

OPEN-BOOK EXAM: AN ALTERNATE ASSESSMENT IN TEACHER EDUCATION

Abstract

The main objective of teacher education programme is to make the teachers to think, grow, innovate and reflect on what is taught and practice it in building the future citizens of our country. In view to the current situation of covid-19 pandemic, there is an intense need in changing the education system and in conducting traditional examination methods where priority is given to conceptual understanding without practical knowledge rather than creative and critical thinking skills among the teachers. Most of the reference material is available in abundance for the teaching practitioners but materials which are ought to be referred such as case studies and journals are still an exception. According to NEP 2020 it is a prerequisite to shift from traditional methods of examinations and enable evaluative practices like Open-Book Exam to improve higher-order thinking skills and deeper learning ability in the pre- service teachers. The present paper gives justification on the need of introducing Open-Book Exam as an Alternate assessment in Teacher Education. Quasi-Experimental Study has been conducted on the Pre-service teachers to analyze the higher order thinking ability and deeper learning skills among them. To study the anxiety level of the students between the traditional exams and the open book examination. Purposive Sampling technique has been applied by the researcher for the present study. The results interpret that there is increase in the higher order thinking skills and deeper learning abilities among the pre-service teachers. The anxiety level of the students was also decreased while conducting open book examinations when compared to traditional exams. Therefore Students should never have fear and anxiety in preparing for the examination and writing the examination too as it only creates stress in their minds. Student teachers should understand the fact that preparing a day before the examination will never improve deeper learning and higher-order thinking skills. Learning is a continuous process that has to be acquired from all the sources of knowledge. The complete responsibility of the teacher is to make learners capable of facing the world by being confident enough to express their thoughts and strive for success

Keywords: Alternate Assessment, Open-Book Exam, Higher-order thinking ability skills, Deeper Learning ability.

Introduction

In the present teacher education scenario, the main aim of the Educators is to produce the best teachers with more innovative and creative skills so that best practices taught can be delivered to the future generations where the term “memorization” can completely demolish. The main primary purpose of education is not only to gain knowledge and transfer it ahead but also to acquire it by a deeper understanding and modify the existing knowledge based on new experiences and make smart decisions. This can be done only when a chance is given to the students to analyze what is taught and reflect on it so that higher-order thinking skills can be developed. By reviewing more information students are exposed to the overall aspects of the content. There is an intense need to bring change in the assessment techniques as it is the need of the hour. In the traditional way of examinations, the main aim is to test the memory conventionally and move towards the intellectual skills among the students. In a traditional classroom, every single question has only one answer and there is no individual difference in answering it.

The whole world is in a critical stage where the pandemic has completely disrupted the education field at higher level in delivering the lectures as well as in conducting examinations. This is the time to experiment and set up advanced assessment tools and make education implementation more meaningful without attending physically. A chance for a change is to be given for more efficient, professional and productive skills while developing a new alternate assessment techniques. This Alternate technique in testing the student’s ability can be Open-Book Exam .

The Open-Book Exam was first introduced by Rabindranath Tagore in 1935, under the name ‘LokSikshaSansad’ but it was unsuccessful. (S. K. Pal, 1988)

Objectives of the study

1. To know about Open-Book Exam system
2. To discuss the need for introducing Open-Book Exam system in teacher education
3. To discuss about the Role of Teacher Educator in Open-Book Exam system.
4. To analyze the framing of questions in Open-Book Exams
5. To know about Misconceptions about Open-Book Exams

Open-Book Exam system

An Open-Book Exam system is an assessment method which is designed in such a way that it allows the students to refer the information regarding the concept by carrying textbooks, class notes and any other approved material to the examination hall. The name of the topic where the students are tested will be given to them in prior so that they can gather the information needed for it and get it approved by the in-charge teacher. In an Open-Book Exam, it is insignificant to pose questions like define any concept

or explain it. If so it would be simple job for the students to just transfer the information from the material to the answer book. In the traditional examination, the student in general transforms the information from the resource material to his memory and then produces in the answer book. This is the phase which has to be eliminated while being assessed as the main purpose of assessment is to acknowledge how much the student has understood rather than blindly doing an act. Even though text books are allowed in the Open-Book Exam room, No direct questions are asked in the exam by the educator as answering the questions should focus on the students' reflections on the concepts and reasoning them should be the priority.

Types of Open-Book Exam

The two types of open-book exam are the restricted type, and the unrestricted type.

In restricted type of Open-Book Exam: Students are allowed to carry one or more resource materials which are approved by the course instructor into the examination room. These materials can be logarithmic tables, dictionaries and many others, but printed documents or hand written materials are not allowed In Un-restricted type of Open-Book Exam students are given freedom to bring any material of their choice. No restrictions are imposed on the material being carried by the students. They are allowed to carry any kind of books like instructor material or handwritten notes of their own.

However, the primary purpose of Open-Book Exam is to attain specific strategies in teaching and the type of questions being posed as it demands to focus on intellectual and higher-order thinking ability skills rather than content based knowledge.

Open-Book Examination helps the students in facilitating

- Creating new knowledge in critically analyzing problems and developing own answer rather than retrieving the printed text.
- Practicing the study skills and mastering the content of the course
- Reflecting on their work and identifying gaps in their learning
- Reducing the academic stress and anxiety level
- Adopting Time Management technique
- Concentrating on every small piece of information
- Gaining interest in the subjects and increasing achievement level
(Green, 2016; Block,2012; Furedy&Furedy, 1983)

Review of Related Literature

The study on Open-Book Examinations was conducted by LoiSohLoi & Wu Yuan, 2010 at Nanyang Technological University, Singapore. This study investigates and acknowledges the students' perceptions on Open-Book Examination system. A survey conducted through a questionnaire to the Business Statistics Course's students after an Open-Book Exam. 583 students participated in the study. The results suggested that more than 60% participants who have responded have cited that Open-Book Exam are less stressful, needs less memorization, and has more room for logical thinking and creative thinking

Hoffman (1996) noted that a traditional examination requires memorization with an ideal thought. They make the students to drill the information multiple times rather than make them understand the concepts with actual learning. By this memory exercise, students walk away from the class with very little learning. Such examinations do not prepare the students to face the practical issues in real-life situations. In 1969, Bacon highlighted that open-book exam directly encourages students to work on ideas, concepts as well as on methods and its development with more in-depth learning and understanding of the concept which helps in relating to the practical aspects of life.

RESEARCH DESIGN

An experimental study on Open-Book Exam as an Alternate Assessment tool has been conducted by the researcher in one of the Colleges of Education in Hyderabad with the sample size of 41 B.Ed. trainees using Purposive Sampling technique. An application based questionnaire has been prepared where syllabus has been given to the students in prior. A pre-test has been conducted where most of the students were not able to answer as they faced difficulty in understanding the concepts' applications in reality. Three weeks intervention programme has been conducted on the same sample where tips and techniques were given to them to refer more books, journals and case studies and gather information in all aspects. Alternate assessment - Open-Book Exam has been conducted as a post test where the topics were given in prior. Reference books were kept on the respected tables based on the topics allotted. Students were given enough time to complete the question paper.

DATA ANALYSIS

Pre-test and Post-test Scores on the student learning of the student teachers and differences in Mean, Standard Deviation and t-Value .(Sample Size= 41)

Assessment	Mean	Standard deviation	t-test	Sig.(2-tailed)
Pre test	7.7561	1.4795	3.023	.000
Post test	6.8780	1.5842		
Df= 40	table value= 2.021			

Interpretation:

The mean value ($m=7.7561$) of pre-test score are greater than mean value ($m=6.8781$) of post test scores of the students. The pre test score ($SD=1.4795$) show less variance as compared to the post test scores ($SD=1.58$). The calculated t-value ($df=40$) is 3.023 is greater than table value $t(40) = 2.021$; p value is less than 0.05. Therefore this clearly shows that there is significant improvement in student learning through Open-Book Exams.

Pre-test and Post-test Scores on the anxiety level of the student teachers and differences in Mean, Standard Deviation and t-Value (Sample Size= 41)

Assessment	Mean	Standard deviation	t-test	Sig.(2-tailed)
Pre test	12.637	3.287	14.281	.000
Post test	17.091	1.340		
Df= 40	table value= 2.021			

Interpretation:

The mean value ($m=12.637$) of pre test scores is less than the mean value ($m=17.09$) of post-test scores of the students. The pre-test scores ($SD=3.287$) show greater variance as compared to the post test scores ($SD=1.340$). The calculated t-value ($df=40$) is 14.281 is more than the table value $t(40) = 2.021$; the value of p is less than 0.05. Therefore there is significant difference in the anxiety level of the students in Open-Book Exam

Features of Open-Book Exam

- Well Perseverance and Proper Use Of Book
- Teacher Carries The Role Of Guide With Teaching
- Helps In Strengthening The Knowledge Of Students
- Students Focus on the Thinking ability and Writing skills
- Proper Use of Students' Initiative Tendency
- Makes Student Self-dependent
- Special Focus on Reading Skill
- Student Becomes Capable In Practical View
- Growth of Students' Decision Power
- Transparency in Education System

Need for Open-Book Exam System to be a part of Teacher Education Assessment techniques

There is a desperate need in concentrating on the Evaluation techniques to be incorporated in the Teacher Education Curriculum in-order to shift from teaching to enabling learning. Even though pre-service teachers are exposed to many other tools such as seminars and projects, we cannot guarantee that they will serve as the right indicators of individual performance based on their capabilities. Through Open-Book Exam, we can ensure that knowledge is mere to be reproduced but to be applied, analyzed, evaluated, and reflected. The pre-service teachers need to arouse interest in their learning, stimulate thinking, and nurturing intellectual curiosity. Pre-service teachers should be able to empower students to acquire knowledge and develop a range of learning experiences. The core papers in the curriculum of the teacher education are mostly based on the Philosophy of Education and Psychology of Education where pre-service teachers are given the basic knowledge about the perspectives of education as an overall view where no thinker's ideologies are similar. Pre-service teachers are learning many theories and philosophies but are not able to interconnect them to the classroom situations where each child has a unique way of learning and understanding the concept. By this the deeper learning and understanding of the theories will be envisioned. If the pre-service teachers are exposed to different assessment techniques then only there will be a change in the learning techniques in students so that higher-order thinking skills can be established in the right way.

Pedagogical Practices

A paradigm shift from the current lecture method of instruction to the task based pedagogical practices is required. More referring of books for a single topic should be practiced for overall understanding of the concept and in depth. It is the duty of the teacher educators to train the minds of the student teachers so that they should be able to tackle the challenges in solving the problems faced keeping in mind the specified time constraints. (Mohan, 1999 as cited by Samarasekara et.al. 2006)

Extensive reading should be encouraged among the students by providing related sources. Reflective thinking should be incorporated in the minds of the student teachers so that they can analyze the techniques in writing the answers with deeper understanding in a brief note.

Student teachers should have to upgrade their knowledge well in advance as teaching professionally is the need of the hour because the learners are exposed to acquire more knowledge from different sources outside the classroom too.

Role of Teacher Educator in Open-Book Exam System.

Efforts from both students and the teacher educator is necessary in developing the assessment techniques. In any assessment technique, the Educator plays a very significant role. It depends on him/her how this tool is to be developed based on the teaching strategies of the educator. The objectives of the Open-Book Exams should be considered while preparing the blueprint of the question paper. The educator should give more information about the references so that the pre-service teachers should read more books on a single topic so that they can have an overall understanding of the concept. Group discussions should be encouraged in the classrooms so that the pre-service teachers can share their ideas with everyone in their respective perspectives. An educator should be a facilitator to develop learning experiences among the pre-service teachers. He/She should be a Trainer in guiding them in organizing the resources needed and help them in analyzing them according to their perceptions. He/She should be able to assess the pre-service teachers appropriately by checking the quality of the resources being chosen and suggest to them the relevant ones. Time Management should be taken into consideration as this assessment tool requires more time and patience.

Instructions for the student teachers about Open-Book Exam

It is essential for the student teachers' to understand the primary purpose of introducing the Open-Book Exam system as an Assessment Tool. Its main aim is to have in-depth knowledge about every concept and be able to reflect on it in every viewpoint. Devote more time in reading and reflecting. More preparation is required when compared to traditional examinations as they need to gather the information from different sources, read and understand the content in prior, and then reflect on its applications. Few learning strategies should be incorporated such as FGD's, brainstorming, Content Analysis, and mind mapping which helps in building more confidence and intellectual abilities.

Designing questions for Open-Book Exam

- Background Information should be given to the students based on the topic.
- Pertinent qualitative or quantitative data should be presented and then explanatory and Application based questions can be asked to the students. Questions can be
 - ✓ What does the data proclaim?
 - ✓ What significance does a particular scenario or data have in terms of the component in the current theme?
 - ✓ What other factors do potentially affect this data?
 - ✓ How would you test and make interpretations?
 - ✓ In what way does a particular theory be applicable in the classroom?
 - ✓ How would you reflect on theories being learned?
 - ✓ How would you correlate between the two things?
- Structuring the questions is very important as it tests for an ability to apply, analyze, assess, generate, synthesize and interpret..
- Unambiguous questions should be eliminated as it creates confusion among the students
- Questions should be framed in the way that the reasoning should be emphasised rather than locating and re-writing the information
- Questions of Socratic type, reflective questions and stages of learning may be useful. (Socratic questions such as “ Clarifying concepts, Probing assumptions, rationale, reasons evidence, Questioning viewpoints and its perspectives, Probing implications and its consequence and Questioning the question”)

Misconceptions about Open-Book Exams

The main issues which arise when assessing through Open-Book exams is that

- The educators may find difficulty in developing exam questions for testing pre-service teacher's skills to apply their knowledge through analysis and critical thinking.
- Pre-service teachers may be under a wrong sense of security and fail to prepare with more interest for an Open-Book exam thinking that the information is already in their hands.
- Pre-service teachers may falsely assume that the exam can be cracked easily without much effort.
- Pre-service teachers think of reproducing the content from the material which is nothing but plagiarism.
- Time Management is to be done both by the educator as well as the pre-service teachers
So that questions should be framed keeping mind the allotment of time at the same time even students should answer to the point only.

Educational Implications of Open-Book Exam

- There is a need to bring a change in the learning processes of the pre-service teachers to stimulate the ability to think instead of memorizing the concept.
- To review more than one resource and develop the authenticity of the content.
- Bring down the stress level of the pre-service teachers and make them reflect on what is taught and how that can be put into practice in the real world around.
- Encourage themselves to self monitor their learning and acquire in-depth knowledge.
- To answer the questions being posed in every angle by the students in schools.
- To create a positive opinion about the examination system without much worry.

Discussion

A significant difference in the scores obtained in both tests has been noted. Paired t – test has been applied as a statistical technique. The result proved that the students scored more marks in the post test with much creative writing skills and higher-

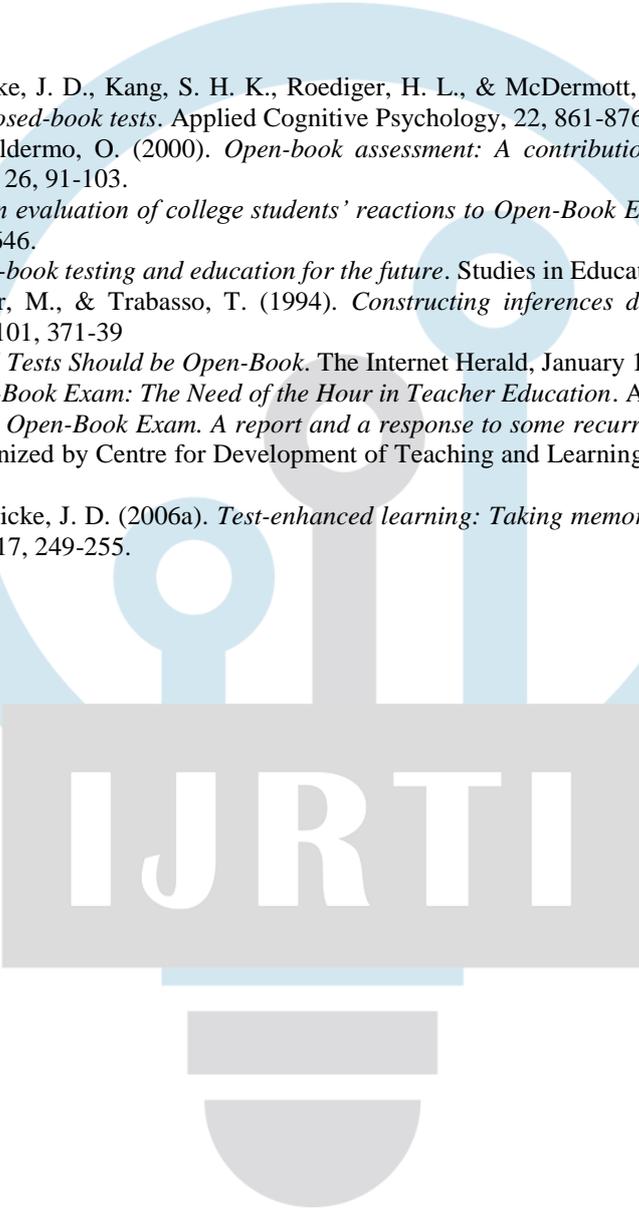
order thinking ability skills . Students were less anxious when compared to the pre-test examination as they were able to give answers in more practical way and this was possible only because of referring more books and gathering more information.

Conclusion

Evaluation system should strengthen the intellectual as well as the conceptual knowledge of the students in understanding things around and putting a practical usage to it in reality. The students are kept away from education which has no relation between their knowledge and daily life. Students should never have fear and anxiety in preparing for the examination and writing the examination too as it only creates stress in their minds. Student teachers should understand the fact that preparing a day before the examination will never improve deeper learning and higher-order thinking skills. Learning is a continuous process that has to be acquired from all the sources of knowledge. The complete responsibility of the teacher is to make learners capable of facing the world by being confident enough to express their thoughts and strive for success.

Bibliography

1. Agarwal, P. K., Karpicke, J. D., Kang, S. H. K., Roediger, H. L., & McDermott, K. B. (2008). *Examining the testing effect with open- and closed-book tests*. *Applied Cognitive Psychology*, 22, 861-876.
2. Eilertsen, T. V., & Valdermo, O. (2000). *Open-book assessment: A contribution to improved learning?* *Studies in Educational Evaluation*, 26, 91-103.
3. Feldhusen, J. (1961). *An evaluation of college students' reactions to Open-Book Exams*. *Educational and Psychological Measurement*, 21, 637-646.
4. Feller, M. (1994). *Open-book testing and education for the future*. *Studies in Educational Evaluation*, 20, 235-238.
5. Graesser, A. C., Singer, M., & Trabasso, T. (1994). *Constructing inferences during narrative text comprehension*. *Psychological Review*, 101, 371-39
6. Hoffman, A. (1996). *All Tests Should be Open-Book*. *The Internet Herald*, January 1996.
7. Geeta, D. (2012). *Open-Book Exam: The Need of the Hour in Teacher Education*. *Academia*
8. Mohanan, K. P. (1997). *Open-Book Exam. A report and a response to some recurrent concerns, Seminar on conducting Open-Book Exams* organized by Centre for Development of Teaching and Learning at National University of Singapore, January, 1997.
9. Roediger, H. L. & Karpicke, J. D. (2006a). *Test-enhanced learning: Taking memory tests improves long-term retention*. *Psychological Science*, 17, 249-255.



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