

# The Effectiveness of the Use of Distance-Evaluation Tools and Methods among Students with Learning-Difficulties from the Teachers' Point of View

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## Abstract

This study aimed to identify the effectiveness of the use of distance-evaluation tools and methods among students with learning difficulties from the teachers' point of view, to achieve this goal. A scale was built, and the psychometric characteristics were validated. It consisted, in its final form, of 17 items distributed on four axes, in addition to three open questions. It was applied to a random sample of (149) teachers of students with learning difficulties in Makkah Region. The results showed that teachers' keenness to encourage students with learning difficulties, so that they would not feel frustrated with the distance learning process. It was also evident that teachers did not use achievement portfolios in the evaluation process. In connection with the appropriate evaluation methods, the majority indicated the use of work sheets and visual evaluation methods that rely on audio and visual skills, such as presenting videos, pictures, audio and games, and applying short objective tests. Among the proposals to improve evaluation methods and tools: Individual evaluation, attention to individual treatment, obligating personal attendance of students to school, splitting the required tasks, and not increasing the skills required to be mastered. As for the obstacles that teachers face: Lack of time, difficulty in communicating with students with distance learning difficulties and problems related to the Internet such as interruption, weakness, or lack of availability.

## Key words:

*Evaluation-Tools; Evaluation-Methods; Effectiveness of Distance Evaluation; Learning-Difficulties*

## 1. Introduction

Educational Evaluation is an important part of the educational process, and it plays a major and effective role in the development of the educational process by recognizing the level of performance and directing it in line with the general objectives of education, through which it is possible to identify the extent to which the objectives of the educational process have been achieved, to reveal the levels of students, and to provide feedback in order to raise the level of the output of the educational process and ensure its quality and outcomes. Evaluation is one of the most important elements of the educational system, as it is a comprehensive and continuous process,

and it entails provisions and developmental procedures [1]–[4].

Baloran [5] pointed out the importance of the teacher's familiarity with various methods and tools of evaluation, and the efficiency that enables him to use them well. Therefore, it is worth noting the importance of evaluation methods and tools that measure and evaluate the knowledge, skills, and performance of the student, thus helping the success, development and improvement of the educational process and the quality of its outputs. It should be noted that evaluation in special education is the keystone of the diagnostic process, as the group of students with special needs is an important part in society, so special education seeks to find a behavioral change in the life of the learner, and to verify that this desired change has occurred. Special education teachers and those with learning difficulties refer to methods and tools through which they can measure the extent of this change that occurred to the learner as a result of the educational process, and the goals and progress achieved by the student with learning difficulties [4], [6]–[8].

The study of Brown [9] and Podsiadlik [10] indicate the need for the evaluation process to be comprehensive, especially for those with learning difficulties and not be limited to the cognitive field. It must include several areas such as social and behavioral areas in the teaching process and evaluation, through the use of a variety of methods and tools from which the level of cognitive achievement and behavioral and social skills can be accurately measured and also to understand their strengths and weaknesses. Stalker [11] and Downer et al. [12] believe that evaluation methods according to the traditional method are limited, because they focus on information and facts that are presented to students and related to specific academic content that are easy to measure and evaluate the extent of their achievement. As for modern evaluation methods, the learner must be active through his association with performance tasks that define what the student can do.

The Corona pandemic has resulted in the evaluation process being done electronically and remotely, through

the application of methods and evaluation tools by digital devices and the Internet to evaluate students with learning difficulties, and to know the extent of their progress and their achievement of the objectives of the educational process. This requires careful observation of the point from which the teacher starts the evaluation of each student with learning difficulties according to the available capabilities, and through short daily individual sessions, in addition to the breadth of the evaluation process and not being limited to the level of academic achievement but rather in raising the level of communication and community interaction skills. So, Distance Evaluation process may be faced with many obstacles, and from this standpoint, the current study seeks to find out what is the effectiveness of applying tools and methods of distance evaluation for students with learning difficulties from the teachers' point of view [12]–[18].

Education is the basis for building the future generation, and to raise the level of our students, we need to advance the educational process in the way we aspire to and strive to achieve our goals, especially students with learning difficulties. Their benefit in the classroom differs from the regular students as they do not benefit enough and this may be due to several reasons, including the inappropriate teaching strategies, curriculum and methods used with their abilities and capabilities, and this faces us with a real problem [7], [19]–[21].

The group of those with learning difficulties is one of the groups that need intensification of the learning process through training, practice, and the use of various evaluation tools, as it requires a lot of effort and time for both the teacher and the student to know the progress and the extent to which the desired goals are achieved [13], [22].

The importance of studying the group of students with academic learning difficulties is that they face problems in employing appropriate strategies to solve various educational problems. They may employ primitive and weak strategies to solve arithmetic problems and comprehend them, as well as in speaking or written expression [23], [24]. A large part of these difficulties is due to the lack of organization processes which enables a person to gain many experiences, so he needs to carry out the process of organizing these experiences in a successful way [25]. They also face language problems where they do not understand the voice messages addressed to them, or vice versa, as they may not be able to send accurate voice messages to others [12], [26].

Given the importance of using technology to improve the learning process for students with learning difficulties, Neroni et al. [20] noted that using technology improves skills and build literacy abilities. Clark [27] also indicated that the use of technology increases the effectiveness of learning, reduces effort and burden for students with learning difficulties, and improves their motivation.

Although teachers were keen in direct learning before the Corona pandemic to use computers and technology in the learning and explanation process and to emphasize their importance, as the study of Reynolds et al. [28] showed that female teachers use technology at a higher rate than average, but there are difficulties in controlling the behavior of students with difficulties learning as well as the presence of several obstacles, the most prominent of which is the difference in students' abilities and their strengths and weaknesses [12], [29]. As a result of the Corona pandemic, the teaching and learning process has moved from school to home and has shifted from direct interaction between teacher and learner to indirect and distance electronic interaction [1], [30]. Therefore, the evaluation process and the use of appropriate tools for distance education must be suitable for the characteristics of students with learning difficulties [7], [31], [32].

The advantages of using modern technologies and computers in the learning process for this group are effective, but there are challenges facing students with special needs in higher education both electronically and remotely, as the study of Churiyah et al. [33] mentioned, the lack of awareness of lecturers of the characteristics of this class. While the study of L'Ecuyer [34] focused on identifying the obstacles facing higher education students with special needs, and the appropriateness of the tools provided in the distance learning environments that they use. The study mentioned the need of this group for an appropriate environment for distance learning, including the availability of technologies including devices and also the need for access to recorded lessons and explanations and the ability to download them for easy reference without the need for internet connection.

Therefore, teachers should vary in the evaluation methods used with students with learning disabilities, as the study of Brown [9] and Raharjo [35] emphasized the diversity of ways and evaluation methods, the most prominent of which is the introduction of examples from the field, observation and narrative records.

The process of measuring and monitoring the progress of students with learning disabilities and identifying their strengths and weaknesses is followed by a process of reinforcement for the aspects in which the students have progressed or modifying and finding out the reasons that prevented progress in the virtual classroom. These are among the issues that represent challenges for the teacher, as he should collect information and record it then analyzing them for him to make the appropriate decision and it is important to study the effectiveness of applying tools and methods of distance evaluation, and perhaps the participation of studies in the availability of challenges for teachers, especially in light of the current circumstances of the Corona pandemic. The current study seeks to know the following:

1. What is the level of application of tools and methods of distance evaluation for students with learning difficulties from the teachers' point of view?
2. What are the appropriate distance evaluation methods for students with learning difficulties?
3. What are the proposals to improve methods and tools for distance evaluation for students of learning difficulties?
4. What are the obstacles in using distance evaluation methods and tools for students with learning difficulties?

## 2. Theoretical Consideration

### 2.1 Evaluation concept

Evaluation is a procedure by which the student's performance level in the field of information, skills and targeted behaviors that he has been taught and trained is known. It aims to the following:

1. Identifying the student's performance level in the field of information, skills and behaviors targeted in the academic subjects during the school year or at the end of the individual's educational plan.
2. Identifying the student's progress towards achieving the specified goals within his individual educational program that is derived from his individual educational plan.
3. Ensuring the level of stability of student performance and the level of progress through continuous follow-up and evaluation.

Developing the student's program and improving the level of services provided to him based on the information collected during the evaluation process of all kinds (organizational rules for special education institutes and programs)

### 2.2 General evaluation tools and methods

Several studies have mentioned below some assessment tools and methods in the field of learning difficulties and the mechanism of their application [9], [25], [36]–[39].

1. Written, oral and practical tests are used to measure the student's performance in the field of targeted information.
2. Different types of observation methods, write-off lists, and behavior evaluation are used to measure the student's performance in skills and behaviors required according to his needs.

3. Employing various types of tests to ensure the student's performance level, progress, or stability, according to the required follow-up and evaluation methods.
4. The application of tools and methods of the evaluation process for students with special educational needs is distinguished by its uniqueness, according to the nature of the needs of each group.
5. The student with special educational needs is given sufficient time that is suitable with his abilities and his writing or reading abilities during the educational evaluation process.
6. The evaluation process can be done individually or collectively for students with special educational needs according to their needs and characteristics.
7. The evaluation process for students with special educational needs can be done according to the method of continuous evaluation, each according to his abilities and capabilities
8. If it is not possible to use the tools and methods specified in this organization, the teacher can evaluate his students in the way he deems appropriate for their characteristics and needs and distribute the evaluation scores according to that if this is done in coordination with the school administration.
9. In the case of the multiplicity and diversity of the student's needs, appropriate evaluation methods should be considered in accordance with the evaluation materials for each category (the organizational rules for special education institutes and programs)

### 2.3 Choosing appropriate evaluation methods for educational decisions

Evaluation methods vary and include tests and tools such as written and oral exams, presentations, samples of students' writing, portfolios, homework, projects and products, and notes. Teachers should be skilled in selecting appropriate methods for educational decisions [35].

The study of Stonard [38] and García-Alberti et al. [31] indicated that there are two objectives for evaluating students with special needs, namely evaluation in order to facilitate the learning process and knowing the strengths and weaknesses of students with special needs, and evaluation to measure learning outcomes, as the teacher should diversify the tools of Evaluation so that he can make appropriate and accurate decisions about the learning process of students with special needs and their mastery of

the learning process, by answering the question: What am I trying to evaluate, for what purpose, and what is the most appropriate method, which include various standard-reference tests, spoken-reference tests, self-evaluation, and peer evaluation.

#### 2.4 Evaluation tools and methods for students with learning difficulties

There are many methods and tools for evaluating students with learning difficulties, as the Ministry of Education has worked to allocate some evaluation methods and tools in proportion to the characteristics of each category. The evaluation process for those with learning difficulties should be based on the needs of each student according to the type of disability and to reveal the performance and level of the student. Among the most important methods and tools for evaluating students with learning difficulties are performance evaluation, achievement portfolios, cognitive tests, observation, and the provision of additional time [13], as these tools are the most used in the field of special education, which directs the current research to focus on them, and among the most important of them are:

##### A. Achievement tests

There are several roles that achievement tests play, including essay tests, objectivity, editorial work, oral tests, and homework in the educational process. As the periodic application of these types helps to reveal weaknesses in previous learning and provides directions for later learning, in addition it may stimulate the motivation of the learner. Achievement tests provide a means of adapting the learning process to the needs of students, so making sure of the students' performance is done through applying the tests at the beginning of the school year, then teachers can take constructive steps through them to fill the gaps in knowledge revealed by these tests [9], [18], [34], [35], [40]. With the advancement of information technology, measurement processes and its psychometric theories, it became possible to select items that fit the capabilities of the student who performs the test, using item response theory, in this type of tests the items are detailed to the students, so that the items are selected from a bank of questions that have been calibrated and then the items are presented on the computer screen one by one according to the extent to which it is compatible with the ability of the student [41]–[43]. Standardized achievement tests are characterized by objectivity and reduce the influence of inappropriate and chance factors on grading procedures [44], [45]. By looking at the nature of achievement tests in previous studies, it was found that they are based on computerized adaptive tests for students with learning difficulties, according to the study of Krischler and pit [46] which recommended the need to add such tools and train teachers about them. The integration of technology

and information technologies is used to support the learning process for the accurate diagnosis of students with learning difficulties, it is also useful in facilitating and improving the work of teachers and effective treatment of the skills presented to students, so that an accurate path is determined for each student through the adaptive computerized test, which is characterized by containing sound and video, Three-dimensional models fit with the characteristics of this class, and work to increase memorization, focus and attention of students with learning difficulties.

The computerized adaptive test in the mathematics course contributed to improving the skill of solving arithmetic problems for students with learning difficulties in mathematics, which include basic skills such as addition and subtraction, the skill of representing quantities and mental arithmetic, the skill of reading and writing quantities, as well as the ability to perform addition and subtraction operations of graded difficulty, which was a hindrance for students. The researcher recommended the necessity of diversity and merging between tools and activities aimed at academic improvement of students with learning difficulties [30], [47].

As a result of the adoption of distance education due to the current conditions of the Corona pandemic, reliance on such tests is due to their accuracy in assessing the capabilities of students with learning difficulties during learning and to measure learning outcomes after the process of students mastering the skills set on them [10], [48].

##### B. Evaluation based on the use of portfolio

The achievement portfolio is considered one of the most important modern educational evaluation methods, as it gives an integrated perception of the learner's performance, skills, progress, and overall achievement in a specific field of study, in addition to the strengths and shortcomings of each learner. The achievement portfolios have emerged as an effective tool for collecting information and give vivid examples of student work and monitoring his growth continually as a part of the growing interest in the methods and tools of modern educational evaluation. It is considered a compilation of the learner's work that shows his efforts, progress, and achievement in one portfolio. By monitoring his growth in knowledge, skills and trends in a specific field or fields of study, these works must include the learner's participation in selecting the content of the portfolio, the guidelines for this selection, and the criteria for judging the quality of work, and evidence of the learner's reflections or self-reflections on these works [9], [12], [23], [32], [35], [49]–[51].

The achievement portfolios have a set of goals as identified by Ellis [52] and Sata [53], which are as follows:

1. The student should participate actively in selecting and organizing the content of what he studies, as it is the source of learning.
2. The student should become accustomed to reflecting on his work, exercise self-criticism, learn objectivity and the ability to know his abilities and judge his achievements.
3. Documenting what the student has learned in areas that are difficult to document with other evaluation methods.
4. Facilitating communication between the teacher and parents about the student's performance; strengths and weaknesses.

Achievement portfolios have many and various benefits as mentioned by Briceland and Hamilton [54] and Pandya et al. [55], including:

1. Students are encouraged to do activities and work in which they can be creative.
2. Record the work of the learner and open a new channel for effective communication between the learners and the teacher, which affects the individual work of the learner.
3. Develop the sense of responsibility for learning, as the learner knows through the portfolio what he should achieve in terms of educational goals.
4. The achievement portfolio provides an accurate, continuous description of the student's performance across the school year, grades, and various educational stages, because it provides a comprehensive perception of the student, his strengths and deficiencies and the reasons for that.

### C. Performance-Based Evaluation

Performance-Based Evaluation is that the student performs specific tasks that require showing evidence and proofs that he has achieved a certain educational level. Bebbler et al. [56] and Marra [57] define it as: The learner's clarification of what he has learned by employing his skills in real life situations or situations that simulate real life situations that show the extent of his mastery of his acquired skills considering the educational results to be achieved.

The performance-based evaluation has many characteristics and advantages, including what was mentioned by Wang et al. [58] and Montuori et al. [59].

- Realism: Where it addresses or simulates roles as they are in real life, and includes cognitive, performance and emotional skills, and from that it derives its credibility.

- Comprehensiveness: It focuses on evaluating processes and results.
- Positivity: It allows the learner to have an active role in searching for and processing information from several sources.
- Collaborative: Where the learner participates in setting performance evaluation standards and levels.
- Flexibility: It gives the learner and the teacher the opportunity to adjust their procedures and tasks based on the feedback.
- Logic: It gives the learner room to defend his performance with arguments and evidence to justify them logically and practically.

It has been shown that the use of a distance e-learning environment contributes to developing the skill of reading and writing for students with learning difficulties, as it supports students with learning difficulties who suffer from dyslexia or difficulty reading through techniques that convert speech into text, or convert notes recorded by voice. They can be supported by providing educational games such as therapeutic hand exercises, and the talking pen, which improve the motor and language skills of a child with learning difficulties [56], [60]–[62].

### D. Overtime Evaluation

Overtime Evaluation is one of the most popular alternative evaluation methods used with students with learning difficulties. The results of some studies showed that the overtime method had a positive impact on the achievement of students with learning difficulties as giving the student additional time or an additional opportunity to finish the test or task and enable him to respond better and without stress or anxiety. Moreover, it is important for students who need longer time to complete the test in general, or students who cannot focus continuously during the test period or who feel frustrated or stressed easily and can have frequent or prolonged breaks [53], [54], [63], [64]. Therefore, the study of Mills [64] and Zhang et al. [62] confirmed that teachers of learning difficulties students wait for answers to class questions for a longer period of time than the teachers of ordinary students, due to their consideration of the characteristics of this category.

### E. Observational Evaluation

Observation is one of the evaluation methods by which the learner's behavior can be evaluated, and through its data can be collected about the personality of the learner and his learning style, which facilitates the process of treatment and reform [60], [65], [66].

The observation method differs from other methods of data collection in that it depends on the observer's vision

or hearing of things and recording of what he observes. It does not depend on the students' responses to questions or statements they read in the test, meaning that the observer does not obtain the responses from the respondent, but gets them himself through observing the behavior of the sample members [59], [65], [67].

Observation ranges from a short highly controlled observation in which we use rating scales, checklists, and time samples, to long observation which uses narrative records [68]–[70]. Moore et al. [66] indicates that the observation method is used in evaluating electronic learning programs by placing students in practice situations and practical applications, in which the progress of students' skills is observed during practice using observation cards.

### 3. Methodology

The study employed a mixed approach based on analyzing the data in a descriptive and qualitative manner.

#### 3.1 Population

The study population consisted of teachers of students with learning difficulties in Makkah, Saudi Arabia.

#### 3.2 Sample

The study sample consisted of (149) male and female teachers are to deal with students learning difficulties. The sample was randomly selected.

#### 3.3 Measures

A scale was prepared to measure the effectiveness of applying evaluation tools and methods for students with learning difficulties from the teachers' point of view. It consisted of 38 items and 3 open questions. The scale was built according to the following steps:

1. Access to literature and previous studies that are related to the subject of the study
2. The items were formulated in accordance with the environment in which they were applied. The number of the scale items in its initial form reached (38) items and 3 open questions, where the responses were in the form of the five-point Likert scale (always - often - sometimes - rarely - never). The scale is corrected for positive items (5-4-3-2-1) and the scores are reflected for the negative items.
3. The tool was presented to (10) arbiters from the field of measurement, evaluation, and special education to judge the items in terms of their belonging to the scale and the linguistic formulation. Based on the comments of the

arbiters, all proposals and amendments were made, where a percentage (80%) was adopted as an agreement between the arbiters. Considering this, (15) items were excluded, and thus the number of items after the arbitration reached (23) items and 3 open questions.

The scale in its final form consists of (17) items distributed on (4) axes as shown in Tables 1, and 3 open questions.

**Table 1.** Measuring the effectiveness of applying distance evaluation tools and methods for students with learning difficulties from the teachers' point of view

|   |  |
|---|--|
| The first axis: The method of evaluation based on achievement portfolios            |  |
| 1.  | I explain to students the way the achievement portfolios are made  |
| 2.  | I use the achievement portfolios to assess the extent to which students have achieved the course objectives                            |
| 3.  | I help students in organizing the achievement portfolio  |
| 4.  | I support students when viewing achievement portfolios   |
| 5.  | I use the pre-made observation cards when evaluating students  |
| 6.  | I allow students time to rest while performing the skill   |
| The second axis: The method of evaluation based on the provision of sufficient time |  |
| 7.  | I make sure to divide the test for students with learning difficulties in short periods  |
| 8.  | I strive to know the factors that may affect the students' response to learning difficulties (illness - family circumstances ... etc.) |
| 9.  | I encourage students to improve skills in the virtual classroom  |
| 10.   | I can analyse observations about students' performance on the task at hand.  |
| 11.   | I make sure to allow enough time to complete the skill required of students  |
| The third axis: The method of performance-based evaluation                          |  |
| 12.   | The distance learning process facilitates the display of students' activities  |
| 13.   | Students repeat the skill mastered continuously  |
| 14.   | The distance learning process develops students' skills of language communication and expression                                       |
| 15.   | I use various evaluation tools to measure the skill required   |
| The fourth axis: The method of evaluation based on knowledge and tests              |  |
| 16.   | I use technical means in addition to My School platform to test students   |
| 17.   | It is easy for me to provide immediate feedback to students with distance learning difficulties  |

Open questions:

1. What are the appropriate evaluation methods for students of learning difficulties from your point of view?
2. What are the proposals to improve the methods and tools of distance evaluation for students of learning difficulties from your point of view?
3. What are the obstacles in using distance evaluation methods and tools for students with learning difficulties from your point of view?

Psychometric characteristics of the measure of the effectiveness of application of tools and methods of

distance evaluation for students with learning difficulties:

**A. Internal consistency**

The validity of the internal consistency of the scale items was calculated by finding the correlation coefficient between the degree of the item and the total degree of the scale after deleting the degree of the item from it (the corrected correlation coefficient), using the Pearson correlation coefficient. Table 2 shows the values of the correlation coefficients.

**Table 2.** The values of the items corrected correlation coefficient of the total degree of the measure of effectiveness of applying distance evaluation tools and methods for students of learning difficulties

| item | the item corrected correlation coefficient of the total degree of its measure |             | item | the item corrected correlation coefficient of the total degree of its measure |             |
|------|---|-------------|------|---|-------------|
|      | Value   | Significant |      | Value   | Significant |
| 1    | 0.172*  | 0.036       | 13   | 0.039   | 0.638       |
| 2    | 0.355**   | 0.000       | 14   | 0.583**   | 0.000       |
| 3    | 0.442**   | 0.000       | 15   | 0.495**   | 0.000       |
| 4    | 0.560**   | 0.000       | 16   | 0.616**   | 0.000       |
| 5    | 0.400**   | 0.000       | 17   | 0.692**   | 0.000       |
| 6    | -0.175*   | 0.033       | 18   | 0.606**   | 0.000       |
| 7    | 0.376**   | 0.000       | 19   | 0.636**   | 0.000       |
| 8    | -0.076  | 0.355       | 20   | 0.276**   | 0.001       |
| 9    | 0.502**   | 0.000       | 21   | 0.563**   | 0.000       |
| 10   | 0.385**   | 0.000       | 22   | 0.561**   | 0.000       |
| 11   | 0.641**   | 0.000       | 23   | -0.301**  | 0.000       |
| 12   | 0.510**   | 0.000       |      |   |             |

It is evident from Table 2 that the values of the corrected item correlation coefficients are higher than (0,3) and are statistically significant at the level of (0.05) and (0.01) except for items (1 - 6 - 8 - 13 - 20 - 23) where the values of the correlation coefficients are less than (0.3) and negative, therefore they deleted from the scale.

**B. Construct validity**

To reach the factor structure through identifying the factors and the loadings of the variables on the factors, it is necessary to first validate the availability of the conditions for the exploratory factor analysis, and after deleting the items (1, 6, 8, 13, 20, 23) due to the need to exclude the items that may affect the results of the analysis Factor by using the method of internal consistency.

An exploratory factor analysis was used, using the main components method of Hotelling and Rotation of the axes by the Varimax method with the use of the Kaiser Normalization criterion. Sample accuracy measures were extracted using the Kaiser-Myer-Olkin (KMO) index and Bartlett's Test of Sphericity. Table 3 explains this.

**Table 3.** KMO and Bartlett's Test of Sphericity for Sample Accuracy

| Values of Kaiser- Myer- Olkin (KMO) | Chi-Square | df  | p-value |
|-------------------------------------|------------|-----|---------|
| 0.871                               | 1161.494   | 136 | 0.000   |

Table 3 shows that the value of the KMO index reached (0.871), which is a value higher than the minimum acceptable value for the accuracy of the sample, which is (0.5). Bartlett's Test of Sphericity was statistically significant for the distribution of the sample at the level of (000.0), which indicates that the study sample was suitable for the purposes of the exploratory factor analysis.

The values of factor loading, and the variance ratios explaining the scale factors, after orthogonal rotation, were extracted through Table 4.

**Table 4.** results of the values of Factor Loading and the variance ratios explained by the scale factors

| Factors | Total | Variance ratio | Accumulative Variance Ratio |
|---------|-------|----------------|-----------------------------|
| 1       | 3.919 | 23.055         | 23.055                      |
| 2       | 2.923 | 17.247         | 40.302                      |
| 3       | 2.240 | 13.176         | 53.478                      |
| 4       | 1.665 | 9.796          | 63.274                      |

Table 4 shows that the four factors have explained a large total amount of the variance. The orthogonal rotation (Varimax) led to a better interpretation of the factors, indicating that the scale consists of four sub-factors. Accordingly, it was verified how scale items were distributed on those factors.

**Table 5.** The items loading of the scale on the sub-dimensions by the method of the main components

| item | Loading of factor 1 | Loading of factor 2 | Loading of factor 3 | Loading of factor 4 |
|------|---------------------|---------------------|---------------------|---------------------|
| 2    |                     |                     |                     | 0.820               |
| 3    |                     |                     | 0.391               | 0.549               |
| 4    |                     | 0.697               |                     |                     |
| 5    |                     | 0.773               |                     |                     |
| 7    |                     |                     | 0.697               |                     |
| 9    | 0.404               |                     | 0.510               |                     |
| 10   |                     |                     | 0.768               |                     |
| 11   | 0.321               | 0.433               | 0.586               |                     |
| 12   |                     | 0.642               | 0.443               | -0.437              |
| 14   | 0.870               |                     |                     |                     |
| 15   | 0.827               |                     |                     |                     |
| 16   | 0.852               |                     |                     |                     |
| 17   | 0.800               |                     |                     |                     |
| 18   | 0.533               | 0.444               |                     | 0.399               |
| 19   | 0.404               | 0.524               |                     |                     |
| 21   |                     | 0.570               |                     |                     |
| 22   | 0.461               | 0.439               |                     | 0.402               |

It is clear from Table 5 that the first factor is (the method of evaluation based on achievement portfolios). This factor was explained by (23.055) from the total variance, including the (6) items that were loaded on it, represented by items (14-15-16-17-18-22), whose loadings ranged between (0.461-0.870). The second factor (the evaluation method based on providing over time), which explained the ratio of (17.247) of the total variance, including (5) items loaded on it, represented in item No. (4-5-12-19-21), whose loadings ranged between (0.524-0.773). The third

factor (the performance-based evaluation method) explained the percentage of (13.176) of the total variance, on which (4) items were loaded on it represented by the item No. (7-9-10-11), and its loadings ranged between (0.510-0.768). The fourth factor (the evaluation method based on knowledge and tests) explained the percent of (9.796) of the total variance, and two items loaded on it, represented in item No. (2-3), and its loadings reached (0.549-0.820).

**Table 6.** Shows the distribution of the scale items in their final form

| Factors  | Items   |
|--|---|
| The first: the evaluation method based on achievement portfolios | <ol style="list-style-type: none"> <li>1. I explain to students the way the achievement portfolios are made</li> <li>2. I use the achievement portfolios to assess the extent to which students have achieved the course objectives</li> <li>3. I help students in organizing the achievement portfolio</li> <li>4. I support students when viewing achievement portfolios</li> <li>5. I use the pre-made observation cards when evaluating students</li> <li>6. I give students time to rest while performing the skill</li> </ol>                       |
| The second: the evaluation method based on providing over time   | <ol style="list-style-type: none"> <li>1. I make sure to divide the test for students with learning difficulties in short periods</li> <li>2. I strive to know the factors that may affect the students' response to learning difficulties (illness - family circumstances ... etc)</li> <li>3. I encourage students to improve skills in the virtual classroom</li> <li>4. I can analyze observations about students' performance on the task at hand.</li> <li>5. I make sure to give enough time to complete the skill required of students</li> </ol> |
| Third: the performance-based evaluation method                   | <ol style="list-style-type: none"> <li>1. The distance learning process facilitates the display of students' activities</li> <li>2. Students repeat the skill mastered continuously</li> <li>3. The distance learning process develops students' skills of language communication and expression</li> <li>4. I use various evaluation tools to measure the skill required</li> </ol>  |
| Fourth: The method of evaluation based on knowledge and tests    | <ol style="list-style-type: none"> <li>1. I use technical means in addition to My School platform to test students</li> <li>2. It is easy for me to provide immediate feedback to students with distance learning difficulties</li> </ol>   |

**C. Reliability**

The reliability of the scale was calculated by the Cronbach alpha method as shown in Table 7, as all the value of alpha-Cronbach coefficients for the sub-axes and the scale are high, which confirms the reliability of the scale.

**Table 7.** Reliability of the scale and its axes by the Cronbach alpha method

| Scale axes                                      | Alpha Cronbach |
|---|----------------|
| Achievement portfolios-based Evaluation method  | 0.884          |
| Allowing sufficient time-bases Evaluation       | 0.760          |
| Performance-based evaluation method             | 0.724          |
| Knowledge based Evaluation method and tests     | 0.512          |
| The Reliability of the total score of the scale | 0.893          |

**4. Results**

*Question 1: What is the level of application of tools and methods of distance evaluation for students with learning difficulties from the teachers' point of view?*

Descriptive statistics using means and the standard deviation of all the scale items were calculated. The items were arranged according to the highest and lowest mean, as shown in Table 8.

**Table 8.** Descriptive statistics, the mean and Standard deviation of the scale Items.

| Statement. | Item   | M    | SD    | Order |
|------------|--|------|-------|-------|
| 1          | I use technical means in addition to My School platform to test students   | 3.63 | 1.061 | 16    |
| 2          | It is easy for me to provide instant feedback to students with distance learning difficulties                                | 3.68 | 1.047 | 14    |
| 3          | I make sure to split the test for students into short periods  | 4.04 | 0.986 | 7     |
| 4          | I strive to know the external factors that may affect the students' response process (illness - family circumstances, etc.). | 4.38 | 0.927 | 3     |
| 5          | The distance learning process facilitates the display of students' activities  | 3.68 | 1.015 | 15    |
| 6          | Students repeat the skill mastered continuously  | 3.95 | 0.880 | 8     |
| 7          | The distance learning process develops among students the skill of language communication and expression                     | 3.81 | 0.996 | 11    |
| 8          | I use various evaluation tools to measure the skill required   | 4.27 | 0.802 | 5     |
| 9          | I encourage students to improve skills in the virtual classroom  | 4.58 | 0.728 | 1     |
| 10         | I explain to students how the achievement portfolios are made  | 3.81 | 1.099 | 12    |
| 11         | I use achievement portfolios to evaluate students' achievement of course goals   | 3.62 | 1.075 | 17    |
| 12         | I help students in organizing the achievement portfolio  | 3.74 | 1.055 | 13    |
| 13         | I enhance students when viewing achievement portfolios   | 4.24 | 1.050 | 4     |
| 14         | I use pre-made note cards when evaluating students   | 3.95 | 1.009 | 9     |



|    |   |      |       |    |
|----|---|------|-------|----|
| 15 | I can analyze observations about students' performance on the task at hand.     | 4.17 | 0.896 | 6  |
| 16 | I make sure to allow sufficient time to complete the skill required of students | 4.50 | 0.802 | 2  |
| 17 | I give students time to rest while performing the skill                         | 3.94 | 1.079 | 10 |

Table 8 shows the items with the highest average (I encourage students to improve skills in the virtual class, make sure to allow enough time to complete the skill required of students, and make sure to know the external factors that may affect the students' response process (illness - family circumstances ... etc.), I help students when presenting the achievement portfolios), which clearly shows the teachers' keenness to encourage and strengthen students with learning difficulties, so that they do not feel frustrated or tense, especially as the learning process is indirect and distance.

Several studies (e.g. Trevitt et al., [71]; Chen et al. [72]; and Ghanizadeh [73]) showed that it is important to encourage students with learning difficulties. This indicates teachers' awareness of the characteristics of this category and their need for a stimulating learning environment. It was also noted that they take into account external factors that may affect their performance in general, and their eagerness to provide sufficient time. Most studies emphasized teachers' keenness to provide time for students with learning difficulties because it may help students with learning disabilities in learning the skills required from them, benefiting from the teacher and listening to them [23], [34], [35], [74], [75].

Table 8 revealed that the lowest values of the means were for the items (I use achievement portfolios to evaluate the extent to which students have achieved the objectives of the course, I use technical means in addition to my school platform in examining students, the distance learning process facilitates the presentation of students' activities, it is easy for me to provide immediate feedback to distant students). Despite the importance of achievement portfolios in the process of recording the work of the learner, which positively affects the individual learning process for students with learning difficulties, it is clear that teachers do not use this method of evaluation, which may be due to the difficulty of following up their work remotely. It turned out that the teacher that does not use methods other than the Madrasati platform app had difficulty in providing immediate feedback to students, and the presentation of activities that may be due to the modernity of distance education, or to the lack of time, or to the large number of students in virtual classes, or because of the multiple tasks of teachers.

*Question 2: What are the appropriate distance evaluation methods for students with learning difficulties?* The qualitative research method was used through a sample opinion poll.

Teachers' opinions were formed on the appropriate evaluation methods to evaluate students with distance learning difficulties. Teachers' opinions ranged from evaluation methods that depend on sensory skills such as making brochures and worksheets. Most of them thought that worksheets should be used, as well as the majority believed that visual evaluation methods that depend on auditory and visual skills such as displaying videos, pictures, audio, and games should be used. Few of them had the opinion of using the method of discussion, observation, and interview. Some have suggested that the evaluation of students with learning difficulties should be done through short tests of various objective types that depend on multiple choice, True-False Questions, and drawing of pictures, as well as oral tests. Questions should be developed that suit the students' level and some suggested that each student be tested individually in line with his level while some of them suggested that each skill be tested separately. Teachers believe that the evaluation of students with learning difficulties should be carried out in accordance with their abilities, as several methods are used, such as dividing the skill into more than one class and repeating the mastered skills in different situations, as well as using continuous evaluation during each class, and students must be encouraged to participate during the session to strengthen and motivate them, as well as to break the difficulty barrier. Attractive educational tools must be available that are compatible with the nature of students with learning difficulties, such as the interactive whiteboard. One of the methods that teachers adopt during the lesson is to change the tone of his voice to draw students' attention. Some of them believed that it is better to teach students who have difficulty learning face to face, i.e., attend school. While some others believed that the combination of direct meetings and virtual classes should be done, for example, during the week there should be two days directly and 3 days through virtual classes. They all agreed that the class time in Distance education is not sufficient to teach the required skills and that some of them take a long time, more than one class. It is also not sufficient for the activities and follow-up of students. Finally, teachers see the necessity to provide training courses for students with learning difficulties that are appropriate for their level to help them use the platform on their own.

*Question 3: What are the proposals to improve methods and tools for distance evaluation for students of learning difficulties?*

After surveying teachers' views on improving methods and tools for distance evaluation of students with learning

difficulties, the opinions centered on the following:

Teachers of students with learning difficulties believe that one of the proposals to improve evaluation methods and tools is making it mandatory for students to attend the school personally, as it is better than their distance evaluation. Also, teachers of students with learning difficulties suggested the necessity of linguistic and visual communication through direct video with sound and image and the opening of the camera in order to improve methods of distance evaluation tools. Some teachers of students with learning difficulties suggested to improve methods and tools for distance evaluation that there should be a variety of methods and tools, and that these tools be appropriate to the nature of students, easy to use, and not limited to cognitive tests only.

Teachers of students with learning difficulties also believe that among the proposals to improve evaluation methods and tools are to encourage classroom participation during the explanation while giving a lesson, give students sufficient time, and encourage them during the virtual classroom, and use interactive applications, activities and games that increase their interaction with the teacher. In addition to dividing the tasks required from them and not to increase the information and skills required to be mastered, and to provide reviews and feedback to them to judge the extent of their mastery of the required skills. The teachers of students with learning difficulties suggested the need for parents and guardians to cooperate and the necessity of their presence with the student to face any difficulty they may face during the virtual class and urge their children to practice what has been learned, to improve the methods and tools of distance evaluation.

Teachers of students with learning difficulties also see that among the proposals to improve evaluation methods and tools is individual evaluation for each student and the allocation of an individual share for each of them and attention to individual treatment for them. There are some proposals on the part of educating teachers of students with learning difficulties, and making courses for them, guiding and directing them. Teachers should be sufficiently familiar with the methods of using technology and having courses for them on how to use it, in addition to allocating specialized teachers for this category who have experience with students with learning difficulties and are experienced in dealing with them. There are some general proposals in terms of integrating students with learning difficulties with the community and finding special programs that suit them.

*Question 4: What are the obstacles in using distance evaluation methods and tools for students with learning difficulties?*

The teachers pointed out that among the obstacles is the

limited time allocated to the class in the virtual classroom, which requires the necessity of time management, and the difficulty of communicating with students with learning difficulties due to the characteristics of this category including dispersion, hyperactivity, etc., as it requires direct communication by the teacher. The teacher of students with learning difficulties requires more than distance virtualization. Some teachers mentioned that one of the obstacles related to the methods and tools used in the evaluation is that it may be complicated for students with distance learning difficulties, and that it is necessary to provide programs for these tools. As a result of the limited orientation of students with distance learning difficulties, there are obstacles related to students Learning difficulties themselves including lack of understanding what is required from them, the difficulty of understanding these tools and standards, the limited measurement of the skill aspect which is necessary for the learning difficulties category, the inability to focus and mental distraction, or the students' lack of attendance for lessons in virtual classes. Some others pointed out obstacles related to the teacher himself and his inability to communicate information as required in the virtual classroom, or his inability to focus on individual students. Some also showed obstacles related to devices such as their unavailability, or their being limited to mobile devices, or lack of training for students with learning difficulties on them, and the different capabilities of students with learning difficulties in dealing with devices, as well as problems related to the Internet such as interruption, weakness, or lack of availability. Some teachers also mentioned that one of the obstacles related to parents of students with learning difficulties is their lack of awareness, or helping their children in answering or prompting, or relying only on the teacher in the distance learning process. On the other hand, few teachers mentioned burdens assigned to them in the platform, which in turn affect the task of distance education, in addition to the large number of students in virtual classes.

## 5. Conclusion

Considering the previous results, we conclude the following:

- 1- The need to provide sufficient time for students with learning difficulties, by increasing the time in virtual classes for teachers of students with learning difficulties.
- 2- Using tools and evaluation methods that depend on sensory skills, such as making pamphlets or models, and minimizing the method of discussion and observation.

- 3- The necessity to provide training courses for students with learning difficulties that suit their level to help them use the Madrasati platform on their own.
- 4- Conducting training courses for a teacher of students with learning difficulties and guiding them in ways to employ technology in their performance of the evaluation process.
- 5- Providing training courses for parents to raise their awareness of the correct way to follow up on their children with learning difficulties.
- 6- The combination of face-to-face meetings and virtual classes, taking precautionary measures under the presence of parents

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