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# The importance of students' readiness levels in program evaluation studies

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## Abstract

It is crucial to know whether the goals of instructional activities are achieved or not; if it is so, to what extent they are achieved, in order to develop the activities, compensate drawbacks and improve them more effectively. These processes of instructional activities are conducted by experts through appropriate evaluation approaches and models, systematically. To define students' readiness levels, which is an important aspect of evaluation, is of great significance to achieve the goals of evaluation. This study focuses on the significance and necessity of defining students' readiness levels for evaluation studies after explaining the fundamental concepts of program evaluation.

*Keywords:* Readiness level, program evaluation, diagnostic evaluation, formative evaluation, summative evaluation

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## 1. Introduction

The education programs of a country and/or an institution could yield insights about the education outcomes that will be emerged as a result of the implementations of these programs. If the outcomes are at the desired levels, the program will be continued but if they are at unexpected levels it will be revised. Making up the deficiencies and drawbacks, rearranging the programs according to the innovations at society and science, briefly developing the programs in all aspects will help to reach the desired quality. On the other hand, the development of such programs should be conducted systematically through the evaluations of data collected at scientific research and applications that could make the program more structured and effective. In fact, the program development could be general defined as planning, applying, evaluating the programs and rearranging them considering the results of these evaluations. This definition implies that program evaluation is the inevitable component of education. In this study the fundamental concepts of program evaluation are focused and then, as an important aspect of program evaluation students' readiness level, its significance and necessity are discussed.

## 2. Program Evaluation

The aim of education is the process of the change in behaviors. On the other hand, evaluation is the process which reveals whether the expected outcomes are achieved or not, according to the criteria determined at program proposal. At end of this process, the relationship between educational background, learning experience and behavior change is determined and their level to serve the aim is ascertained. In other words, the effectiveness of the program

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is decided. Ertürk (1994) defined the evaluation as the last and complementary component of program development and as the process to determine the level of accomplishing the instructional goals. On the other hand, Özçelik (1998) identified the evaluation as making sense of knowledge and interpreting it in terms of availability, satisfying the conditions and having certain meanings or not.

The evaluation of learning involves knowing students and diagnosing, defining the learning difficulties and finding out their possible reasons as well as identifying the learning levels according to course aims (Özçelik, 1998).

- The evaluations with aim of knowing and diagnosing students are conducted mostly at schools, classes and at the beginning of semesters. Through this evaluation, the students' developments at different aspects and fields are examined and some decisions are made regarding to what field of interest and courses they wish to attend.
- On the other hand, the evaluations with the aim of revealing the students' learning difficulties and possible reasons are applied during the courses and at the end of units. In these evaluations it is tested which new behaviors that each student should learn at the unit are acquired adequately and which are not also the reasons for their failure are examined. Using the results of these evaluations, the best ways to compensate the learning most effectively.
- The evaluations which aim to determine students' learning levels are mostly conducted at the end of all or certain parts. At these evaluations, by examining to what extent students improve according to goals, the decisions on whether they could pass the course, whether they could take the proficiency certificate or whether they could be successful at future learning.

The evaluations of teaching and learning are interrelated. The evaluation of teaching involves the evaluation of both learning and programs as well as related fields. In some cases, the evaluation of program and the effectiveness of program can be independent from each other. Examining the program, it is possible to decide on whether the goals are achieved or not but it is not possible to find out whether the goals are accurate or not without evaluating the solidity of program and the adequacy of teaching. On the other hand, it is essential to have students who satisfy the conditions and get motivated and thus to provide a valid and practical program program for these students. Therefore, it is required to determine the readiness levels of students at the beginning.

### **3. Defining the readiness levels**

Student brings their previous teaching experience at the beginning of teaching process. These experiences or their entrance behaviors could either related or unrelated with new teaching. Thus, to determine such experience is important to facilitate student's learning or teaching process. This part of the present study is about the entrance behaviors and determining these behaviors.

#### *3.1. Entrance Behaviors*

For entrance behaviors, three different concepts are used interchangeably in Turkish literature; entrance behaviors, readiness level, prelearning/preconditioned learning. Likewise, in worldwide literature, the concepts such as current knowledge, specialized knowledge, pre-knowledge are used (Dochy and Alexander, 1995). The entrance behaviors in other words readiness level is the special case of being ready for learning; it makes sense directly from teaching process (Fidan, 1996). Sağlam (2001) defined that entrance behaviors as preconditioned learnings which enables to start new learning and which covers students' knowledge, skill and attitudes (p. 81). Jonassen and Gabrowski (1993) also identified the entrance behaviors as the knowledge, behaviors or competencies that students bring. On the other hand, these preconditioned behaviors and the hierarchy of learning are mostly emphasized, thus Gagne (1968) claimed that to achieve the learning goals it is essential to depend on a learning and then following learnings.

The entrance behaviors are not grouped in terms of students' features but as cognitive entrance behaviors and affective entrance behaviors.

### *3.1.1. Cognitive Entrance Behaviors*

Such behaviors are defined as the precondition for learning a certain topic and as the knowledge, skill and competencies acquired through previous learning (Sağlam, 2001). According to Bloom, the cognitive entrance behaviors are gathered under two groups. The first one is the general cognitive entrance behaviors required for any kind of learning while the other one is the cognitive entrance behaviors involving the preconditioned learnings special to a certain course or unit (Senemoğlu, 2003).

The general entrance behaviors cover the competencies related to students' general ability, language and mathematical skills. The fundamentals of these competencies lay up to the preschool education and it requires long time to acquire these competencies so it is hard to change them.

On the other hand, the cognitive entrance behaviors are the preconditioned learnings that facilitate or enable learning a certain unit or course (Sağlam, 2001). It is inevitable that to determine the cognitive entrance behaviors that are precondition for the course and to make up any deficiencies will facilitate learning a new unit especially at the beginning of a course in which the hierarchical relationship is high (Sağlam, 2001; Senemoğlu, 2003).

### *3.1.2. Affective Entrance Behaviors*

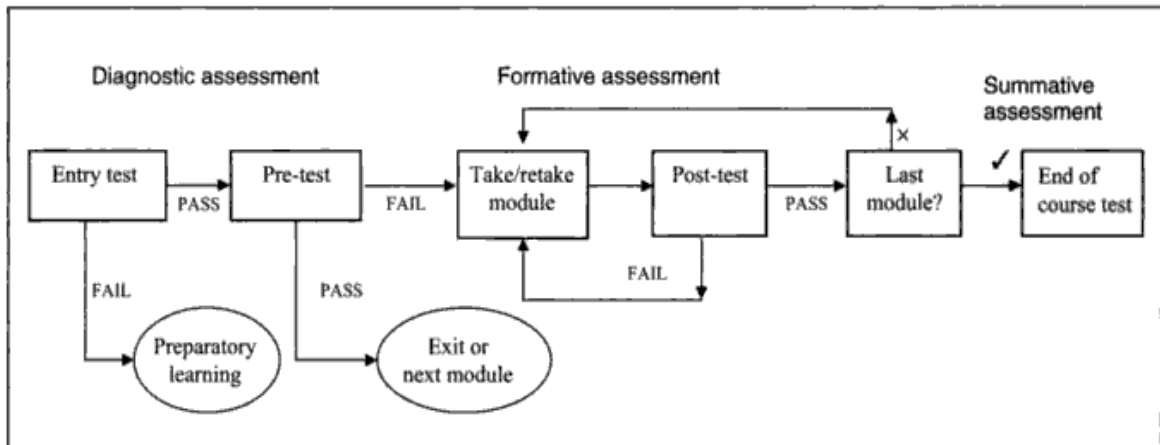
These behaviors are the complicated resultant of student's interest, attitude about planned learning unit as well as their self-opinion (Özçelik, 1998; Senemoğlu, 2003). At teaching-learning processes at schools, a remarkable amount of student qualities that influence learning levels consist of affective entrance behaviors. These qualities are bidirectional as both student's interest and attitudes towards their environment and self-interest (Sağlam, 2001). The first one included student's self-confidence about learning.

Among the affective entrance behaviors which could influence student's learning level dramatically, the indicators of student's interest and attitude towards course and subject are the behaviors such as to have willingness about this course or subject, to allocate adequate time, to concentrate on the target behaviors, to spend efforts to show target behaviors and insisting on the behaviors in spite of any difficulties, to be adamant and consistent, to show enthusiasm and to value (Sağlam, 2001). In other words, these are the behaviors related to learning motivation. Motivation is the power that activates an individual to learn and direct his willingness, attention and effort about learning. Thus, it can be claimed that the reasons of many learning difficulties emerged during teaching-learning process at school could be related to motivation. For motivation, internal factors since student is responsible of own learning, also external factors such as family, school and learning environment (Fidan, 1996)

On the other hand, the academic self-confidence for learning is defined as student's self-perception about learning any subject on the basis of learning background (Sağlam, 2001; Senemoğlu, 2003). Academic self-confidence is influenced with students' experience at past learning, teachers, environments (mother-father, friend etc). If a student has positive attitude towards a course, this will reflect on learning as well. As a result, it will help student to have self-confidence and develop positive self-concept (Özçelik, 1998). At the teaching-learning process at school, in order to develop strong academic self-confidence for students it is essential to satisfy their success requirements and to see themselves as successful.

### *3.2. Determining entrance behaviors*

To determine students' readiness level for learnings, which are expected to occur as a result of the program, it is essential to use various assessment devices and make use of the data collected from such devices. Regarding this issue, diagnostic tests, which assess each of the competencies such reading comprehension, arithmetic operations, use of information resources, written and verbal presentation logical thinking, could be applied. Students' readiness levels can be determined by comparing the data collected through such tests according to certain criteria and evaluating them. Gullickson (1985) explained the aim of diagnostic assessment as to reveal students' strengths and weaknesses, knowledge and skills. On the other hand, Fisher (2004) stated that diagnostic tests are beneficial at both



beginning and end of the program. Palomba and Banta (1999) exemplified this issue that before multiplication, division should be known so an entrance exam at the beginning of the program should be employed. According to Lewis and Whitlock (2003), the process is as in the following Figure 1.

Figure 1. The process of evaluation

As illustrated in Figure 1, a student who has just entered to a program should firstly take the diagnostic test. In this process, an entrance exam is given and in case of failure the student is provided with preparatory learning. Placement exams are samples of this step. Then, pre-tests are given to the students at certain levels and when they pass, they get exemption or pass to the following units/modules. However, in case of failure, they start the program. Within the process, different tests are administered and according their education is structured. At these evaluations if a student fails, the module is repeated but in case of success, the education goes on. Lastly, post-tests are applied and whole process from the beginning to the end is evaluated and a decision is taken.

#### 4. Program Evaluation and Readiness Levels

Students' readiness levels and entrance behaviors are of great significance for both the evaluation of students' learnings and service of teaching. Therefore, they should be determined accurately. Ausubel (1968) explained the entrance behaviors, which have direct effect on students' success, as;

"If I want to gather all of education psychology under one principle, I can say that, the only factor influencing learning is what students know before."

On the other hand, Anderson and Pichert (1978) stated that individual's knowledge has an important effect on what to learn and remember in the future. This emphasized effect is quiet apparent on the beginning of academic study. The entrance behaviors at adequate level could have "activating effect" on new learnings. Therefore, the students with high readiness levels can easily adapt to new concepts. In this respect the experts put forth two fundamental assumptions about the relationship between readiness level and student success (Dochy and Alexander, 1995):

- Acquisition of new information and skills depends on what is presented to students at the beginning
- Academic achievement depends on current special information

The studies on the students' readiness levels indicated that the students' entrance behaviors have great effect on their success at post-tests. Taber (2001) found out that the entrance behaviors determined before a new subject has approximately 50% variance on the results of post tests. In the same vein, Bloom (1976) found correlations between 0.50 and 0.90 between pre-test and post-test scores. These studies pointed out the direct relationship between the students' readiness level before a program or unit and their learnings at the end of the program.

Moreover, for the program evaluation studies which are conducted in terms of students' success, it becomes more important to know about the students' entrance behaviors. Therefore, the readiness levels should be determined thoroughly.

If the students, who do not have significant deficiencies at their entrance behaviors, cannot learn in spite of effective and adequate teaching or cannot enhance their learning up to certain level, the validity and practicality of program should be revised. Furthermore, if such students study with a program which validity and practicality is ensured but still cannot learn or improve, the effectiveness and adequacy of teaching can be considered at this time. In this case, the entrance behaviors gain importance for the evaluation of teaching in which programs are also under focus (Glaser, 1990).

Finally, students are both the input and output of a program. For instance, a student attending to the 1<sup>st</sup> year of high school is the product of primary school. Through the readiness level tests, it is possible to learn whether this student has an effective teaching process or not. Meanwhile, the students who could not pass these tests could provide data for the evaluation of their previous program.

## 5. Conclusion

Program evaluation is a judging process in which all educational components are taken into consideration. This process can be conducted through document analysis or evaluation of teachers, but also it is possible with the evaluation of variables based on students. For student based evaluations, it is crucial to take into account of all variables thoroughly. Particularly students' knowledge acquired beforehand definitely influences any judgements about the quality of program. Therefore, the evaluations that reveal students' prior knowledge and readiness levels are required. For valid and effective program evaluation, all variables from the beginning should be taken into consideration.

## References

- Anderson, R.C. , & Pichert, J.W. (1978). Recall of previously unrecalled information following a shift in perspective. *Journal of Verbal Learning and Verbal Behavior*, 17, 1-12.
- Bloom, B.S. (1976). *Human characteristics and school learning*. New York: McGraw-Hill.
- Dochy F.J.R.C., & Alexander, P.A. (1995). Mapping prior knowledge: a framework for discussion among researchers. *European Journal of Psychology of Education*, 10, 225-242.
- Ertürk, S (1994). *Eğitimde program geliştirme*. Meteksan Yayınları. Ankara.
- Fidan, N. (1995). *Okulda öğrenme ve öğretme*, Alkım yayınları, Ankara
- Fisher, K, M. (2004). The importance of prior knowledge in college science instruction (chapter 5), Reform in undergraduate science teaching for the 21<sup>st</sup> century, Information Age Publishing. Retrieved April 25, 2009, from [http://www.sci.sdsu.edu/CRMSE/ch\\_05\\_PriorKnowl\\_FINAL-SS.rtf](http://www.sci.sdsu.edu/CRMSE/ch_05_PriorKnowl_FINAL-SS.rtf)
- Gagne, R.M. (1968). Contributions of learning to human development, *Psychology Review*, vol. 3 pp. 177-191.
- Glaser, R. (1990). Toward new models for assessment. *International Journal of Educational Research*, 5, 475-483.
- Gullickson, A. R. (1985). Student evaluation techniques and their relationship to grade and curriculum. *The Journal of Educational Research*, 79(2), 96–100.
- Jonassen, David H. & Grabowski, Barbara L. (1993). *Handbook of individual difference, learning, and instruction*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Lewis, R. & Whitlock, Q. (2003) How to plan and manage an e-learning programme. Aldershot: Gower Publishing Ltd.
- Özçelik, D. A., (1998). *Ölçme ve değerlendirme*, Ankara: ÖSYM Yayınları.
- Palomba, C. A., & Banta, T. W. (1999). *Assessment essentials: Planning, implementing, and improving assessment in higher education*. San Francisco: Jossey-Bass.
- Sağlam, M. (2001). Öğretimi etkileyen etmenler, in M.Gültekin (Ed), *Öğretimde Planlama ve Değerlendirme* Eskişehir: Anadolu Üniversitesi Açıköğretim Fakültesi
- Senemoğlu, N. (2003). *Gelişim, öğrenme ve öğretim*, Ankara: Gazi Kitabevi
- Taber, K. S. (2001). The mismatch between assumed prior knowledge and the learner's conceptions: a typology of learning impediments, *Educational Studies*, 27(2), 159-171