Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

Policy Journal of Social Science Review

Let's Start!

Invigorating the Observational Skills of Primary School Students by Visiting Museum as Learning Resource

Qanita Ahmed[1]
Dr. Farkhanda Jabeen[2]
Dr. Hajra Bibi[3]
Dr. Farzana Naheed Salim[4]

HJRS HEC Journal Recognition System
OJS OPEN JOURNAL SYSTEMS

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

Invigorating the Observational Skills of Primary School Students by Visiting Museum as Learning Resource

Qanita Ahmed	School Education Department, Punjab. Email: qanitaahmed123@gmail.com
Dr. Farkhanda Jabeen	Assistant Professor, Fatima Jinnah Women University, Rawalpindi Email: farkhandajabeen@fjwu.edu.pk
Dr. Hajra Bibi	Lecturer, Fatima Jinnah Women University, Rawalpindi Email: hajrariaz@fjwu.edu.pk
Dr. Farzana Naheed Salim	Head of Education Department, Abasyn University, Peshawar Email: farzana.salim@abasyn.edu.pk

Abstract

Currently museums have been enhancing their significant role as a valuable educational institute by fostering the understanding of various historical perspectives. They are serving as research centers by providing inquiry-based learning with evidence. The aim of this conducted research is to invigorate the observational skills of primary school students of grade V by taking them to the museums. It was an experimental study by taking experimental group from grade V. Convenience-sampling technique was applied to choose sample. A checklist of activities was prepared. The checklist had different portions based on recognition, exploration and analysis. It was prepared from the content books of the participants. It helped the experimental group to be more interactive, indulged and ready to explore which directly linked to nurture the observational skills of the students. The study concludes that the academic performance of the experimental group was significantly better. The primary school students perform frequently better in creative and critical thinking skills. The finding of this experimental study emphasis on the interactive role of museums collaborated with schools can help primary school students of formal operational stage to enhance academic learning regarding their ancestors.

Keywords: Metabolomics Metabonomic Pharmacometabolomic Precision Medicine

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

Introduction

Museums are informal learning environment that can be utilize in engaging school students to build up in-depth and in hand knowledge about historical events/perspectives. They are the institutes to preserve the objects for the public. They can perform the educational role to enhance and promote the learning of the students. The immense learning environment in the museum plays significant role in fostering the learning in pupils.

Gesztelyi (2022) describes that museums offer dynamic environment for its visitors to explore and inquire the facts. Sanusi (2012) states that learning environment plays very important role for the understanding of any perspective and learning outcomes. There are two major factors that influence the observational learning named as internal and external factors. They both determine the production of learning outcomes. Teaching to learn is a process that carries the learner into the world of exploration. Teaching outside the classroom make the students more curious and direct them to think more critically. Mangangantung and Tuerah (2021) suggests the various ways to motivate, encourage and involve students to think critically that enhances their ability of observation. Limbach and Waugh (2009) describes the steps which develop observational skills of the students. The selection of learning environment and learning activities help to develop critically thinking skills in students and make them to grow up with their own opinion. Chinedu et al., (2014) states that students of this era is not led to be told, the student himself have the ability to find the fact. At present time, students are now just needed to teach how to think instead of what to think. The museums provide a platform for interdisciplinary learning that integrates the connections between various subjects. It helps the students to explore, understand, and identify the facts.

The learning process determines the level of understanding and knowledge. Educational museums provide intellectual exploration, discovery, curiosity, and lifelong learning. It creates interactive learning environment by unique infrastructure for holistic learning. To observe the surrounding is a skill and

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

making logical conclusion is a skill Rawson (2000). Museums are an appreciable teaching aid that express cultural identity of any society. They are the permanent institutes of a society. International council of museums (ICOM) defines the purpose of museum as an institute that can used to acquire, conserve, communicate and utilize for educational perspective. Malaysia, utilize their museums for spreading their culture and history (ICOM, 2007).

According to Hill & Hooper (2000), there is a need to be more focus on a child learning by utilizing museums. It delivers practical and interesting learning environment that directly enhances the performance of the students. The students have different kind of interest so; there is a need to interact relevant museums to visit. Goode et al., (2000) elaborates the categories of museums as science museums, general museums, natural science museums, art and history museums. Museum is not a book but preserves various aspect of science, art and technology. The science museums define about history of science and its functions. Historical museums describe about the culture and history of the state. Art museum's exhibit art such as paintings, sculptures, drawings, illustrations and metalwork. Sheng et al., (2012) classified museums as educational, Aesthetic and social places. They are not just enhances the educational potential but also develops the cultural and societal perspective.

Objectives of the Study

The objective of this experimental study was to foster the observational skills of the students by interactive use of historically preserved objects in the museums

Research Questions

The research questions of the study were

1. How observational checklist effects the attention level of the students?
2. How observations in museum enables the academic achievement of the students?

Review of Literature

The American Alliance of museums (2022) describe museums as non-profit institute that offers the open place to the people to know about the historical

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

background of the state. Perovic et al., (2013) narrate about the need of new museology that transforms the functional role of the museum. This transformation engage the public through activities. Utama & Kriston (2020) state that museum enhances critical thinking skills through historical preserved objects. The museums describe a connection between different events, places, time and people.

Academic achievement refers to the ability to accomplish good learning outcomes. This achievement influences positively or negatively on different aspects of students personality. Novotny and Kremenkova (2016) explain about measuring the academic outcomes. There are various approaches to measure academic achievement but grade point average (GPA) is normally used by institutes. The academic achievement encompasses various aspects related to educational process. It includes motivation, self-recognition, study skills, concentration and information processing. They are directly contribute in developing academic achievement.

The term academic achievement can be define as educational attainment or academic learning. It refers to the enactment attained through teaching. In 1980s, Indiana University conducted a research on academic achievement and learning engagement of the students. Since that time, academic achievement taken as learning outcome of the students and have, gain the key role in measuring achievement (Ossiannilsson, 2016). Wang et al., (2021) enlighten academic performance comprises behavioral, psychological and cognitive learning. It can be divided as behavioral and psychological, and cognitive and non-cognitive learning outcome.

Reasoning and thinking skills are cultivate through cognitive development. Piaget and Vygotsky both considered cognitive theory through certain ages and contribution of social environment. Children needs to anticipate about how people and objects cooperate with each other. Comprehension of the environment and human perceptions are influenced by societal interaction. Cognitive learning theory emphasis to make the learner potential that helps them

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

to learn effectively. The cognitive learning theory describes thinking that can influence by external and internal factors.

The significant literature and researcher divulges the internal and external factors that directly or indirectly influence the achievement level. It also reveals internal motivation level of the students directly impact academic achievement. Chang (2006) elucidates learning outcome is a outcome of objective and subjective assessment. Fisher and Bandy (2019) describes assessment as essential part in teaching that can influence the academic performance of the students. Zheng et al., (2022) stated about the model prepared by Astin. This model builds the relationship between "environment" "inputs" and "outputs" to raise interactive learning outcome. The model cultivates the conceptions of student's engagement and outcomes. Rugutt and Chemosit (2005) emphasis on institutional factors that are more influential than the personal characteristics of an individual.

Pashler et al., (2008) explained about the importance of activity-based learning. This type of learning enhances social skills, coordination, and critical thinking abilities. This learning formulates the concept of exploration, expressions and experimentation. It helps the students to attain skills. Novick (2014) promoted interactive classrooms that supports learning outside classroom by utilizing various resources. There are different collaborating classroom practices that teachers are integrating in classrooms to make learning productive. McGee and Reis (2012) emphasis on blended learning that integrate students centered interactive learning environment. The literature elaborates to involve and engage students differently, can highlight and improve their confidence, interest and motivation level. This can enhance their participation and influence the complete academic performance.

Hartley (2008) address about constructive learning that ensure cooperation, collaboration, and participation by productive use of learning resource. The theorists' emphasis on active participation of the students and active utilization of the resource. Hein (2004) quoted that Dewey considered the museums as very authentic powerful resource that represents historical happenings. Giorgdze et al.,

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

(2000) describes museums as informal learning environment that builds curiosity and interpretation. The recognition of informal institutes for learning perspectives increases day by day. The conducted study utilized museum as an informal resource to enhance academic performance of the students. Historically preserved objects in museums and interaction with them make the students to be explorer, and critical thinker. Milbrandt et al., (2004) stated academic achievement indicates the outcome of the learning measured through assessments. Minkler (2008) explained that the learning process must consist of all the required aspects regarding methodology, resources, and measurement instrument. It will ensure the productive outcome in a form of academic achievement. The performance of students may differ from each other but it must improve by implementing productive resources. The academic achievement considered multifaceted construct consist of various learning domains.

Method of the Study

Research Design: **Population and Sampling**

The study confined experimental research design to identify how museums can perform as informal learning resource as an independent variable and effect the academic performance of the experimental group as dependent variable. The population in conducted research was the public school students of primary level in Rawalpindi division. The convenience sampling technique was apply to choose the sample. According to this sampling technique, five schools were select to conduct the research but only two of them was allow permission. One of those schools have only section of grade V with very less strength. The other one have two sections of grade V having enough strength to conduct experiment therefore, research has conducted in that school.

Research Tool

This quantitative study used pre and post-test as a research instrument. Regarding the instrument development, the author consulted textbook of the participants. The test contained twenty items including short questions and MCQs. The senior schoolteachers (SSTs) approved the test. The researcher conducted

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

three visits to museum and involved the participants through observational checklist. The participants visited museum and observer according to the observational checklist provided by the author. There were 10 observations in checklist that students have to notice. Based on those observations pre and post-test of the participants were conducted. The pre-test conducted before visiting museums and post-test have taken after the visit based on observational checklist. The marks equated by applying paired t-test to compare the scores of pre and post-test.

Results and Discussion

In order to compare the pre and post-test scores SPSS version 18 was utilize. Paired sample t-test was applied and measure the difference between the academic performances of the students. The experimental group consist of forty participants. Table 1 indicated: Mean 8.271, SD: 2.240, t: 20.242, D: 32, Sig: .000. The scores directed the significant difference in academic performance of the participants improved.

Table 1: Paired Sample

Paired Difference of outcomes					
Pre-	**Mean**	**SD**	**t**	**D**	**sig**
posttest	8.271	2.240	20.242	32	.000

Lueck et al., (2009) explain t-test is apply to measure the variance between two assemblages. Solomon and Draine (2010) elaborated regarding the value of t-test that needs to be less than 0.05. Table 1 showed the sig value .000 that supports the conducted study. In this experimental study, measurement has taken before and after the treatment. The researcher organized three visits to the museums. The first outcome was measure before visiting museums to identify the academic performance of the participants.

Table 2: Pretest-Posttest Outcome of Experimental Group Calculated by Paired t-Test

Group	**Mean**	**SD**

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

Post-test outcome	18.91	1.981
Pre-test outcome	10.44	3.321

The pretest scores revealed Mean 18.91 and SD 1.981. The Posttest observation was conduct based on visiting museum indicated Mean: 10.44, and SD: 3.321. This statistical conclusion indicated that academic achievement of the participants improved by highly significance in scores.

The finding investigated the impact of independent variable (Museum) on dependent variable (academic performance) through pre-posttest design. Likewise, the study explored to involve the primary school students by utilizing an informal learning institute and its impact on academic performance. According to the Piaget, theory of cognitive development the formal operational stage involves in increasing logical thinking and understanding of the different ideas. This age is to think more about hypothetical problems, abstract and theoretical reasoning, and social issues. Therefore, when the students of grade V visited museums they explore the historical understanding by those preserved objects and scenarios.

Mudulia (2012) emphasis on the social interaction at formal operational stage. Social interaction generate more potential and engage the children to understand various abstract notions. This level of formal operational stage prepare the learners to concentrate on evidence and logical thinking. To foster this understanding there is a need to place the learner in the situation where they can able to consumed thinking abilities by utilizing evidence and logical perspectives. Cognitive development is entirely base on the active environment of the learner to discover, to discuss, to experiment, and to solve problems. Mwamwenda (2012) supports the incorporation of cognitive theory in classrooms to develop constructive learning environment. The need is to provide precise learning environment according to every specific age. This theory emphasis on individual learning abilities through active environment. Learning is a procedure that can be attain through various resources. The author utilized museum as a learning resource to the students of formal operational stage. This experimental study help the students to develop enquiry based learning.

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

Conclusion

The experimental study was conduct to foster the observational skills of the students by utilizing the interactive informal learning resource (museum). An interactive interaction of students at formal operational stage of grade V has been arrange with the historical preserve objects at museum. An observational checklist was prepare from the textbooks of grade V. The participants was instruct regarding checklist before visit to the museum. They have observed different perspectives according to the observational checklist. The posttest have conducted based on observational checklist. After visiting museum, the scores calculated to identify the achievement. The result indicated that students of formal operational stage interrelate academically very interactively and well. The students guided through observational checklist that help them to identify the things to observe, remind, and interpret. This practice can help them to explore and construe the facts by utilizing the evidence. This study suggests involving the students at this formal operational age to invigorate the observational skills.

References

Chang, E. (2006). Interactive experiences and contextual learning in museums. Studies in Art Education, 47(2), 170-186.

Chinedu, S. N., & Emiloju, O. C. (2014). Underweight, overweight and obesity amongst young adults in Ota, Nigeria. *Journal of Public Health and Epidemiology*, *6*(7), 235-238.

Fisher Jr, M. R., & Bandy, J. (2019). Assessing student learning. *Vanderbilt University Center for Teaching*.

Gesztelyi, T. (2022). The Gems in the Ustinow Collection, Museum of Cultural History, University of Oslo. *Acta Classica Universitatis Scientiarum Debreceniensis*, *58*, 101-141.

Giorgdze, M., &Dgebuadze, M. (2017). Interactive teaching methods: challenges and perspectives. International E-Journal of Advances in Education, 3(9), 544-548.

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

Goode, B. L., Drubin, D. G., & Barnes, G. (2000). Functional cooperation between the microtubule and actin cytoskeletons. Current opinion in cell biology, 12(1), 63-71

Hartley, J. (2008). Learning and studying: A research perspective. Routledge.

Hein, G. E. (2004). John Dewey and museum education. Curator: The Museum Journal, 47(4), 413-427

Hill, R., Hooper, C., & Wahl, S. (2000). Look, learn, and be satisfied: video playback as a learning strategy to improve clinical skills performance. Journal for Nurses in Professional Development, 16(5), 232-239.

International Council of Museums (ICOM) statutes. (n.d.). Retrieved August 9, 2022, from https://icom.museum/wp-content/uploads/2018/07/2017_ICOM_Statutes_EN.pd

Invite congress to visit your museum. American Alliance of Museums. (2022, June 16). Retrieved August 9, 2022, from https://www.aamus.org/programs/advocacy/invitecongress-to-visit-your-museum

Limbach, B., & Waugh, W. (2010). Developing Higher Level Thinking. *Journal of instructional pedagogies*, *3*.

Lueck, N., Manion, E. M., Cohen, M. B., &Weydert, J. A. (2009). Institutional second opinion. AJSP: Reviews & Reports, 14(2), 62-65

Mangangantung, J., & Tuerah, R. M. (2021). Apply High Order Thinking Skills in Science Lessons in Primary School. *International Journal of Education, Information Technology, and Others*, *4*(1), 216-220.

McGee, P., & Reis, A. (2012). Blended course design: A synthesis of best practices. *Journal of Asynchronous Learning Networks*, *16*(4), 7-22.

Milbrandt, M. K., Felts, J., Richards, B., &Abghari, N. (2004). Teaching-to-learn: A constructivist approach to shared responsibility. Art Education, 57(5), 19-33.

Minkler, S. (2008). Connecting teaching styles and student learning styles in community college online courses. University of Hartford

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

Mudulia, A. M. (2012). The relationship between availability of teaching/learning resources and performance in secondary school science subjects in Eldoret Municipality, Kenya. Journal of Emerging trends in educational research and policy studies, 3(4), 530-536.

Mwamwenda, T. S. (2012). Maintaining academic integrity among East African university students. *Africa Education Review*, *9*(3), 452-465.

Novick, L. R., Schreiber, E. G., &Catley, K. M. (2014). Deconstructing evolution education: the relationship between micro-and macroevolution. Journal of Research in Science Teaching, 51(6), 759-788.

Novotný, J. S., & Kreménková, L. (2016). The relationship between resilience and academic performance at youth placed at risk. *Československá psychologie*, *60*(6), 553.

Ossiannilsson, E. (2016). Challenges and opportunities for active and hybrid learning related to UNESCO Post 2015. Handbook of research on active learning and the flipped classroom model in the digital age, 333-351.

Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning styles: Concepts and evidence. Psychological science in the public interest, 9(3), 105-119.

Perovic, A., &Janke, V. (2013). Issues in the acquisition of binding and control in highfunctioning children with autism. UCL Working Papers in Linguistics, 25, 131-143.

Rawson, M. (2000). Learning to learn: more than a skill set. *Studies in Higher Education*, *25*(2), 225-238.

Rugutt, J. K., & Chemosit, C. C. (2005). A study of factors that influence college academic achievement: a structural equation modeling approach. *Journal of Educational Research & Policy Studies*, *5*(1), 66-90.

Sanusi, O. A. (2022). *Availability, Adequacy and Utilization of Material Resources for Teaching Business Education Courses in Colleges of Education* (Master's thesis, Kwara State (https://www.proquest.com/openview/0f22d1d3ac08dfb3457cc1296159f835/1?pq-origsite=gscholar&cbl=2026366&diss=yUniversity (Nigeria).

Policy Journal of Social Science Review
ISSN (Online): 3006-4635
ISSN (Print): 3006-4627
https://journalofsocialsciencereview.com/index.php/PJSSR
VOL-2,NO-4, (FALL-2024)

Sheng, C. W., & Chen, M. C. (2012). A study of experience expectations of museum visitors. Tourism management, 33(1), 53-60

Solomon, P., & Draine, J. (2010). An overview of quantitative research methods. *The handbook of social work methods*, 26-32.

Utama, K. H., & Kristin, F. (2020). Meta-Analysis Pengaruh Model Pembelajaran Problem Based Learning (PBL) Terhadap Kemampuan BerpikirKritis IPA Di SekolahDasar. JurnalBasicedu, 4(4), 889-898

Wang, C., Wang, Z., Wang, G., Lau, J. Y. N., Zhang, K., & Li, W. (2021). COVID-19 in early 2021: status and looking forward. *Signal Transduction and Targeted Therapy*, *6*(1), 1-14.

Zheng, Z., & Mustappha, S. M. (2022). A literature review on the academic achievement of college students. *Journal of Education and Social Sciences*, *20*(1), 11-18.