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Authentic assessment : An approach to enhance and assess students' learning

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Abstract

This paper underscores the process of using Authentic Assessment (AA) not only as a tool to assess learning but also as an approach to enhance learning in a school in the context of Pakistan. Data was collected through classroom observations, conducting interviews, analyzing relevant documents and maintaining person reflective diary. Findings indicate that AA helped in enhancing students' learning such as knowledge about the noise pollution, planning, developing interview questions, interviewing people, preparing posters, giving presentation and responding to audience question. The study also revealed that in AA the student's role changed from a passive test taker to an active participant in the process of assessment. For example, they identified issue, found out solution, presented it to the community and also took part in the assessment of their own performance through self-assessment. The teacher's role during AA changed as a facilitator.

Moreover, the study indicates that developing of observation checklists, criteria rubric and sharing it with students beforehand helps the student to improve their work and get desirable results.

Key Words: Authentic Assessment, Assessment for Learning, Innovative Assessment, Authentic-task

Introduction

In Pakistan, in most cases, the assessment has been viewed just as a means for evaluation rather as an instructional and learning tool. As a result, the classroom instructions are mostly driven through paper-and pencil tests (Halai, 2002). In these tests students' learning outcomes are measured in terms of what they have memorized at the expense of their conceptual understanding. This has narrowed down the teaching and learning processes and opportunities of science. This is consistent with Black (1993) arguments of the back wash effects of this narrow external testing on teaching and states that:

- Science is reduced to learning of isolated facts and skills;
- The cognitive level of classroom work is lowered;
- Pupils have to work at too great a pace for effective learning;
- In particular, ground is 'covered' by a race through a textbook;
- Much teaching time is devoted to direct test preparation;
- Pupils' questioning is inhibited;
- Learning follows testing in focusing on aspects that are easy to test;
- Laboratory work stops unless tests include laboratory tests;
- Creative, innovative methods and topical content are dropped. (p. 52)

In order to improve this situation, it is generally argued that schools should move from traditional forms of assessment to authentic forms of assessment. Authentic Assessment (AA) is a process that involves students in real-word tasks which are worthwhile, significant and meaningful or in other words 'authentic' (Baron &Boschee, 1995). And in such kind of tasks the students are required to use knowledge, skills and attitudes in the same way as the professionals do in real-life task (Gulikers, Bastiaens & Kirschner, 2004). AA is a contextualized approach, which is not only used for assessing students' learning, but also serves to enhance students' knowledge, their understanding construction of scientific concepts, student exploration and application skills in real-life situation a value beyond the assessment task. Hence, this paper explores the opportunities of using AA as an approach to enhance and assess students' learning in a Pakistani context.

Research Methodology

The purpose of the research was to study the process of implementation of AA as tool to enhance students' learning in science-classroom in a Pakistani school. In this study, within the qualitative paradigm, I used Kemmis, McTaggart & Retallick (2004) model of action research in order to get in-depth understanding of the AA. Using this cyclic model the following steps were taken:

1. ***Developing Plan:*** In the light of findings of the reconnaissance a general plan is developed to implement the AA based on the five dimensions of AA suggested by Gulikers et al. (2004):
    i. ***The authentic-task:*** A real- world task (table 1.1) was developed for AA which involved the students in the processes such as identifying an issue from their community, planning to solve the issue, exploration and demonstration of their understanding to the community.

AUTHENTIC-TASK
Select an issue from your context/ community and find out an appropriate solution for that. And, communicate the solution that to your community. You can use the following guidelines to complete your task: • Identify an important issue (which must be related to any science topic from your textbook) from your context, • Develop a plan; how to go about and solve the issue, • Explore and collect information from different sources to get in-depth understanding of the issue, ways to solve it, and the science concept, • Design a solution (s) and • Communicate it to your community

Table 1.1: Authentic-task

    ii. ***Physical context:*** The AA task was carried out by the students both in and outside the classroom (e.g. issue identification and planning was done inside the classroom while the exploration and demonstration of their learning through presentation was done in real context).
    iii. ***Social context:*** During the process of AA Students' worked in groups where they were sharing information and collaborating with each other. Moreover, they also interacted with different people in the real-context while collecting information and giving presentation to the community.

iv. ***Assessment results:*** The students explored the issue (noise-pollution), got in-depth understanding of it and found out ways of decreasing it. Then, they communicated their understanding through poster-presentation to their community in the real-context which was assessed against the criteria (table 1.2).

v. ***Criteria and standards:*** In order to assess students' performance, criteria for assessment and standards for expected competencies are developed and shared with students beforehand. Then it was used to assess students' learning (knowledge, other high-order cognitive skills and performance in the context) in each step of the authentic-task (table 1.2).

vi.

Criteria	Excellent (E)	Satisfactory (S)	Not satisfactory (NS)
Situation Analysis and Issue identification	Identified relevant issue and gave at least four reasons/causes	Identified relevant issue and gave two to three reasons/causes	Identified irrelevant issue with less then three reasons/causes
Planning and developing tools	Feasible plan, Organized step by step and steps are properly explained Appropriately time framed. Appropriate and focused tools	Feasible plan, Organized step by step but not explained appropriately Time-frame is inadequate. Tools are general.	Plan is not feasible
Data collection	Data collected from different sources e.g. teaching, interviewing people, internet, books Analyzed properly	Data collected from only two sources Poor analysis of the data	Data collected from less than two sources
Quality End product & content knowledge	The end product communicated through innovative ways, like, poster presentation, brochures or writing letters to Newspapers, Content knowledge is relevant and enough Massage or idea communicated clearly Questions were responded to well	The end product communicated through innovative ways Content knowledge is relevant but not enough. Massage or idea wasn't coming out clearly Questions were not responded well.	The end product presentation ambiguous Content knowledge is not relevant Massage or idea Wasn't coming out clearly Questions were not responded well
Quality of the Group work	**S**hares information **S**hows willingness to listen **Q**uestions appropriately **S**hows respect for others **A**ccepts differing opinions	Any three of the **SSQSA** given in the **Excellent** column.	Less than three of any **SSQSA** given in the **Excellent** column

Table 1.2: Assessment Rubric

2. ***Implementation and Observation Stage***

In this stage, the authentic-task was given to the students in order to enhance students' learning, and also to assess students' learning through AA. During this stage, the observation remained continuous to get necessary information on students' learning in order to get feed-back of the teaching and learning process. Questioning and on the spot feedback were used throughout the process to enhance students learning. Students

were also provided opportunities for discussions and questioning with each other and the teacher.

3. ***Reflection Stage***

Although reflection was an ongoing part of this study but at this stage it was far more crucial as it was the stage to reflect on the whole practices/processes carried out during the implementation stage. While reflecting, the focus was on questions such as:

- Did I do what I planned to do?
- What changes need to be made in my plan to implement in future?
- What was my role during the implementation?
- What was the role of students?
- What supported or hindered in implementation?
- What students' learning was I assessing?
- How did my implementation enhance students' learning?
- What strategies were used to enhance students' learning?

This reflection not only remained helpful in assessing the effectiveness of the action, but also in finding out the effects of the course of action.

Data Collection and Analysis

During the study in different stages data were obtained through observations, interviews, field notes, document (e.g. lesson-plans, syllabus, students' notebooks, test-records, test-papers, report-cards, student-work etc.) analysis, informal talks and group interview. I also used my own reflective diary, assessment-tasks and plans as data collection tools in the study.

Data analysis was an ongoing process, which started before the data collection and remained continue during and after it (Creswell, 1994). The data collected through the above mentioned sources were regularly analyzed to inform the action steps and to identify and categorize the frequently emerging themes. The results emerging from the final analysis of the data are discussed below.

Findings and Disscussion

AA Enhances Students' learning

The analysis of the data indicates that students' participation in AA developed their understanding of the scientific concepts. "They [students] explored 'sound and noise' and developed their understanding, especially about their effects and ways to control it" (teacher interview, April 4, 2006). However, the knowledge presented by students on the subject was not mere reproduction of scientific knowledge. They were engaged in an inquiry process of assembling and interpreting information, formulating ideas and then integrating and presenting them in the form of posters and drawings. All these are high order skills which the students used. For example, one student said that they analyzed their environment and identified the issue of noise pollution to work on. Another student was of the view, "to understand the issue, we interviewed different people and searched internet" (Interview, April 4, 2006).

In short, the achievements of students during the implementation of AA were not of that level what one could expect from a scientific inquiry. However, noticeable improvement was seen in

students regarding developing questions, interviewing, collecting data analyzing the information, preparing poster presentations and communicating their understanding to their community (like, a researcher in the real-world). In addition, an amazing change was noticed, as they reproduced the knowledge about the scientific concept 'noise pollution' but not through rote learning. First they monitored sound levels, understood it and then communicated their understanding to other people and they themselves were aware of this change. As one student pointed out:

> …in paper-pencil test we were memorizing and then writing [reproducing] it in the given test. But in AA we did not memorize anything. We ourselves searched out the answer from different sources working collectively.

Teacher's and Students' Role Changed in AA

During the observations of and interviews with teachers and students, it was found that in AA the role of teacher and learners has changed. There were more opportunities for active participation of learners in the process of AA as compared to traditional-testing. During the process of AA, the students themselves were exploring the scientific concept/issue which shows the students taking responsibility of their own learning. They also made decisions about the issues to be explored, processes and products of assessment, hence, played the role of decision maker. While talking about their role, one student said that in tests they were just writing the answers to the questions but in AA they performed variety of roles which helped them to learn more (Students' interview, 2006).

The class teacher mentioned in her observation note that "The teacher was facilitating students through posing and answering questioning" (Field notes, March 8, 2006). One student was of the view that "During AA, we found our teacher as a helper and got the chance to improve ourselves during the activity through getting timely feedback" (Students interview, April 4, 2006). It proves that in AA the role of a teacher was no longer as an invigilator as in traditional-testing. Instead, it was, **"…** two folded; as a teacher and as an assessor. I was playing both these roles simultaneously, in order to help the students to accomplish the assigned real-world task (Personal reflection, March 22, 2006)

AA as a Strategy to Assess Students' learning

To assess students' learning in different steps during AA, criteria rubric, observation checklists and self-assessment checklists were developed and shared with students beforehand. It provided the students with a scaffolding of how they will be evaluated and thus helped them to improve the quality of their work accordingly. As one student shared that they performed well because they were aware of their teacher's expectations (Interview, April 4, 2006). Moreover, the use of these tools was found useful for many reasons, for instance, the use of these tools kept us (me & my critical friend) focused to observe what was supposed to be observed and what the students were supposed to learn.

Data analysis also reveals that self-assessment (an integral part of AA) provided the students with an opportunity to critically reflect on their performance. While sharing the experience of the self-assessment one student said:

> "In self-assessment while responding to the questions, we were thinking that what new we learnt about the noise and sound. And it also provided us an opportunity to think about our own performance during group work". (Interview, April 4, 2006)

Generally, in self-assessment, it is likely that students grade themselves the highest one but this time surprisingly most of the students had assessed their performances in the group very critically. For example, one student has graded himself "not satisfactory" for sharing information. While another student graded herself "satisfactory" for sharing information and showing willingness to listen to others ideas. This means that during self-assessment, the students reflected on their practices and assessed their performance critically against the criteria.

Conclusion

In conclusion, it could be stated that though AA is a complex and demanding process but the evidences presented in this paper also highlight that it serves as a better alternative to traditional assessment practices. It is a new notion and presents assessment as a process which is intertwined with teaching and learning rather than something to be done after teaching and learning.

Furthermore, the study realvels that through AA teachers can not only assess students' performance in the real-context, but also enhance their knowledge, skills and attitude which are the important goals of the curriculum.

In concluding the implementation of the AA with a targeted group of students in eight class of a community-based school in Pakistan, it can be said that the use of AA methods were strongly appreciated by students. The payback(s) of AA methods are extremely beneficial for students. More students are able to excel with the use of the AA and learning. AA strongly emphasizes meta-cognition and processing of information which is the key to learning.

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