



A Qualitative Study about Performance Based Assesment Methods Used in Information Technologies Lesson*

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Abstract

In this study, Information Technologies teachers' views and usage cases on performance based assesment methods (PBAMs) are examined. It is aimed to find out which of the PBAMs are used frequently or not used, preference reasons of these methods and opinions about the applicability of them. Study is designed with the phenomenological design which is a qualitative research method. Interviews, observations and document analysis methods are used and triangulation is ensured. The study is carried out with the teachers who thought to reflect the phenomenon (performance based assesment methods used in Information Technologies lesson) clearly. All of the 6 Information Technologies teachers working in 5 different schools of Ankara are graduated from Faculty of Education, Department of Computer Education and Instructional Technologies. As a result of the study, it is found that teachers are not using the PBAMs enough. It is seen that portfolios, projects and performance tasks are used but the other methods are almost never used. Teachers show the lack of time and the difficulty of these methods as the most important two deterrent factors in front of the applicability of PBAMs. Enabling students to take responsibility, process evaluation and performance evaluation are the factors leading to the usage of these PBAMs.

Key Words

Constructivist Learning Approach, Information Technologies Lesson, Performance Based Assesment Methods (PBAMs), Phenomenology.

Constructivist learning approach which is started to be discussed more in almost every field of learning, also brings many shifts with itself when the traditional approaches are considered. This shift affects every stage of the learning-teaching process, from beginning to end. The evaluation of student's acquisitions has a great importance in the location of this paradigmatic

transformation which is left the conception of teaching to learning approach. The "assessment" concept is defining as "Assessment has traditionally been viewed as a means of verifying student learnings in order to determine to what extend been achieved the objectives of curriculum" (Bintz, 1991). In traditional teaching methods, assesment is often separate from

* This study was presented as oral presentation at the New Trends on Global Education Conference (September 24-26, 2012, Kyrenia, TRNC - Turkish Republic of Northern Cyprus.)

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learning-teaching process and dealt with in a way that gives more weight to the products of students, and for this purpose, multiple choice and short-answer tests, written and oral examinations are considered more important (Gelbal & Kelecioğlu, 2007). It is emphasized that the concept of assessment which is brought by the constructivist learning approach must be varies according to the traditional methods, handles as an element of the learning-teaching processes (not independent from the process) and should be a part of educational activities (Anderson, 1998; Tezci & Demirli, 2004).

Anderson (1998) points out that the transition from traditional assessment methods to PBAMs needs time and the great theoretical shifts. However, assessment and evaluation activities based on the authentic apprehension take place instead of the traditional assessment methods which is measuring the unchangeable truths based on memorizing in the learning-teaching processes is becoming a commonly accepted fact (Bay et al., 2010). The success of the students is measured in a particular period of time with the traditional assessment methods, therefore, the success or failure of the students are not clearly identifiable. But with the PBAMs, the students' development process can be monitored and the process can be evaluated with the concrete outcomes of teaching-learning process. In the literature, it is stated that an effective evaluation of the students answered the questions in a particular period of time will be insufficient, instead of this, the performances of the students must be measured with the observation of the process as well (Bullens, 2002; Duban & Küçükylmaz, 2008; Dwyer, 1998; Lustig, 1996; Ryan, 1998; Toptaş, 2011). Bahar, Nartgün, Durmuş, and Bıçak (2006) state that such methods are more authentic (interrelating with real life) than the traditional assessment and evaluation methods. On the other hand, Turgut and Baykul (2012) point out that the process can be measured alongside with the results of learning outputs by measuring the performances. In addition, it is asserted that the measurement of students' performance gives them the opportunity to learn the concepts, complex events and their structures effectively (Turgut & Baykul, 2012, p. 267).

The curriculum of Information Technologies lesson aims to educate individuals using information technologies efficiently. In this learning field, it is aimed to acquire the necessary skills to the individuals who are gained the basic knowledge and skills about information technologies, for the purpose of producing solutions to other areas using

these technologies (Milli Eğitim Bakanlığı Talim ve Terbiye Kurulu Başkanlığı [MEB TTKB], 2006). Information Technologies lesson's curriculum, which was put into practice in 2006, recommends the PBAMs such as other primary lessons. Moreover, Information Technologies lesson has not a mark and this is a basic indicator that the performance of the students can not be defined with the assesment made by traditional methods. Since implementing the new curriculums are placed, one of the most troublesome point came on in practice is the evaluation problem dealt with thoroughly in the curriculums. When the literature is analyzed, it is seen that there are a lot of studies about the incompetence of the teachers' or prospective teachers' acquisitions towards the PBAMs (Çepni & Şenel Çoruhlu, 2010; Orhan, 2007; Özdemir, 2010; Sağlam-Arslan, Devocioğlu-Kaymakçı, & Arslan, 2009; Şenel Çoruhlu, Er Nas, & Çepni, 2009; Yopalak, 2009). The purpose of this study is to determine the Information Technologies teachers' views and usage cases about the PBAMs used in this lesson. The focus question of the study is "What are the Information Technologies teachers' usage cases of PBAMs used in Information Technologies lessons and what are their views about these methods?"

Theoretical basis of this study is based on the constructivist learning approach. While the PBAMs which were came with the constructivist learning approach are examining, theoretical triangulation could not ensured, because there is not different theories considered in the concept of this study. However, the data diversity was supported with methodological triangulation. For this purpose, findings are strengthened with different data collection methods. Sub-problems which were expected to be answered at the end of the study can be expressed as follows;

- Which of the PBAMs are used by the teachers in Information Technologies lessons?
- What is the frequency of usage of PBAMs by the teachers in Information Technologies lessons?
- What are the Information Technologies teachers' views about the PBAMs (using or not using reasons and applicability)?

Method

This research is prepared with the phenomenological qualitative research design. Phenomenological studies are aimed to detect individuals' lives, perceptions and meanings

attributed to the phenomenons and because of this, it is necessary to study the individuals' experiences about the concerned phenomenon carefully. The phenomenon examined in this study is "PBAMs used in Information Technologies lesson".

While Creswell (2007) gives point to selecting individuals carefully who can be reflect the phenomenon in phenomenological studies, Patton (2002) states that, studies must be go through with the individuals who are thought to reflect a real sense experiences and the primary source of the phenomenon instead of secondary experiences. Therefore, this study is carried out with the 6 Information Technologies teachers working in Ankara, Turkey who can reflect the phenomenon clearly. Purposeful random sampling defined by the Patton (2002) is used to select the teachers. Morse (1991) suggests that, sample size must be at least 6 in the phenomenological studies which are gone through with the experienced research group possibly (as cited in Sandelowski, 1995). All of the 6 Information Technologies teachers working in 5 different schools are graduated from Faculty of Education, Department of Computer Education and Instructional Technologies. Two of the teachers are male (33.3%) and four of them are female (66.7%). The lowest vocational seniority of the teachers is 3 years and the highest one is 10 years of teaching experience.

When the interview form is desinging, two general question is involved. These questions are suggested by Moustakas (1994) that interviewers using phenomenological research methods should ask participants (as cited in Bailey & Card, 2000).

- What have you experienced in terms of the phenomenon?
- What contexts of situations have typically influenced or affected your experience of the phenomenon?

In order to explain the phenomenon deeply and get to its core, all the questions designed for the interview form were checked by a research assistant, who was still having graduate education. The research assistant concluded that the statements were proper and the questions were comprehensible. The interviews with the teachers were recorded via a tape recorder and then loaded to a computer. Furthermore, notes were taken about the issues particularly emphasized by the teachers. The data obtained through the interviews were analyzed through content analysis. Next, certain themes were created following the process

of coding. Furthermore, an analysis was made of the reasons for using or not using PBAMs. Each of the teachers was observed for two lesson (40 min x 2) which supported the data obtained through the interviews. At the end of the data collection process, a document analysis kept by 6 teachers was made. The data collection tools diversity was also ensured methodological triangulation. According to Patton (2002), studies are of higher quality when more than one method is employed. In addition, Golafshani (2003) argues that validity and reliability in quantitative studies can be achieved in qualitative studies through triangulation. Roberts, Priest, and Traynor (2006) state that the researcher may send the interview data to an independent researcher to verify how much agreement there is about findings and analysis (interrater reliability) (as cited in Yıldırım, 2010). Besides, Glesne and Peshkin (1992) point out that member checking and evaluations can help researchers to develop different perspectives for comments.

Results

The study was focused on identifying the extent to which teachers of Information Technologies use PBAMs. The interviews with the teachers indicate that all of them are used portfolios, projects and performance tasks. This finding is also supported by the document analysis. However, none of the teachers adopted or used eight of the PBAMs which are expected to be in use in the Information Technologies lesson.

According to the "reasons for not using" theme, which was developed following the analysis of the interview recordings, the reasons for not using certain PBAMs included teachers' state of competency, level of willingness, perceived advantages of the methods and habits. This finding is supported by the following sample sentences by the participants:

"I have an idea about these PBAMs. In my opinion, however, it is impossible to have students acquire the attainments and to support them with these methods at the same time during a lesson hour. I evaluate them through take-home assignments. Actually, I am rather unwilling to do this, on the grounds that students taking this lesson do not get any marks". [Level of Willingness + State of Competency] [Interview 1]

"I do not think that these methods are useful. I cannot ignore the amount of time spent on them. From a time-advantage perspective, I find it more useful to allocate just 2 hours in a term to conventional written exams". [Perceived Advantages + Habits] [Interview 3]

According to the "reasons for using" theme, the reasons for using PBAMs included process evaluation, enabling students to take responsibility, and performance evaluation. Some of the sample sentences that support this finding are as follows:

"I enable students to take responsibility through portfolios and projects. I believe in the effects and contributions of assignments". [Responsibility] [Interview 2]

"PBAMs enable me to see student progress from beginning to end. Also, I evaluate their performance. They make lessons enjoyable." [Performance evaluation + Process evaluation] [Interview 6]

According to the "applicability" theme, all of the participants considered PBAMs as time-consuming and difficult to put into practice. Some noted that one hour in a week was not enough to use these methods in an efficient manner, others stated that they were difficult to use and they had difficulty in putting them into practice because they had not been able to move away from conventional methods. This finding suggests that teachers bring into play and resort to defense mechanisms. Actually, the main reason why they could not use PBAMs efficiently was that they had not been able to fully internalize the evaluation philosophy stipulated by the curriculum.

An analysis of the interview recordings suggests that the participants repeated certain words related to PBAMs many times, such as portfolio, project, attainment, etc. In addition, some interviews show that the interviewees could not properly comprehend PBAMs and that they should study the curriculum, both theoretical and practical issues, in detail. Seeing that these teachers used such words as "mark", "hour of the lesson" many times during the interviews and the interviewer 3 reported that she had not been able to give up her conventional habits, they apparently could not understand properly the PBAMs brought about by the constructivist teaching approach.

The direct and structured interviews indicate that only 3 teachers had students do their performance tasks in the classroom. These three teachers assigned other PBAMs as homework whereas the

other teachers never used any of the PBAMs. This finding suggests that the participants lacked certain qualities required by the curriculum. Examples of these qualities include using PBAMs and providing students with instant and comprehensible feedback, encouraging them and motivating them. An analysis of the documents kept by the participants also suggests that performance tasks, posters and student portfolios were organized and kept properly whereas projects were stored on computer. The participants expressed that this was not for a particular reason and that students were more willing to conduct activities on computer.

The interviews with the participants suggest that their attitudes towards the use of PBAMs were acceptable. Even though they did not use them efficiently, they had an idea about what they were. They were already aware of the fact that PBAMs, when used in favorable conditions, could make contributions to the process just as much as conventional assessment methods could. Although all of the teachers had positive attitudes towards PBAMs, several studies in the literature have found that having a positive attitude towards something is not necessarily followed by actually using it (Turner, Kitchenham, Brereton, Charters, & Budgen, 2010). Therefore, their positive attitudes towards PBAMs do not necessarily mean that they use or adopt them efficiently. The main reason why teachers prefer to use PBAMs is that they enable student performance to be evaluated. On the other hand, the main reason why they are not preferred is that teachers cannot give up their conventional habits and internalize the assessment methods brought about by the constructivist learning approach. The biggest obstacle to the use of these methods is that they are considered time-consuming.

Conclusion, Discussions, and Recommendations

The objective of the constructivist learning approach is to train the types of individuals that are able to understand and learn things, to use what they have learned in their life and to put forward realistic proposals concerning real-life situations (Adanali, 2008, p. 15). The process requires one to identify students' abilities, developmental levels and developmental potentials, which can be achieved through efficient measurement and evaluation. The paradigm shift brought about by the increasing acceptance of the constructivist learning approach has an influence on the process of evaluation, one of the key elements of the process of learning/teaching. In this respect, PBAMs,

not conventional ones, stand out for the former group of methods enables students to establish relationships between what they know and the outside world and to create multiple solutions to real life problems (Korkmaz, 2004). This is exactly what is targeted by the constructivist learning approach. Therefore, it is inevitable that PBAMs will often be emphasized in renewed curriculum for primary school and referred to in the literature (Duban & Küçükylmaz, 2008; Gelbal & Kelecioğlu, 2007; Yapıcı & Demirdelen, 2007).

The present study included teacher opinions on PBAMs used in the Information Technologies lesson to identify the methods that are frequently or never used. In this way, the factors in using or not using such methods were revealed and related problems were identified. It was concluded that teachers frequently use student portfolios, projects and performance tasks whereas they never employ concept maps, structured grids, diagnostic trees or word association. The finding is supported by that of the study conducted by Duban and Küçükylmaz (2008) on prospective classroom teachers. Although the two studies are different in the lesson and population focused, they yielded similar results.

The reasons why PBAMs are not used efficiently in the Information Technologies lesson include teachers' low competence in these methods, unwillingness to use them, perceived advantages of the methods and inability to give up conventional teaching habits. On the other hand, the reasons why PBAMs are efficiently used are that they enable one to evaluate the whole process, they enable students to take responsibility and that they provide one with the opportunity to evaluate student performance in an efficient way. These findings are also parallel with the literature (Çakan, 2004; Gelbal & Kelecioğlu, 2007; Güneş, Dilek, Hoplan, Çelikoğlu, & Demir, 2010; Sağlam-Arslan, Avcı, & İyibil, 2008). Furthermore, as discussed in the review of literature, teachers are not competent in using PBAMs and they can not internalize the paradigm shifts brought about by the constructivist approach.

The participants generally had positive attitudes towards PBAMs. Although they thought that they would be useful for the lessons when used efficiently, they did not use them at a satisfactory level owing to lack of time and their perceived difficulty. The finding that teachers have positive attitudes to these methods is also supported by Banoğlu (2009). However, the literature includes some studies that suggest having a positive attitude towards something does not necessarily lead to actually using it (Turner et al., 2010). Thus, it is clear that PBAMs are not used satisfactorily in the Information Technologies lesson.

Certain recommendations can be made on the basis of the present study:

- Seeing that teachers do not use PBAMs at a satisfactory level, they should be supported through in-service trainings, in-school briefings and professional development programs. Two factors, namely "the social system" and "time" should be taken into consideration while attempts are made to make PBAMs, a relatively recent development at schools, popular and adoptable.
- One of the most significant factors in getting an innovation adopted is relative advantage. Therefore, teachers should be provided with solid evidence of the overwhelming advantages of PBAMs over conventional ones.
- Practices that require radical paradigm shifts should be gradually integrated with education. If shifts in a system are sudden and unexpected, it is natural that teachers will develop resistance to them and be hesitant to stop their commitment to conventional methods.
- The objectives of "Measuring and Evaluation" lesson taught at Faculties of Education should include enabling prospective teachers to gain competence in PBAMs. In this respect, they should be made to study the curricula for the lessons in a detailed way. Furthermore, they should observe throughout teacher training how PBAMs can be used efficiently.

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