

Journal of legal and social studies

Issn: 2507-7333

Eissn: 2676-1742

**Digital Education in Algerian Primary Schools: Reality and Challenges for
Students with Developmental Learning Difficulties**

Meriem Ferdjioui *

University Abdelhamid Mehri - Constantine 2, (Algeria),
ferdjioui@hotmail.com

Date of send: 05/03/2026	date of acceptance: 01/05/2026	Date of Publication: 01/06/2026
--------------------------	--------------------------------	---------------------------------

***Corresponding author**

Abstract:

This research explores digital education's impact on primary school students with developmental learning difficulties, focusing on its role in improving their achievement. It investigates how digital learning styles can be integrated into lessons to maximize benefits for these students. The study concludes that educators should move beyond traditional teaching methods, encouraging students to independently seek information and collaborate online. This shift, utilizing the internet, is crucial for adapting to technological advancements and effectively addressing the challenges faced by students with learning difficulties.

Keywords:

Digital education, Primary schools, Learning difficulties, developmental.

1. Introduction

The technological development has introduced a large positive qualitative leap in the educational environment of all kinds, and helped to deliver information and data: scientific, educational, and even behavioural to the individual learner, which in turn led to the achievement of a set of goals. This is done through the adoption of the digital or electronic learning method, which is considered among the results of this technological development, which has become widespread in most of the different society sectors.

In fact, the introduction of educational and information technology and its innovations in the learning difficulties curriculum represents one of the educational axes in any country, as these innovations and technical methods have become an educational pillar, inside or outside the school. Which prompts us to question of the reality of the digital education's application with a group of people that have learning difficulties, especially development within primary schools, and this is what we will try to address through our research article. The first subtitle opens with an introduction that presents the specific problem under study and describes the research strategy. The first subtitle opens with an introduction that presents the specific problem under study and describes the research strategy.

2. Developmental learning difficulties:

2-1. The concept of developmental learning difficulties:

Developmental learning difficulties are a type of learning difficulties that children suffer from, especially in the early childhood and the following stages, especially if they were not diagnosed and treated, which leads to children's difficulties in their academic learning during their elementary school, where they show poor performance application or their practical activities difficulties, and the reason for this is due to a deficiency in some cognitive processes that help the individual to analyse the easy things that happen around him/her, despite his/her level of intelligence, which is limited between the average and above average, and this type of learning difficulties is related to mental and cognitive abilities, This affects the child's comprehension and understanding, as well as his/her basic skills performance. Therefore, children who suffer from physical problems or disabilities, such as speech, hearing or visual problems, mental disabilities or disabilities that lead to accessibility problems are not considered to suffer from developmental learning difficulties.

2-2. Types of developmental learning difficulties:

Children with developmental learning difficulties share several indicators, which begin to appear on them in multiple stages, indicating the issue. Among the most prominent types of developmental learning difficulties are:

- Difficulty of paying attention: Where the child faces difficulty in the developmental learning difficulties focusing attention, and his attention is usually distributed between several things, which causes him/her to lose focus and leave him/her in a state of dispersion.

- Difficulty in perception: Children with developmental learning difficulties face challenges in understanding commands or instructions that impact their behaviour and development, which may limit the speed of their development.

- Inability to apply skills correctly: The difficulty of perception and the difficulty of attention lead to the inability of the child with developmental learning difficulties to receive instructions, which leads him/her to the inability to master the basic skills and apply them correctly.

- Difficulty remembering: One of the developmental learning difficulties signs is that the affected child is unable to remember well, what can be described as poor memory, and this affects his/her ability to retrieve instructions while performing his/her tasks, which puts him/her in a need to learn skills again and again.

- Poor linguistic structure: A child with developmental learning difficulties faces a problem in formulating his sentences, so his vocabulary overlaps with each other, and his phrases come out confused and sometimes inexpressive.¹

2-3. Causes of developmental learning difficulties:

- Defects in brain development: Sometimes there are some defects that may affect the formation and communication of neurons with each other, during the development of the baby, and scientists suggest that the defects in the growth of neurons lead to developmental learning difficulties for children.

- Genetic defects: It is often noted that learning difficulties are observed in certain families, and scientists link this to a genetic basis. Children who lack some reading skills such as hearing the distinct and detailed sounds of words, usually one of their parents suffers from a similar problem.

- Problems during pregnancy and childbirth: The development of learning difficulties in a child can be related to the early stages preceding his/her birth. In some cases, the mother's immune system interacts with the baby, as it were a

foreign body attacking the mother, and this interaction leads to an imbalance in the development of the baby's nervous system.

The umbilical cord may twist around itself during childbirth, which leads to a sudden lack of oxygen that reaches the baby, which leads to a disfunction in brain's work and difficulty in learning later. Smoking, alcohol consumption, or some dangerous drugs during pregnancy can also cause child suffering from developmental learning difficulties.

- Pollution and the environment problems: Research has shown that environmental pollution has a harmful effect on the growth of nerve cells. Studies have shown that plumbous, which pollute the environment resulting from the burning of gasoline and found in drinking water canals, can lead to many developmental learning difficulties.²

3. Digital education:

3-1. Definition of digital education:

It is education system that aims to create an interactive environment, rich in applications based on computer technologies and the Internet, this enables the student to access learning resources at any time and from anywhere. It can also be defined as: Providing educational content including explanations, exercises, interaction, and follow-up in a partial or full comprehensive manner in the classroom or remotely using advanced programs installed on the computer or via the Internet.

Thus, it is an "educational system that uses information technology and computer networks to support and expand the scope of the educational process through a set of tools, including computers, the Internet and digital programs prepared either by specialists in the ministry or educational companies.

We can note from the previous definitions that they largely agreed among themselves on the concept, where we can define the digital learning as: the education that provides the possibilities of learning through advanced technological methods such as: the Internet, CDs, tapes, DVDs, smart phones, personal digital assistant / pocket PDA, personal digital notes.

The term "digital learning" is used to describe a range of learning situations, including online learning, web learning, virtual classrooms, etc. These

cases share the use of communication technologies as a learning tool, that include³.

- Audio material.
- Visual material.
- Multimedia software.
- CDs.
- Satellite television broadcasting.
- Internet technologies.

Hence, digital education is the type that relies on the use of digital media in communication between teachers and learners and between learners and the educational institution.

Digital education is a modern and well-designed form of learning delivery. Which is centred around the student, stimulates interaction, and provides a learning environment from anywhere and at any time by using various digital technology resources, which are flexible and provide a distributed learning environment.

Digital education is an educational system that uses information technology and computer networks to support and expand the scope of the educational process through a range of channels, including computers, the Internet, and digital programs that are prepared either by specialists in the ministry or educational companies to present learning or training programs for learners or trainees in anytime and anywhere using interactive and communication technology such as (the Internet, local broadcasting channels, e-mail, magnetic disks, computers, etc.) to provide an interactive multi-source learning environment in a synchronous way in the classroom or asynchronously remotely without committing to a specific place, depending on self-learning and interaction between the learner and the teacher. In general, we can say that digital learning is a modern method of education, in which modern communication mechanisms are employed such as a computer, and multimedia such as sound and image, graphics, search mechanisms, electronic libraries, as well as Internet portals, whether remotely or in the classroom.⁴

3-2. Digital education styles:

-Direct digital learning: which is represented by educational methods and technologies based on the information's global network to deliver educational contents to the learner in real time as well as the education or training practitioner (department, factory).

-Indirect digital education: which is represented by the learning process through a set of training courses and organized classes, This method is based on multiple factors where the learner cannot attends personally (in site) the training (classes).(student at school, university, working in a professional environment).⁵

3-3. Characteristics and disadvantages of digital education:

•The distinguishing characteristics of digital education are as follows:

-Interactivity: In education technology, this means the dialogue between the two sides of the educational process for the learner and the program, and the interaction between the user and the course takes place through the user interface, which must be easy, in order to attract the user's attention, so he/she walks through the content and receives feedback: The interactive feature also provides a two-way communication environment at least. ⁶

- Individuality: One of the characteristics offered by educational technology is to overcome individual differences among learners, and to ensure all of them can reach to the same level of proficiency according to the capabilities and aptitudes of each of them and the level of his/her intelligence and his/her ability to think, remember and retrieve information using individual educational situations.⁷

-Diversity: Multiple educational technology provides a diverse learning environment, in which each learner can find what suits him/her and this is achieved procedurally by providing a set of educational alternatives and options for the student. And the diversity of learning methods.⁸

-Integration: Integration in educational technology directly affects students' results. Relying on this technology and knowing the coordination between them through displaying pictures, graphics, sound, etc., which forms a homogeneous mixture that attracts the attention of the learner and achieves the educational goal.

-Globalism: Education technology provides an opportunity to open information sources all over the world, where the user connected to the Internet can obtain everything, he/she needs in various fields of science thanks to the rapid

ways to obtain information, and educational technologies have also enabled the development of educational processes in open education systems with various types of modern distance education.

- The disadvantages of digital education, they are as the following:

- No face-to-face interaction.

- The difficulty of evaluating and protecting the exam electronically.

- Lack of quality in education.

- Lack of accuracy of observation, especially for fields that depend on the technical aspect and accuracy of observation.

- Lack of rational use of technology in general in non-producing countries and the spread of so-called project theft.⁹

3-4. Challenges of applying digital education in Algeria within primary schools:

It is clear that the challenges are closely related to the requirements necessary to achieve the goal, according to the Algerian experience. The following is a division of the challenges according to their nature:

- Technical challenges:

One of the biggest challenges facing digital education is the limited ability of primary educational institutions to create wide networks and provide large numbers of devices and equipment. In addition to updating them, especially since information and communication technologies are witnessing multiple, rapid, and continuous developments and transformations, which makes it difficult to acquire these various technologies. Furthermore, In terms of software, the lack of availability of digital education applications in the Arabic language posed a major challenge, in addition to their alternativity and the need for similarity among them, the challenge of choosing the appropriate software appears. Hence, the relevant ministries, especially the Ministry of Education and the Ministry of Communication and Information Technology, have to coordinate with each other to produce in house software that considers the different characteristics of education and learner.

- Legislative Environment:

To ensure a smooth transition to the digital education system, laws and regulations must be adapted in a way that guarantees the dynamism of the educational system, to keep pace with the fast-paced modern developments. The laws must provide the necessary cover to protect freedom of thought, the acquisition of knowledge, and most importantly its creation, which requires amending some laws that stand in the way of digital transformation.

- Human Resources:

The change and the orientation towards digital education poses a challenge to many primary school teachers who are accustomed to the traditional system, and therefore this approach will face many resistance against this system, and therefore a policy of awareness, motivation and firmness is required in order to accept this change.

- Funding:

Investing in the field of primary education is one of the areas that do not attract companies and investors to invest in it, and thus the lack of funding for this sector in addition to the cost of operation, maintenance, renewal and the cost of producing the contents necessary for the educational process constitutes a real challenge, and therefore governments had to give high priority to this field through encouraging partnership and support projects by revitalizing relations and expanding partnership between the telecommunications, media technologies sector and the education sector in order to support and develop e-learning systems.¹⁰

3-5. The role of the developmental learning difficulties teacher in digital education:

Despite the growing acceptance of online education opportunities and the enthusiasm surrounding emerging education with cutting-edge technologies, the importance of the teacher cannot be bypassed. The teacher remains a major factor in a child's education. It is the key to success for students with developmental learning difficulties online.¹¹

The role of the teacher in virtual education environments is not only limited to giving or providing information, but also has the main role of being a facilitator of the educational learning process for students with these categories of learning difficulties in online education platforms and encouraging them to interact in various learning activities online. By benefiting from the valuable

information and facilities provided by these platforms in their various, individual and group study activities.

Teaching via online education platforms differs from teaching in a traditional classroom and requires a different set of skills although there are some similarities. Therefore, Smith et al.¹²

indicate that the International Association for Online Education in the United States of America presented in 2011 the national standards that teachers must have for online education from kindergarten to the twelfth grade, and these standards are:

-Standard 1: The online teacher knows the basic concepts and structures for effective online teaching and can create learning outcomes that enable students to succeed.

-Standard 2: The online teacher understands and can effectively use a range of current technologies that support students' learning and participation in the online environment.

-Standard 3: The online teacher plans, designs, and includes strategies to encourage active learning, application, interaction, participation, and collaboration in the online environment.

-Standard 4: The online teacher promotes student success through clear expectations, prompt responses, and regular feedback.

-Standard 5: The online teacher models, guides, and encourages legal, ethical, and security behaviour related to the use of technology.

- Standard 6: The online teacher recognizes the diversity of the academic needs of students and integrates the conveniences of the online environment.

-Standard 7: The online teacher demonstrates instruction in creating and implementing assessments in online learning environments in ways that ensure validity and reliability of tools and procedures.

-Standard 8: The online teacher develops and delivers assessments, projects and assignments that meet standards-based learning objectives and assesses learning progress by measuring student achievement of learning objectives.

-Standard 9: The online teacher demonstrates competence in using data from assessments and other data sources to modify content and guide student learning.

- Standard 10: The online teacher interacts in a professional and effective manner with colleagues, parents, and other members of the community to support student success.

-Standard 11: The online teacher arranges media and content to help students and teachers transfer knowledge more effectively in an online environment.

4. Conclusion:

That said, digital education is a flexible education that significantly contributes to improving the level of teachers' effectiveness and increasing their experience in preparing educational materials and dealing with students that have developmental learning difficulties in primary schools, especially in Algeria, as well as access to information sources, photos, videos, and research articles through the Internet and use them in explaining and clarifying the educational process.

It also can help the student to understand and dive deeper into the lesson so that he/she can review the lesson at any time, and it also helps him/her to do his/her homework by referring to the various sources of information on the Internet or to the digital material that the teacher provides to the students which contains multiple examples.

Therefore, the student with developmental learning difficulties retains the information for a longer period because it came in sound, image and explication forms, and this helps him/her a lot to overcome the difficulties in learning.

In addition, the introduction of the Internet as an essential part of the educational process has a great benefit in raising the learning cultural level of students, and raising awareness of the time's exploitation in a way that develops their creativity instead of wasting it on websites that only lead to decreasing the moral and cultural levels.

Furthermore, building a network for each primary school where parents communicate with teachers and administration so that they are constantly aware of the level of their children and the activities of the school.

Bibliography List :

1. Books :

Al- Karam; A. M. Al- Ali & N. M. E- learning: the new breed of education. In Billeh, V. & Ezzat, A.(Eds.), Education development through utilization of technology: UNESCO Regional Office for Education in the Arab States. 2001.

Halima, A. E learning at the Algerian University: Elements of Embodiment and Obstacles to Application, Master Thesis, Constantine, Algeria, Mentouri University. 2012.p 68-69.

Hashey, A. I., & Stahl, S. Making online learning accessible for students with disabilities. Teaching Exceptional Children. 2014.

Jibril bin Hassan Al-Areshi, Developmental Learning Disabilities and Treatment Suggestions, Edition 1, Dar Safaa for Publishing and Distribution, 2013.p 25.

Magdy ,S. A. Virtual Education: Its Philosophy, Components, and Application Opportunities, Cairo, New University House, 2008.p 38.

Nader, S. Introduction to Education Technologies, Amman: Dar Al-Fikr. 2008.p1273.

Suleiman Nayef, Levels of the Arabic Language, Dar Safaa for Publishing and Distribution, 2010.p 165-288.

2. Journal article :

Ragia, B. E-learning from the point of view of university professors, an exploratory study at the University of Batna, Journal of Human and Social Sciences, special issue, computer and information technology in higher education. p 107-111.

Salem, M. A.. the reality of e-learning and computer systems and its impact on education in Iraq, Baghdad College of Economics University Journal, No. 172008.p280.

Suad, B. Recent Trends in Education Development, Journal of Academic Studies in Information and Knowledge, Volume 1. 2009.p50.

3. Internet websites:

Smith, S. J., & Harvey, E. E., *K-12 online lesson alignment to the principles of Universal Design for Learning: The Khan Academy*, 2016 (consulted on 05/03/2026/14:30), <https://doi.org/10.1080/02680513.2014.992402>

¹ Suleiman Nayef, Levels of the Arabic Language, Dar Safaa for Publishing and Distribution, 2010. p 165-288.

² Jibril bin Hassan Al-Areshi, Developmental Learning Disabilities and Treatment Suggestions, Edition 1, Dar Safaa for Publishing and Distribution, 2013. p 25.

³ Salem, M. A.. the reality of e-learning and computer systems and its impact on education in Iraq, Baghdad College of Economics University Journal, No. 172008. p280.

⁴ Ragia, B. E-learning from the point of view of university professors, an exploratory study at the University of Batna, Journal of Human and Social Sciences, special issue, computer and information technology in higher education. p 107-111.

⁵ Al- Karam; A. M. Al- Ali & N. M. E- learning: the new breed of education. In Billeh, V. & Ezzat, A. (Eds.), Education development through utilization of technology: UNESCO Regional Office for Education in the Arab States. 2001.

⁶ Nader, S. Introduction to Education Technologies, Amman: Dar Al-Fikr. 2008. p1273.

⁷ Magdy, S. A. Virtual Education: Its Philosophy, Components, and Application Opportunities, Cairo, New University House, 2008. p 38.

⁸ Suad, B. Recent Trends in Education Development, Journal of Academic Studies in Information and Knowledge, Volume 1. 2009. p50.

⁹ Ragia, B. E-learning from the point of view of university professors, an exploratory study at the University of Batna, Journal of Human and Social Sciences, special issue, computer and information technology in higher education. p 107-111.

¹⁰ Halima, A. E learning at the Algerian University: Elements of Embodiment and Obstacles to Application, Master Thesis, Constantine, Algeria, Mentouri University. 2012. p 68-69.

¹¹ Hashey, A. I., & Stahl, S. Making online learning accessible for students with disabilities. Teaching Exceptional Children. 2014.

¹² Smith, j., Harvey, E. K-12 online lesson alignment to the principles of Universal Design for Learning: the Khan Academy. Open Learning. 2016.