

(A critical reading of some previous studies related to measuring academic performance)

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ملخص:

من خلال قراءة الدراسات السابقة المتعلقة بتقييم الأداء الدراسي، تتبين لنا أن الأداء الدراسي هو خاصية مركبة من أبعاد ومؤشرات ذكرتها تلك الدراسات، لكن بالرجوع الى النموذج النظري المعرفي (Bloom et al, 1983) نجد أن الأداء الدراسي هو خاصية سيكولوجية معرفية مركبة لا تنحصر فقط في الأبعاد التي حددتها تلك الدراسات، وعليه رأينا أنه من الضروري بناء مقياس (معياري: Standard) يقيس الأداء الدراسي لدى الطلبة كما يقيم النشاطات والسلوكات التي تمثل ذلك الأداء.

كلمات مفتاحية: قياس، الأداء الدراسي، التحصيل، رؤية نقدية

Abstract:

By reading previous studies related to evaluating academic performance, it becomes clear to us that academic performance is a complex characteristic of dimensions and indicators mentioned by those studies, but by referring to the cognitive theoretical model (Bloom et al, 1983), we find that academic performance is a complex psychological and cognitive characteristic that is not limited to just In the dimensions identified by these studies, we therefore saw it necessary to build a scale (standard) that measures the academic performance of students and also evaluates the activities and behaviors that represent that performance.

Keywords: measurement, academic performance, achievement, critical study

Preface:

The researchers tried to evaluate academic performance according to their goals through semester grade averages or through specific activities such as participation and performing homework, or by building tools that evaluate students' performance in academic subjects, which are: the social sciences test, the cognitive analogy model, the results of achievement tests, the social and antisocial behaviors scale, the (Van Haile) for levels of engineering thinking, professional achievement tests for proficiency, an academic achievement assessment card, and a measure for evaluating academic performance, and we present them as follows:

1-Stanford Achievement Test (1973):

This test was published in 1923 and has been studied several times. It was last modified in 1973. It was designed to measure academic differences from the first year to the end of middle school in six batteries. It takes about four to five hours to administer this test.

Among the sub-tests related to our topic, we find the social sciences test, which was designed to measure factual information in addition to high reasoning skills. The questions revolve around: anthropology, sociology, history, geography, economics, and political science.

(مقدم، ع 2003)

2- Study (Abdel Majeed Marzouk, 1993):

The researcher studied the components of motivation and academic performance in Jordan among first and second grade students whose ages ranged between 15-17 years. In it, the level of student academic performance was determined through some indicators that indicate it, which are:

results of achievement tests, participation in the classroom, and performing homework with the help of some teachers. It was concluded that motivation contributes to explaining about (34%) of the variance in the students' academic performance variable.

(دوقة وآخرون، 2011)

3- School Social Behavior Scale by (Daoud, N. 1999):

This tool measures the social and antisocial behaviors carried out by students at school through the social dimensions: personal social skills, self-control skills, academic skills, which are represented in the first subscale (the Social Competency Behavior Scale), and the non-social dimensions: anger, aggression, and excessive demands. It is represented in the second subscale (antisocial behavior scale).

A- Social Competence Behavior Scale: It consists of 32 items that measure positive adaptive social behaviors that lead to positive results and measures the following dimensions:

-Personal Social Skills: It consists of 14 items related to establishing positive relationships with companions and gaining their acceptance

-Self-control skills: It consists of 10 paragraphs related to self-control, cooperation, and obeying school instructions and regulations.

-Academic Skills: It consists of 8 paragraphs related to academic proficiency and interest in academic tasks

B- Antisocial Behavior Scale: It consists of 33 items that describe the problems of antisocial behavior, which often lead to negative social outcomes, such as rejection from companions and a strained relationship with the teacher. It measures the following dimensions:

-Irritable to anger: It consists of 14 items that describe behaviors that reflect self-centeredness and annoyance and lead to rejection from companions

-Aggressive: It consists of 10 items that describe behaviors that clearly violate the school's rules and regulations and include assault or harm to others.

-Many demanding and chaotic: It consists of 9 paragraphs that reflect behaviors that hinder the progress of educational activities and include a large number of inappropriate demands on others.

Interpreting the results of the social scale:

A- Social Competence Behavior Scale:

80% of the student has high social skills

50% of the student needs simple development

20% The student is in a very urgent need to acquire social skills

B- Antisocial Behavior Scale:

20% normal normal behavior

50% of the student is normal, but he exhibits anti-social behaviors that may develop, and he needs guidance

80% The student needs immediate and intensive treatment, otherwise he may turn into a juvenile.

(أبو سعد، أ، ع 2009)

4- Study (Gregory, M et al 2001):

The researcher and his colleagues studied “the relationship of middle school students’ perceptions of the family and academic environment to academic achievement.” What concerns us in this study is the method of evaluating the students’ academic performance, as they relied on the grades that the student obtains at the end of the year, in addition to designing a scale to evaluate motivation consisting of five items. The internal consistency of that scale reached 0.65, and with regard to proficiency, the researchers designed a performance scale that contains four items for the purpose of determining the student’s perception of his proficiency and abilities.

(دوقة، أ وآخرون. 2011. ص 103، 102)

5- Seacore & Binnett study:

The researchers tried to build professional achievement tests for proficiency in secretarial work, and they standardized the test on a sample of individuals, where the individual is asked to do work similar to the usual work that he performs, meaning that the test items are samples of work, so the individual’s performance is recorded in an objective and accurate way, such as: calculating the total of the individual’s errors in The computer-written version takes into account the time and coordination of the task.

(مقدم، ع 2003)

6- Study (Bakhoush, Walid. 2006):

The researcher designed a scale to evaluate the academic performance of secondary school students. The research sample consisted of (80) male and female students from the scientific final

sections. Their ages ranged between 17 and 19 years. They were chosen randomly to represent the study population in terms of level, specialization, and age.

Multiple tests were used to obtain a score that determines the student's academic performance in a way that is close to the accuracy of his performance. They are the test of academic achievement and the test of economic and social level.

1- Measure of academic achievement: It includes continuous evaluations and semester averages

2- Measure of economic and social level: Some studies were relied upon to determine this criterion

A study (Redlich, 1958) (Al-Sayed, 1980) (Al-Mulla, 1986) (Al-Arabi Farhati, 1999). The commonalities between them were extracted, which are:

- Level of education of parents (mother)
- Family income level
- Property and equipment (automatic devices)
- Level of education of parents (father)
- Area of residence.

Each level has been marked as shown in the following table:

The researcher calculated the reliability of the scale using the split-half method, where the scale was applied once to a sample of ($n = 90$), and then its correlation coefficient was calculated using the Pearson method between the two halves, and the correlation was : $r = 0.41$ After correcting the reliability coefficient for the scale as a whole, you get $r = 0.58$, which is a value Significant, but it indicates moderate stability.

(بخوش، و. 2006)

7-Study (Doga, A. et al., 2011):

The researcher and his colleagues studied the psychology of motivation to learn and its relationship to academic achievement among a sample of pre-graduation students, estimated at (922) male and female students. What concerns us in this study is the tool that the researchers used to evaluate the students' academic performance, which is an academic achievement assessment card, where they relied It includes teachers' evaluations on dimensions representing performance, which are: (making effort, doing duties, participating, paying attention) according to three levels (1: very acceptable level, 2: acceptable level, 3: below standard) in addition to the students' averages in all subjects.

(دوقة، أ وآخرون، 2011، ص 146)

• Criticism of studies:

At this stage, we are trying to uncover aspects that previous studies did not pay attention to, and we have followed the following steps in criticism:

- 1- Objectives of the study.
- 2- The studied sample.
- 3- Study tools
- 4- Statistical treatment.
- 5- Results of the study.

○ **First: In terms of objectives:**

Most studies aimed to evaluate students' performance, but this evaluation concerned only specific aspects of performance, namely students' achievement in knowledge. The study of (Abdel Majeed Marzouk, 1993) and (Douqah, A. et al., 2011) aimed to reveal the components of the aspects. Which represents the academic performance of students, and the researcher in the Stanford Achievement Test (Stanford, 1973) aimed to measure factual information and high reasoning skills, and (Daoud, N. 1999) also aimed to measure social and antisocial behaviors using the School Social Behavior Scale, and Gregory, M et al 2001) determine the student's perception of his competence and abilities. The researchers (Seashore & Binnett) also attempted to build professional achievement tests for proficiency in secretarial matters. (Bakhoush, Walid. 2006) used the criterion of academic achievement and the criterion of economic and social level for the purpose of designing a measure to evaluate academic performance.

However, researchers in the future must find an effective tool to measure the various dimensions of students' academic performance

○ **Second: In terms of the sample:**

In previous studies, researchers built tools or means to evaluate the academic level of primary, middle, or secondary school students, which were selected randomly. Their ages ranged between (05) and (18) years, and their numbers were approximately between (80) and (900). Male and female students.

Previous studies focused on evaluating academic achievement in the stages of compulsory education and did not pay attention to the university stage, as the characteristics of this stage differ clearly from the other stages, because the student at this stage receives university training and not education, and the university stage is characterized as a stage that determines the individual's professional future.

○ **Third: In terms of measurement tools:**

Most previous studies applied tools or examinations to evaluate the academic level of students, which are: the social sciences test, the academic achievement assessment card, the academic performance measure, the cognitive analogy model, the measure of social and antisocial behaviors, the results of the semester tests, and they also used the students' annual grade lists. We have noticed that most previous studies focused in the content of their measures on evaluating students' knowledge and the extent of their memorization, and neglected the skill and emotional domain and the cognitive levels they display (skills, responses, cooperation, competition, commitment, participation, understanding, analysis, application, synthesis, evaluation, etc.). .)

○ **Fourth: In terms of statistical treatment:**

Previous studies used several well-known statistical techniques and methods for the purpose of statistical processing of data and ensuring the significance of statistical differences and relationships between variables, as well as ensuring the availability of psychometric properties of the research tools, such as validity and reliability, which are: (variance (S^2), arithmetic mean (X),

standard deviation (S). T-test for differences, percentages, Pearson correlation coefficient (Pearson r), reliability coefficient (rsh, split-half method).

○ **Fifth: In terms of results:**

We noticed that most of the studies achieved their goals, as among the results of the studies that benefit us in analyzing and interpreting the results of our study later are those related to designing tools to evaluate academic performance, as well as related to academic performance as a basic variable, and below we present the results of those studies, which are as follows:

- Designing a measure of academic performance for secondary education students based on the criterion of academic achievement and the criterion of economic and social level according to (Bakhoush, W. 2006)
- Designing an academic achievement evaluation card (Doga, A. et al., 2011, p. 146)
- Building the school social behavior scale according to (Daoud, N. 1999).

<https://www.asjp.cerist.dz/en/downArticle/117/6/2/12992>

- Designing a scale of factual information in addition to high reasoning skills. The questions revolve around: anthropology, sociology, history, geography, economics, and political science.
- Design a performance scale that contains four items for the purpose of determining the student's perception of his competence and abilities
- Building professional achievement tests for proficiency in secretarial work
- Determining the level of students' academic performance through some indicators that indicate it, which are: results of achievement tests, participation in the classroom, and performing homework

with the help of some teachers. The study also found that motivation contributes to explaining about (34%) of the variance in the students' academic performance variable.

Through our presentation of the results of previous studies, it becomes clear to us that academic performance is a composite characteristic of dimensions and indicators mentioned by those studies, which are: academic achievement, economic and social level, school social behavior, factual information, reasoning skills, the student's perception of his competence and abilities, problem solving, and test results. Achievement, classroom participation, and homework performance.

However, by referring to the cognitive theoretical model (Bloom et al, 1983), we find that academic performance is a complex psychological and cognitive characteristic that is not limited only to the dimensions identified by these studies. Accordingly, we saw it necessary to build a (standard) scale that measures academic performance among science students. It also evaluates the activities and behaviors that represent that performance.

Because the indicators and dimensions that these studies adopted in evaluating academic performance were not based on a theoretical basis, but rather were derived from observation or from the experience of teachers that focus on the cognitive achievement of students, and since the theories have proven that academic performance is not only reflected in cognitive achievement.

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