, instructional skill, and work-oriented attitude all influence his performance (Rajeeva, E. 2021). No nation can grow above its teachers, and teachers are critical components of both the educational system and societal development (Singh, 2015). A teacher should be not only informed about his or her subject, teaching tactics, and learner comprehension, but also enthusiastic about the teaching profession. The process of changing a learner's behaviour and teaching them desirable skills for their overall growth (Lata, 2017).

Teaching aptitude is the ability to achieve proficiency after completing a given amount of teacher education coursework. It describes a person's ability to teach successfully as a result of formal or informal instruction. Thus, teaching aptitude predicts an individual's future effectiveness in the teaching sector if proper opportunities and training are available (Dave, 2022). (Ghatvisave, 2012) also stated that individuals with great teaching abilities are the only ones who can achieve success in the classroom and obtain adequate teaching training. When we say a person has an aptitude for teaching, we mean that he possesses a significant number of the characteristics required to be a successful teacher. Teaching aptitude and academic achievement and performance are two significant characteristics in the teaching learning process that influence the teaching behaviour of all teacher trainees, either directly or indirectly. Aptitude is seen as an important personal quality that predicts instructors' future success. On the other hand, Academic achievement refers to a student's success in educational endeavors, such as grades, test scores, and general academic performance, whereas teaching aptitude refers to the inherent or developed characteristics and abilities that make an individual good at teaching. Achievement is defined as the successful completion of an activity or performance in a certain subject or course, sometimes as a result of talent, diligence, or desire, and it can be measured in terms of various grades, marks, or scores (Hawes, 1982). Academic achievement indicates a student's knowledge, understanding, and skills in a specific subject. Its helps the teacher determine the student's abilities. Educational outcomes success can be used to judge how successfully a student,

instructor, or institution has met its educational objectives. Continuous evaluation and exams aid in the assessment of student achievement in the classroom, but no elaborate techniques or elements need to be used to evaluate. It refers to the individual's level of education as well as their academic potential (Asha, 2018).

An aptitude is a specific ability that is distinct from general intellectual capacity in some way. An individual seeks assistance in achieving the necessary degree of competence or performance in a specific field, such as teaching (Abdullah et al, 2022). Academic achievement is a display of a student's performance outcomes that show how well the student completed specific learning objectives. Teaching aptitude and academic accomplishment are two significant aspects in the teaching-learning process that influence all prospective instructors' teaching behaviours, either directly or indirectly.

In this study, the researcher follows the manner in which HEC's Education Testing Council (ETC) conducts the USAT, which is based on the pattern of the Scholastic Aptitude Test (SAT) and covers all known disciplines of Social Sciences, Engineering, Medical, IT, and Management at the undergraduate entry-level (July, 2022). Follow the National professional standards domain Knowledge, skills, and dispositions. So, the aptitude test is beneficial for the specifically betterment of quality of teaching rather than program quality. The quality of instruction is a fundamental aspect of education that greatly influences students' learning outcomes and overall academic success (Hattie, J. 2009).

## **Objectives of the Study**

The objectives of the current study were:

1. To find out the relationship between undergraduate prospective teachers' aptitude towards teaching and their academic achievement.
2. To find out the relationship between graduate prospective teachers' aptitude towards teaching and their academic achievement

## **Methodology**

This research implies a quantitative method approach. Descriptive correlational design was used. The population of this study was newly enrolled undergraduates and graduate BS, B. Ed (Hon), B. Ed (1.5 Science), and B. Ed (1.5 General) students. The sample was 282 enrolled university students and purposive sampling techniques were utilized for data collection.

## **Instrumentation**

Teaching aptitude Test Battery (Singh and Sharma) was used to assess the prospective teachers' aptitude. The questionnaire was adapted and consisted of 30 items that were divided into seven (7) factors, Communication, discipline, patience, leadership, enthusiasm, empathy, and current knowledge. These factors are based on National Professional Standards (NPS) Knowledge, skills, and disposition. It typically refers to the three primary domains of teaching aptitude that consist cognitive, emotional, and psychomotor. Researcher validate the instrument from 5 experts from the Department of Education. Pilot study was carried out from 50 students to assess the instruments' reliability. Value of Cronbach alpha was 0.753.

**Data Analysis**

In this study, researchers used a modified questionnaire. It comprises of 30 items divided into three categories: knowledge linked to the cognitive domain (11 items), skills related to the psychomotor domain (12 items), and disposition related to the affective domain (seven items).

**Knowledge**

Level of Teaching Aptitude according to knowledge domain for undergraduate and graduate programs of prospective teachers (BS, B. Ed (Hons) and B. Ed 1.5 science and general)

Level of teaching aptitude	Range of scores and grades	Frequency	Percentage%
High	8-10 (A)	14	6%
Average	5-7 (B)	158	56%
Low	0-4 (C)	110	38%
Total		282	100%

Table 1 shows the level of Teaching Aptitude according to knowledge domain for undergraduate and graduate program prospective teachers of BS, B. Ed (Hons), and B. Ed 1.5 science and general. This shows the three levels of teaching aptitude, as well as the range of scores and grades. A high level of teaching aptitude was 8-10 (A) scores and grades, an average level of teaching aptitude was 5-7(B) scores and grades, and a low teaching aptitude was 0-4(C) scores and grades. 6% of Prospective teachers demonstrated a high level of teaching ability. 56% of prospective teachers reported average teaching aptitude, whereas 38% had low teaching aptitude.

**Skills**

Level of Teaching Aptitude according to skills domain for undergraduate and graduate programs (BS, B. Ed (Hons) and B. Ed 1.5 science and general)

Level of teaching aptitude	Scores	Frequency	Percentage%
High	8-11 (A)	77	27%
Average	5-7 (B)	95	34%
Low	0-4 (C)	110	39%
Total		282	100%

The above table 2 shows the level of Teaching Aptitude according to skills domain for undergraduate and graduate program prospective teachers of BS, B. Ed (Hons), and B. Ed 1.5 science and general. This shows the three levels of teaching aptitude, as well as the range of scores and grades. A high level of teaching aptitude was 8-11 (A) scores and grades, the average level of teaching aptitude was 5-7(B) scores and grades, and a low teaching aptitude was 0-4(C) scores and grades. 27% of prospective teachers had a high level of teaching aptitude. 34% of prospective teachers had average teaching aptitude, whereas 39% had low teaching aptitude.

**Disposition**

Level of Teaching Aptitude according to disposition domain for undergraduate and graduate programs (BS, B. Ed (Hons) and B. Ed 1.5 science and general).

Level of teaching aptitude	Scores	Frequency	Percentage%
High	5-7 (A)	57	20%
Average	2-4 (B)	119	42%
Low	0-1 (C)	106	38%
Total		282	100%

The above table 3 shows the level of Teaching Aptitude according to disposition domain for undergraduate and graduate program prospective teachers of BS, B. Ed (Hons), and B. Ed 1.5 science and general. This shows the three levels of teaching aptitude, as well as the range of scores and grades. A high level of teaching aptitude was 5-7 (A) scores and grades, the average level of teaching aptitude was 2-4(B) scores and grades, and a low teaching aptitude was 0-1(C) scores and grades. 20% of prospective teachers had a high level of teaching aptitude. 42% of prospective teachers revealed average teaching aptitude, while 38% had low teaching aptitude.

**Table 4**

Correlation between the undergraduate (BS and B. Ed Hons) prospective teachers’ aptitude towards teaching and their academic achievement at the end of 1st semester.

		<b>Correlations</b>				
Program		GPA	Knowledge	Skills	Disposition	
Undergraduate	GPA	Pearson Correlation	1	.105	.183**	.177*
		Sig. (2-tailed)		.132	.009	.011
		N	205	205	205	205
	Knowledge	Pearson Correlation	.105	1	.422**	.412**
		Sig. (2-tailed)	.132		.000	.000
		N	205	209	209	209
	Skills	Pearson Correlation	.183**	.422**	1	.312**
		Sig. (2-tailed)	.009	.000		.000
		N	205	209	209	209
	Disposition	Pearson Correlation	.177*	.412**	.312**	1
		Sig. (2-tailed)	.011	.000	.000	
		N	205	209	209	209

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

\* . Correlation is significant at the 0.05 level (2-tailed).

The above table 4 shows the correlation between the undergraduate (BS and B. Ed Hons) prospective teachers' aptitude toward teaching and their academic achievement at the end of 1st semester. The correlation between GPA with knowledge, skills and disposition. Academic achievement (GPA) was significantly positive weak liner relation to knowledge ( $r=.105, p < 0.01$ ), Skills was a significantly weak positive linear relationship with GPA ( $r=.183, p < 0.01$ ). and Disposition has significantly weak positive linear relationship with GPA ( $r=.177, p < 0.01$ ).

**Table 5**

Correlation between the graduate (B. Ed 1.5) prospective teachers' aptitude towards teaching and their academic achievement at the end of 1st semester.

Program			GPA	Knowledge	Skills	Disposition
Graduate	GPA	Pearson Correlation	1	-.078	.075	.068
		Sig. (2-tailed)		.509	.529	.567
		N	73	73	73	73
	Knowledge	Pearson Correlation	-.078	1	.463**	.408**
		Sig. (2-tailed)	.509		.000	.000
		N	73	73	73	73
	Skills	Pearson Correlation	.075	.463**	1	.367**
		Sig. (2-tailed)	.529	.000		.001
		N	73	73	73	73
	Disposition	Pearson Correlation	.068	.408**	.367**	1
		Sig. (2-tailed)	.567	.000	.001	
		N	73	73	73	73

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

\**. Correlation is significant at the 0.05 level (2-tailed).*

The above table 5 shows the Correlation between the graduate (B. Ed 1.5) prospective teachers' aptitude toward teaching and their academic performance at the end of the first semester. The correlation between GPA with knowledge, skills and disposition. GPA has significantly moderate negative linear relationship with knowledge ( $r= -. 078, p < 0.01$ ). Skills has significantly strong linear relationship with GPA ( $r=. 075, p < 0.01$ ), and disposition has significantly moderate positive linear relationship with GPA ( $r=. 068, p < 0.01$ ).

**Discussion**

The findings reflect that, majority of the undergraduate and graduate prospective teachers' aptitude toward teaching has an average, low and high level in the knowledge domain. In similarity, there is an average teaching aptitude among student teachers (Rani, 2013). In contrast, trainee instructors have moderate teaching aptitude, high teaching aptitude, or poor teaching aptitude as tested by TAT (Das, 2021). Another survey found that the majority of pupils rated their teachers as effective. The results suggest that the majority of students have above-average teaching abilities (Rahman 2021).

Most of the undergraduate and graduate prospective teachers' aptitude toward teaching has a low, average and high level in the skills domain. In similarity, prospective teachers with below-average (low) average (good), and above-average (high) aptitude in teaching reveal that the majority of prospective teachers had good or average aptitude in teaching while prospective teachers had low teaching aptitude and prospective teachers had high teaching aptitude. The average score lies in the highest range between 65-96 i.e.78 percent of the total sample (Kumar, 2013). In the differences, the test resulted in a teaching aptitude score of 1.19 for undergraduate primary school teacher trainees, which is lower than the table value of 't', which is 2.00 at 0.05 level for df of 71. As a result, the value obtained is not important. It was determined that there are no differences in the aptitude for teaching among undergraduate primary school teacher trainees (Pany, 2013).

The disposition domain shows that the majority of undergraduate and graduate teachers have average, low, or high aptitude for teaching. In another study, student teachers with scores ranging from 18 to 20 demonstrated a high level of teaching aptitude. Five students scored 14 to 17, indicating above-average teaching competence. According to Rani (2013), student teachers have an average teaching aptitude. In contrast, the mean teaching aptitude of B.Ed. trainees was 136.2, which is considered above-average (Fatima, 2011). Another study found that no teacher trainee had extremely high teaching aptitude, and the majority of trainees had ordinary teaching aptitude; therefore, there is a need to attract pupil teachers with high/very high teaching aptitude to this profession. (Rana\*, 2015). Sajan (2010) also discovered the same result. However, Fatima and Humera (2011) discovered that the majority of the teacher trainees showed above-average teaching abilities. Correlation between undergraduate (BS and B. Ed Hons) prospective teachers' aptitude for teaching and their academic performance at the start and end of the first semester. Academic achievement showed a significantly favourable weak liner relationship with skills, expertise, and disposition. Similarly, the study's coefficient of correlation between teaching ability and academic achievement is 0.23, which is both good and low. It is determined that there is a positive but not strong relationship between teaching skill and academic achievement (Fatima 2011). Another study found that prospective teachers' academic qualifications had no significant effect on their teaching aptitude. According to Kanaparthi (2018), prospective teachers' academic qualifications have no significant impact on their teaching aptitude.

Correlation between the graduate (B. Ed 1.5 science and general) prospective teachers' aptitude towards teaching and their academic performance at the beginning and end of the first semester. GPA was significantly negative weak liner relation to knowledge but GPA was significantly positive weak liner relation to skills and disposition. In contrast, in the association among the variables (academic achievement and aptitude) of the study, Pearson Correlation was applied. It found that there was a moderate correlation between these variables with  $r=.387$ . It means that both variables are positively associated with each other (Khan, 2022).

## **Conclusion**

It is concluded that according to three domains knowledge, skills, and disposition. BS prospective teacher's aptitude toward teaching has an average level in knowledge domain, low level of aptitude towards teaching in skills domain and average level of aptitude towards teaching in disposition domain. B.Ed. (Hons) prospective teacher's aptitude towards teaching has low level in knowledge domain, low level of aptitude towards teaching in skills domain and low

level of aptitude towards teaching in disposition domain. B.Ed 1.5 science prospective teacher's aptitude towards teaching has low level in knowledge domain, low level of aptitude towards teaching in skills domain and low level of aptitude towards teaching in disposition domain. B.Ed 1.5 general prospective teacher's aptitude towards teaching has low level in knowledge domain, low level of aptitude towards teaching in skills domain and low level of aptitude towards teaching in disposition domain. The correlation between the undergraduate (BS and B. Ed Hons) prospective teachers' aptitude towards teaching and their academic achievement at the end of 1st semester. According to the GPA, knowledge, skills and disposition. GPA was significantly positive weak liner relation to knowledge, skills and disposition. The correlation between the graduate (B. Ed 1.5 science and general) prospective teachers' aptitude towards teaching and their academic achievement at the end of 1st semester. According to the GPA, knowledge, skills and disposition. GPA was significantly moderate negative linear relationship to knowledge. Skills were significantly strong linear relationship to GPA. Disposition were significantly moderate positive linear relationship to GPA. It is recommended that a teacher aptitude test may be taken for the admission in teacher education programs.

### **Recommendations**

Based on the results of the study, the following recommendations were made:

1. The study's findings revealed that potential teachers have above-average teaching aptitude but low academic achievement. Hence it is recommended that teacher training programs should be focused on developing the aptitude toward teaching as well as their academic achievement.
2. It is found in the study that prospective teachers have an average level of self-writing skills so it is recommended that teacher training programs should be focused on developing the self-writing skills.

### **References**

- Abdullah, M. (2022). Study of Teaching Aptitude of Trained and Un-trained Secondary School Teachers- A Comparative Stud. *Journal Of Education: Rabindrabharati University Issn : 0972-7175*, 5-15.
- Adesoji, F. A. (2012). Students` aptitude indices as predictors of learning outcomes in chemistry. *British Journal of Arts and Social Sciences ISSN: 2046-9578, Vol.8 No.II*, 5-20.
- Alamri, M. M. (2019). Students' academic achievement performance and satisfaction in a flipped classroom in Saudi Arabia. *Int. J. Technology Enhanced Learning, Vol. 1*, 4-10.  
DOI:[10.1504/IJTEL.2019.096786](https://doi.org/10.1504/IJTEL.2019.096786)
- Anjali, D. (2015). A Comparative Study of Teaching Aptitude and Job Satisfaction Level of Rural and Urban School Teacher. *The International Journal of Indian Psychology ISSN 2348-5396 (e) | ISSN: 2349-3429 (p)*, 5-30.

- Arya, S. (2013). A study of teaching aptitude and job satisfaction of teachers in relation to the academic achievement of their students. Unpublished Ph.D. Thesis. Bundelkand University. *RESEARCH CENTER*, 3-5.
- Bedi, D. A. 2016. A study of Secondary school teachers' aptitude about teaching profession. *International Journal of Educational Planning & Administration.*, 5-15.  
[https://www.researchgate.net/publication/215602831\\_A\\_STUDY\\_OF\\_TEACHING\\_APTITUDE\\_AND\\_RESPONSIBILITY\\_FEELING\\_OF\\_SECONDARY\\_SCHOOL\\_TEACHERS\\_IN\\_RELATION\\_TO\\_THEIR\\_SEX\\_AND\\_LOCALE](https://www.researchgate.net/publication/215602831_A_STUDY_OF_TEACHING_APTITUDE_AND_RESPONSIBILITY_FEELING_OF_SECONDARY_SCHOOL_TEACHERS_IN_RELATION_TO_THEIR_SEX_AND_LOCALE)
- C.Moll, L. (2003). Vygotsky And Education Instructional implication and applications of sociohistorical psychology. United Kingdom: Cambridge Univrsity Press.
- Darling-Hammond, L. ((2017)). Teacher education around the world: What can we learn from international practice? , . *European Journal of Teacher Education*, 40(3), 291-309.  
DOI:[10.1080/02619768.2017.1315399](https://doi.org/10.1080/02619768.2017.1315399)
- Das, J. (2021). A Study of Teaching Aptitude Among the Trainee Teachers in West Bengal. *International Journal of Creative Research Thoughts*, 5 DOI: 10.36713/epra2013
- Devi, K., & Sharma, S. (2017). A study of teaching aptitude and attitude of prospective primary school teachers towards teaching profession in relation to their gender, type of institution and stream of study. *International journal of applied research*, 3, 668-673.  
<https://www.allresearchjournal.com/archives/2017/vol3issue8/PartI/3-8-80-832.pdf>
- RAJEEVA, E. (2021). A Study on Teaching Aptitude of Prospective Teachers as Related to Their Achievement Motivation. *International Journal of Creative Research Thoughts (IJCRT)*, 5-15.  
<https://ijcrt.org/papers/IJCRT2109261.pdf>
- Education, M. o. (2009). *National Professional standards for teacher in pakistan*. Islamabad: Policy and planning Wing Ministry of Education Government of Pakistan.
- Fatima, K., & Humera, S. (2011). Teaching Aptitude and Academic Achievement of B.Ed. Trainee Teachers. *Golden Research Thoughts*, 1(5), 1.
- Fatima, D. K. (2011). Teaching Aptitude and Academic Achievement of B.Ed. Trainee Teachers . *Golden Resrach THoughts* , 3.
- Gopalchandra, M. S. (2014). A Study of Relationship of Academic Achievement to Aptitude, Attitude and Anxiety of M.Ed. Students studying under Dr. Babasaheb Ambedkar Marathwada University Jurisdiction. Page 9.
- Guru, D. N. (2020). A Study on Teaching Aptitude and Academic Achievement of TTIS Under Sambalpur University. *European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 07, Issue 11*, 5-15.

- Hattie, J. (2009). Visible learning: A synthesis of over 800 meta-analyses relating to achievement. .  
*Routledge*, 5-10.
- Hoque, D. M. (2016). Three Domains of Learning: Cognitive, Affective and Psychomotor. *The Journal of EFL Education and Research (JEFLER) Volume 2: ISSN-2520-5897*, 5-15.  
<https://www.gowriensw.com.au/thought-leadership/vygotsky>  
<https://www.hec.gov.pk/english/HECAnnouncements/Pages/USAT.aspx>
- Humera, M. S. (2011). Teaching Aptitude and Academic Achievement of B.Ed. Trainee Teachers . *Golden Resrach THoughts* , 2.
- Kanaparth, J. (2018). Teaching Aptitude of Prospective . *International Journal of Creative Research Thoughts*, 8.
- Kanaparth, J., & Rani, T.S. (2021). Teaching Aptitude of Prospective Teachers.
- Kaur, D. H. (2015). Impact of B.Ed. Programme on Teaching Aptitude of Prospective Teachers. *GHG Journal of Sixth Thought Vol. 2 No. 2* , 3-15.
- Kaur, H. (2012). A Comparative Study of Teaching Aptitude of B.Ed.(General)Pupil Teachers of Kurukshetra District in Relation to Their Gender, Location, Stream and Professional Experience. *Paripex Indian Journal Of Research*, 3, 28-30.
- KAUR, M. H. (2016). A Comparative Study of Teaching Aptitude of B.Ed.(General)Pupil Teachers of Kurukshetra District in Relation to Their Gender, Location, Stream and Professional Experience . *PARIPEX - INDIAN JOURNAL OF RESEARCH Volume : 3 , Issue : 8 ,* , 10-20.
- Khan, R. (2022). Correlation between Students' Aptitude and their Academic Achievement at Secondary School Level in Khanewal District. *p- ISSN: 2708-2113*, 4-7.
- Khan, R., Hashmi, M.A., & Khan, R.M. (2022). Correlation between Students' Aptitude and their Academic Achievement at Secondary School Level in Khanewal District. *Global Educational Studies Review*.
- Khan, R., Hashmi, M.A., & Khan, R.M. (2022). Correlation between Students' Aptitude and their Academic Achievement at Secondary School Level in Khanewal District. *Global Educational Studies Review*. DOI:[10.31703/gesr.2022\(VII-I\).08](https://doi.org/10.31703/gesr.2022(VII-I).08)
- Kozulin, A., Gindis, B., Ageyev, V. S., & Miller, S. M. (2003). Vygotsky's Educational Theory in Cultural Context. United Kingdom: University of Cambridge.
- Kudavakkalagi, M. (2018). A study on teaching aptitude of secondary school teachers in relation to their gender and stream. *Scholarly Research Journal for Interdisciplinary Studies, Online ISSN 2278-8808, SJIF 2018 = 6.371, www.srjis.com*, 5-20.
- Kumar, M. M. (2013). Aptitude of Prospective Teachers in Relation to their Interest in Teaching. *\*Research Scholar, Department of Education, Panjab University, Chandigarh*, 4-10.

- Lata, D. K. (2017). Teaching Aptitude of Prospective Teachers as Related to Their Level of Aspiration. *IRA International Journal of Education and Multidisciplinary Studies (ISSN 2455- 2526)*, 7(1), 53-62. doi:<http://dx.doi.org/10.21013/jems.v7.n1.p6>, 5-10.
- Levine, M. (2012). Developing a Conceptual Definition of Academic Achievement. . *National Center for Research on Evaluation, Standards, and Student Testing (CRESST)*. Retrieved from [https://cresst.org/wp-content/uploads/Conceptual\\_Definition\\_of\\_Academic\\_Achievement](https://cresst.org/wp-content/uploads/Conceptual_Definition_of_Academic_Achievement), 5-15.
- Malik, A. (2021). *Teaching Aptitude and Attitude Test*. India: Arihant Publication, [S.I.],
- Malik, D. U. (2015). A Study of Teaching Aptitude of B.Ed Pupil Teachers in Relation their Intelligence. *Indian Journal of Research Issn - 2250-1991*, 5-15.
- Malik, U. (2016). A Study of Teaching Aptitude of B.Ed. Pupil Teachers In Relation to Different Levels of Intelligence. *Asian journal of multidisciplinary studies*, 4.
- Menka, M. (2016). Teaching Aptitude of Trainee Teachers: an Investigation . *International Journal for Innovative Research in Multidisciplinary Field* , 4-10.
- Mishra, A. (2012). Teaching aptitude and students' performance. *International Multidisciplinary e-Journal ISSN 2277 - 4262*, 5-20.
- Muchhal, D. M. (2016). A Study of Teaching Aptitude of Science Teachers of senior secondary school. *The International Journal of Indian Psychology ISSN 2348-5396 (e) | ISSN: 2349-3429 (p) Volume 3, Issue 2, No.3, DIP: 18.01.052/20160302*, 5-30.
- Pany, S. (2013). Teaching Aptitude Of Primary Level Teacher Trainees. *An International Journal of Education*, 4-10.
- PODOLSKIY, A. I. (2012). Zone of Proximal Development. DOI:10.1007/978-1-4419-1428-6\_316, 2-15.
- Prajapati, R. (2019). Research on Academic Aptitude towards Training of B.Ed. Students. *Journal of Advances and Scholarly Researches in Allied Education [JASRAE] (Vol:16/ Issue: 1)*, 3-10.
- R., L., & S. S, S. (2012). A comprehensive study of Job Satisfaction and aptitude towards education among male and Female Teachers of Degree Colleges",. *"International Journal of Marketing, Financial Service and Management Research"* , Volume- 1, No – 1. (ISSN:2455-474X)
- Rahman, S. (2021). A Study On Teacher Effectiveness And Teaching Aptitude Among B.Ed. Student Teachers In Kamrup (M) District Of Assam. *Webology (ISSN: 1735-188X)*, 5-10.
- Rahman, S., & Saikia, D.P. (2022). A Study on Teacher Effectiveness and Teaching Aptitude among B.Ed. Student Teachers In Kamrup (M) District Of Assam. ISSN:1735-188X
- Rana\*, N. (2015). Teaching aptitude of b.ed trainees in relation to their academic achievement, residential background. *INSIGHT Journal of Applied Research in Education* , Page, 5-15. ISSN 0975-0665
- Rani, S. (2013). A Study of Teaching Aptitude among B.ED students. *EPRA International Journal of Multidisciplinary Research (IJMR)*, 5-10. DOI: 10.36713/epra2013

- Rani, S. (2021). A Study of Teaching Aptitude Among B.Ed Students. *EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal*, 1-5.
- Roy, H., & Chaturvedi, K. (2018). Teaching aptitude and teacher attitude on teacher efficacy. *International Journal of Advanced Research and Development*, 3, 1836-1838.
- Sajan, K.S. (2010). Teaching Aptitude of Student Teachers and their Academic Achievements at Graduate Level.
- Sajan, D. K. (2010). Teaching aptitude of student teachers and their academic achievements at graduate level . 6-12.
- Sajan, K.S. (2010). Teaching Aptitude of Student Teachers and their Academic Achievements at Graduate Level.
- Sharma, D. A. (2016). A study of Secondary school teachers' aptitude about teaching profession. *International Journal of Educational Planning & Administration.*, 5-15. ISSN 2249-3093 Volume 6, Number 1 (2016), pp. 1-6
- Sharma, R. (2018). Teaching Aptitude: Concept and Measurement. *Research Directions* 4(5), 1-8. .
- Shepard, L. A. (1989). 4 Chapter (Aptitude and Aptitude- treatment Interactions). *Flunking grade: Reserach and policies or retention. Falrner Press*, 3-10.
- Singh, J., & Kaur, S. (2018). A Study of Teaching Aptitude of Prospective Teachers in Relation to Sex, Intelligence And Academic Achievement. DOI:[10.21922/srjis.v5i43.11379](https://doi.org/10.21922/srjis.v5i43.11379)
- Singh, K. (2016). Teaching Aptitude of B.Ed. Teacher Trainees of Himachal Pradesh in relation to their gender and stream. *Prime Scholars Library*, 5-17.
- Tasleema, J., & Hamid, M.M. (2012). Teaching Aptitude of Elementary and Secondary Level Teacher Educators. *Journal of Education and Practice*, 3, 67-71.
- Tasleema-Jan. (2012). Teaching Aptitude of Elementary and Secondary Level Teacher Educators . *Journal of Education and Practice* ISSN 2222-1735 (Paper) ISSN 2222-288X, 5-15.
- Thangarajan, M. (2018). A Study of The Relationship Between Teacher Attitude and Teaching Aptitude of Prospective Secondary School Teachers. *International Journal of Technical Research & Science*.
- Topno, I. (2018). Teaching aptitude of prospective teachers pursuing B.Ed. course through distance mode.
- Zamir, S. (2021). Teaching Methodologies Used for Learning Critical Thinking in Higher Education: Pakistani Teachers' Perceptions. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies* ISSN 2228-9860 eISSN 1906-9642 CODEN: ITJEA8, 1-10.