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A Pre-Experimental Study to Evaluate the Effectiveness of Cognitive Skill Training in Improving Learning Ability Among Students of Selected College of Bhilai, Chhattisgarh

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***Abstract*: Cognitive skills occupy a vital role in an individual's overall development, as they include some of the brain's core functions such as thinking, reading, learning, retaining information, and paying attention and are used to solve problems, when a person experiences brain training, they may also notice how their strengthened skills help them in learning and many areas of their life. Therefore, the researcher wants to assess learning ability of students. The present study is aimed at evaluating the effectiveness of cognitive skill training in improving learning ability among students of selected college of Bhilai, Chhattisgarh. A pre-experimental research design was adopted in this study and study was conducted by simple random sampling technique. The tool consists of a modified questionnaire of sociodemographic data and 3-point rating scale to assess learning ability such as time management attention and concentration and memory. The main finding of the study based on criteria, it was found that 17 (57%) subjects score average marks, 7 (24%) score good and 6 (20%) got poor score pre interventionally and after cognitive skill training all 30 (100%) are promoted to higher level as all subject score good. A significant association was seen between learning ability and socio-demographic variables such as financial status, aptitude toward nursing profession, sleeping habit and recent stressful event at 0.05 level of significance. The value of t test was 13.13 and it proves that there is significant difference in pre and intervention learning abilities.**

***Keywords*: learning abilities, cognitive skill training, students.**

1. Introduction

Education is the foundation for all-round development. Learning is the key component of education. Cognitive skills make up the way our brain thinks, learns, and processes new information. It is the building blocks of leaning which involves the brain's core functions such as thinking, reading, learning, retaining information, and paying attention. Study conducted by Chaturvedi RK to check the difference between pre and post-session of Cognitive Skill Training, The mean score of memory was 7 in pre-session and 8.29 in post cognitive skill training session and the mean score of confidence was 6.79 in pre-session and 8.14 in post cognitive skill training session, therefore it can be concluded that there was an improvement in student's concentration and memory after cognitive skill training.

A. Objectives

1. To assess the learning ability among students.
2. To assess the effectiveness of cognitive skill training in improving learning ability among students.
3. To associate learning ability with selected socio-demographic variables among students.

B. Hypothesis

H_1: There is significant association between learning ability and selected socio-demographic variables among students at $p<0.05$ level of significance.

H_2: There is significant difference in pre and post interventional learning ability among students at $p<0.05$ level of significance.

2. Material and Methods

A quantitative experimental research approach with pre-experimental research design was used for the study. The researches evaluate the effectiveness of cognitive skill training in improving learning ability. The tool consists of sociodemographic data and self-structured rating scale compromising of 3 section to assess learning ability. The study was conducted on 30 students of P.G. College of Nursing, Bhilai who fulfill the inclusion criteria.

Inclusion Criteria:

- Students who are willing to participate.
- Students who are present at the time of data collection.

Exclusion Criteria:

- Students who are taking drugs/illness that has effect on cognitive functions.
- Students who have problem with language of teaching.

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Students who are emotionally disturbed with some recent events.

3. Result and Discussion

A. Distribution (frequency and percentage) of subjects according to socio demographic variables

In present study, related to socio demographic data elicits that all samples (100%) were females belongs to age group of 18-20 years (80%) and majority of them (60%) were residing in hostel. Student's parent has maximum education of higher secondary (mother-53%) (father-40%), majority of patient were highly motivated toward nursing profession (54%) and had sufficient sleep (43%). Along with this 57% student's has insufficient fund to meet the demand and 60% had some disturbing stressful event.

B. Assessment of pre-interventional leaning abilities among students

Over all analysis of pre interventional learning abilities based on set category using frequency and percentage

In order to assess the first objectives, pre-interventionally learning ability were assessed. The findings show that majority of subjects n=17 (56.66%) were found possess average learning skill; followed by seven (23.33%) with good ability and only six (20%) subjects got poor score.

Area wise analysis of pre test score of learning abilities

Pre interventional learning ability with regard to the memory. Subjects were least bothered as the mean percentage score obtained was 37.85%; similarly, subjects were lacking in most important learning ability that is attention and concentration as they scored 43.11%. More than average score was obtained with regards to time management, as they scored 56%. Therefore, in general students scored below average learning ability indicate need for some training on the same.

C. Analysis to assess the effectiveness of cognitive skill training in improving learning ability

A major shift is identified at good category percentage distribution was increased to 100% which was 20% priorly, average level were 57% and in poor level 23% of participant belonged before intervention, however after cognitive skill training everyone got upgraded to good level of learning ability.

Above finding is supported by an experimental study conducted by Dubey D. to assess study skills and effectiveness of implementation of study skill manual on learning outcome. In the pre test of experimental group among 40 students 50% (n-20) have average score, 34%(n-14) students have poor score and 15% (n-six) students have good score. Whereas in post test 60% (n-24) students have average learning outcome, 33% (n-13) have good learning outcome and only 7% (n-three) students have poor learning outcome.

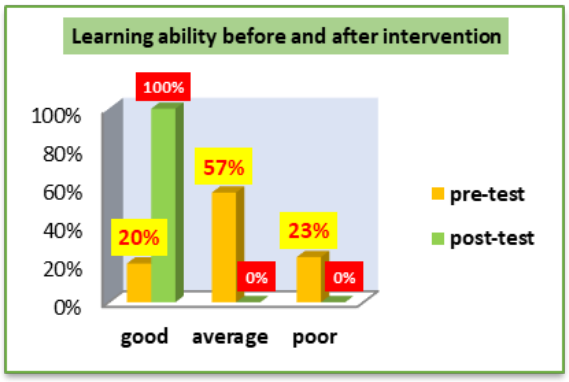

Fig. 1. Multiple bar diagram representing the percentage of overall analysis of pre test and post test learning ability

Effectiveness of cognitive skill training in improving learning ability

The difference in the score was analysed using 't' test and a significant improvement in learning ability is statistically proved as calculated 't' value that is 13.13 is higher than table value (2.04) at $p<0.05$ level of significance.

Similar to the above findings, Astriani D revealed that interventions can improve learning skills. The study used a pre-experimental one group pre-test post-test design, involving 33 students. The data showed that there was an increase in the average metacognitive skills the paired t-test results showed the value of t = 9.196, with a significance of 0.000 <0.05.

D. Association between pretest learning ability and socio-demographic variables

Chi square analysis was done to assess the association between learning ability and socio-demographic variables and finding proved a significant association with financial status of family, area of residence, aptitude towards nursing profession, sleeping habit and recent stressful life event $p<0.05$ level of significance. Hence H_1 is accepted with regards to association between learning ability and financial status of family, area of residence, aptitude towards nursing profession, sleeping habit and recent stressful life event and rejected with regards to age, education of mother and education of father are not statistically significant as table value is more than calculated value at $p<0.05$ level of significance.

't' test was used to assess the learning ability score before and after intervention. Mean and SD were 14.26 ±3.66 and 37.66 ± 3.87 before and after the intervention respectively. The result were analysed using 't' test and a significant improvement in learning ability is statistically proved as calculated 't' value that is 13.13 is higher than table value (2.04) at $p<0.05$ level of significance. Hence H_2 that there is significant difference in pre and post interventional learning ability among students at $p<0.05$ level of significance is accepted.

Table 1

Areas of learning ability	Range score	Pre test learning ability			
		Mean	SD	Mean score%	CV
Time management	0-20	11.2	2.1	56	18.75
Attention and concentration	0-18	7.76	2.25	43.11	28.99
Memory	0-14	5.3	1.5	37.85	28.30
Over all	0-52	24.26	3.62	46.65	14.92

The study reveals that there is great impact of cognitive skill training in improving learning among students. Hence, it is necessary to pay attention towards the learning abilities of students. The findings of the present study have its implication for nursing practice, nursing education, nursing administration and nursing research.

Nursing practice:

- Changes in psychiatric services and the role of psychiatric nurse demand cognitive skill training program in improve learning to update their knowledge and skills to provide quality care.
- Research findings provides scientific evidence that Cognitive Skill training improves learning interms of concentration, memory and time management. In order to ensure cost effective quality care, nurses needs to develop all the above qualities. Therefore, the such training programmes is a need of the hour to ensure professionalism.
- Nurse can conduct Regular cognitive skill training program in every 6 month to improve learning.
- A proper channel of communication regarding cognitive skill can be provided to nurses who face difficulty during clinical exposure.
- All the mental health professional should not have enough knowledge towards cognitive skill training. So this research help to gain knowledge regarding cognitive skill training in improving learning abilities.
- Orienting all the health professional including medical and paramedical staff and key person in cognitive skill training.

Nursing education:

- As Cognitive skill training is proved to be an Evidence based practice for a concrete learning, it can be utilised for the concept learning for young nursing students. As health care is multi-dimensional, many of the terms are abstract rather than empirical. Hence a scientifically proved technique needs to be followed than traditional ways of teaching and learning. Nurse educator should take responsibilities of organizing cognitive skill training for nursing students who has difficulty in understanding.
- Sensitize the teacher to identify the students with poor learning ability and provide need based cognitive skill training to enhance attention concentration and memory.
- The nurse educator can ensure that the adolescent participate in training program to improve learning abilities
- To support teachers to help them to provide students with different study techniques which will help them to reduce learning difficulty.
- A specific cognitive skill nurse educator should be trained to impart knowledge about cognitive skill training in improving learning ability in nursing student.
- The students should be provided opportunity to plan and develop health education based on cognitive skill training and educates in hospitals community and colleges.

Nursing administration:

- In over growing challenges of mental health, the nurse administer should facilitate and encourage nurses with substantial continuing education opportunity to which update their knowledge and skill.
- Administrator should take initiativeness in conducting awareness about cognitive skill training in improving learning through seminar for both students and teachers.
- The nurse administrator can conduct a cognitive skill training program for teachers and students to improve time management skill, enhance the attention and concentration and improving memory power to support their learning and academic achievement.
- The nurse administrator can sensitize the school teachers to adopt cognitive skill techniques to improve learning abilities.
- Nurse administrator should promote and motivate for developing educational materials such as time management techniques, methods for being attentive and concentrated and strategy to improve memory power.

Nursing research:

- There is a need for further investigation and innovation to improve learning abilities.
- As the present study is newer one in the field of nursing education, its efficiency can be tested in different areas and settings. It can be a foundation for the future researchers to work more in the field of nursing education. Research findings improve the body of knowledge about cognitive skill and ways to improve students learning abilities.
- Research must be done on various aspects of educational stressors among adolescents.
- Research must go hand in hand with acquisition of practical experience and expertise related to poor learning outcome, school dropouts and educational stressors among students.
- The nurse researchers can conduct studies relating to enhance cognitive skills in schools and colleges thereby helping the students to improve their learning outcome.
- Research studies relating to learning strategy and learning outcome can also be done among school and college teachers
- Research study will be done to assess the factor affecting learning abilities.
- This study help the nurse researcher to understand the importance of cognitive skill training in improving learning ability.
- Present study helps nurse researchers to review the literature for further research study.

4. Conclusion

This paper presented a study on effectiveness of cognitive skill training in improving learning ability among students of selected college of Bhilai, Chhattisgarh.

References

[1] Gross R. et al. Psychology: the science of mind and behaviour. Learning. Wikipedia. 2005.
[2] Learning abilities. NTI group Smarterbrain. 2016.
[3] Learning and memory. American psychological association. 2020.
[4] Rabia M. A study-on-study habits and academic performance of students. International Journal of Asian social science, 2017.
[5] Nasrullah, S, Khan MS. Impact of time-management on the student's academic performance: a cross-sectional study. An international peer-reviewed journal, Vol. 12, No.3, March 2021.
[6] Arumugam S. Improvement of study skills through intervention on memory and academic performance, 2007.
[7] Lodge JM. Understanding Difficulties and Resulting Confusion in Learning: An Integrative Review. Frontiers in education, 2018.
[8] UNICEF for every child Investing in a safe, healthy and productive transition from childhood to adulthood is critical, April 2022.
[9] UNICEF for every child. Adolescent development and participation, 2020.
[10] The Economic Times Education Leadership Summit to highlight digital intervention. ET government.com, 2022.
[11] Sanders. Adolescent Psychosocial, Social, and Cognitive Development. Adolescence medicine, 2013.
[12] Sarkar s. Over 4,000 children died by suicide between 2017 and 2019 after failing in exams. Hindustan times, 2021.
[13] Chaturvedi RK. Differential effect of pre and post cognitive skills training program: a study on healthy young children. Smart Learning Environments, Jan. 2022.
[14] Parikh R. Cognitive skills are essential for students to improve learning. Digital learning, 2021.
[15] Tekkol IA. An investigation of self-directed learning skills of undergraduate student. Frontiers in Psychology. Sec. Educational Psychology, November 2018.
[16] Siriwongs P. developing students' learning ability by dint of self-directed learning. Procedia - Social and Behavioral Science, July 2015.
[17] Ilcin N. The relationship between learning styles and academic performance in Turkish physiotherapy students. BMC medical education, Dec. 2018.
[18] Dubey D., Assess study skills and effectiveness of implementation of study skill manual on learning outcome among students of same academic level. Ayush university, 2017.
[19] Badua JP. Socio-demographic characteristics and learning styles on academic performance in science. International journal of sciences: basic and applied research, 2021.
[20] Suleman Q. Effects of family structure on the academic performance of students at elementary level in district Karak, Khyber Pukhtunkhwa (Pakistan). Journal of Sociological Research, 2012.
[21] Idris M. Assess the relationship between parent's education and their children's academic achievement. Journal of arts and social sciences, 2020.
[22] Horanicova S. et al. Family socioeconomic status and adolescent school satisfaction to answer the question: does schoolwork support affect this association. frontiers in psychology. Sec. educational psychology, 2020.