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الإشراف التربوي الإلكتروني:
إطار مفاهيمي لتعزيز العدالة والفعالية في التعليم في فلسطين

*Electronic Educational Supervision: A Conceptual Framework for Enhancing Justice and Effectiveness in Education in Palestine**

الدكتورة/ مروة عصام الأضم

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الملخص:

تهدف هذه الدراسة إلى فهم ثورة الإشراف التربوي الإلكتروني التي بدأت تنفذ في الدول المتقدمة وثورة الذكاء الاصطناعي حتمية ولا يمكن لأحد الابتعاد عنها ويحقق الإشراف التربوي الإلكتروني العدالة التي طالما حلم بها المعلمون باستخدام الإحصاءات والأرقام فقط لدمج قراراته وتوضح هذه الدراسة مفهوم ملفات الأداء الأكاديمي الإلكتروني باستخدام نظرية الاحتمالات ونظرية الألعاب وستصبح هذه الملفات جوهر نظام الإشراف التربوي الإلكتروني الديناميكي وهذا سيحدد سياسة التعليم في المنطقة بأكملها بل وفي البلد بأكمله في المستقبل فكيف تطورت وما الذي يحاول المعلمون والمبرمجون إحياءه ويهدف البحث إلى تطوير خوارزمية وخريطة طريق لإرساء الإشراف التربوي الإلكتروني لتطوير التعليم بأكمله من خلال تطوير تفكيره الدقيق وهي رحلة مثيرة أي عملية التقييم.

الكلمات المفتاحية: الإشراف التربوي الإلكتروني، ملف الإنجاز الإلكتروني، قواعد البيانات الشبكية، العدالة التعليمية، الفعالية التعليمية، التقييم الإلكتروني، الذكاء الاصطناعي في التعليم، نظريات الاحتمالات، نظرية الألعاب، السياسات التعليمية.

Abstract:

This study aims to understand the revolution of electronic education supervision that has begun to be implemented in developed countries. The artificial intelligence revolution is inevitable and no one can stay away from it. Electronic education supervision achieves the justice that teachers have always dreamed of, using only statistics and numbers to integrate its decisions. This study explains the concept of electronic academic performance files using probability theory and game theory. It will become the core of the dynamic electronic education supervision system. This will determine the education policy in the entire region and even the entire country in the future. How has it evolved, and what are teachers and programmers trying to revive it? The research aims to develop an algorithm and a roadmap for establishing electronic educational supervision to develop the entire education by developing its precise thinking, which is an exciting journey, i.e. (evaluation process).

Keywords: Keywords electronic educational supervision, electronic achievement file, network databases, educational justice, educational effectiveness, electronic evaluation, artificial intelligence in education, probability theories, game theory, educational policies.

Introduction:

The shape of the planet Earth has changed a lot, computer servers and robots control life.

Many professions, jobs and concepts that were viewed as sacred and permanent have disappeared... including the educational supervisor, who has been replaced by (us), i.e. the electronic educational supervisor with a program with artificial intelligence technology, working on the principle of the intelligent agent.

He determines what training programs the teacher should enter. He rewards another and punishes another and chooses from the innocent the appropriate for the educational administrative occasion without favoritism and with complete transparency.. What I wrote is part of a world that most scientists in the presented world now view as reality and not science fiction. Although fragile life on our planet may not last another year, this is what will happen if it continues

Research problem:

The supervisory apparatus in Palestine and educational supervisors deal with major obstacles that can be summarized in four basic points that are detailed

The following are in addition to the specific obstacles

First - material obstacles, including

1. Transportation methods, as it is difficult for the supervisor to reach schools due to the scarcity of road networks, their age and congestion. In addition to the distance of schools from the central supervision centers, which are usually chosen in city centers.
2. Communication networks, and the same applies to the first, as the communication structures are old and random and do not provide the

possibility of holding interactive video conferences that would be a distinctive assistant to supervisors.

3. Failure to exploit the media to communicate between the supervisor and the school in an optimal manner, which is clearly evident in the weakness
4. Educational satellite and terrestrial channels, their scarcity, and the failure to exploit the Internet, mobile phones and printed publications.

Second – Financial Obstacles:

The financial allocations allocated to education in Palestine in relation to the gross national product remain much less than expected, and much less than what is spent by countries that invest in education, which is one of the most important factors in the country's renaissance.

Third – Administrative and technical obstacles, including

1. Most previous studies in this field agreed on the small number of training courses and orientation programs for educational supervisors and the small number of their participation in international exchange programs outside Palestine to learn about the experiences of other countries.
2. Failure to create a central bank of educational supervision resources. It provides a special repository in the science of educational supervision that includes the month and the most important books, periodicals, academic research, and master's and doctoral theses that are concerned with the field.
3. The small number of administrative centers in the management of educational supervision, and it is limited to the presence of main centers for it in the cities. It is worth noting that the educational system in Palestine still refuses to adopt the resident educational supervisor system despite its importance with the increase in the number of schools and the expansion of their geographical elevation.

rabiean – almashakil ghayr altabieiati, watajalat bisabab zuruf ghayr tabieiat eashaha filastin watatadamanu: 1.alhisar alaiqtisadii, waladhi aimtada 'ahad eashar sanatan alfaqarat alhalat alaiqtisadiat lilmusharaf altarbawii khasatan waljihaz altaelimii bi'akmalihi, wahu ma 'aeaq almushrif min tatwir qudratih lisueubat husulih almasadir al'akadimiata, watawjih alnabahat altaamin halatah almaeishiata, wanataj eanh 'aydan alfaqaar almuasasat altarbawiat wamaneiha min almusharakat fi almahafil alduwaliat fi majal altaelim khilal marhalat alhisar ... 2.alhurub min filastin bihadhih alhalat bidayat alaihtilal al'amrikii lah, waithna' aldarabat alsaabiqat fi sibat maqaraat wizarat altarbiat waqasafat almadaris waustushhid aibtal wahum yudafieun ean muasasat baladihim altaelimia 'ahamiyat albahth : an wujud musharaf muqim fi almadrasat tusbih 'amran daruriana mae ziadat eadad altalabat walmudarisina. fi anih yajealuh mustamirana fi eamaliat altadrisi, wayubqih ealaa aitisal mae biyat almadrasat alati yuftarad bih 'an yuqimaha wayaqumaha bal wayajealah juz'an minha. hadha ma aijmaeat ealayh aighlab aldirasat alearabiat walaijnabiat alhadithat fi dawr almusharif altarbawii anah shakhs hazim wadhu karizma qiadiatan mubdie fi hali almushkilat ayjabi fi altawfiq bayn almudarisin waladariiyn waltalabat lilah bibasatat qalb almadrasat alnaabid bialhayaati. wamin huna barazat alzururat alaihtimam bidawrih watatwir aliaat eamalih wakhasatan min khilal damj tilk alaliaat mae tiknulujia almaelumat walhasub walaintirnit waduat altawasul alaijtimaeii bima yuhaqiq hulm altaelim al'afdala. hudud albahth yahtamu albahth alhaliu bitaerif milafi alainjaz alalkitrunii limashrifi alaikhtisas fi filastin watanfidhih ealaa nitaq mintaqat taelimiat wahidat kanamudhaj 'uwlaa waistikhdam taqalat majaaniat mutahatin, wawasf bina' qalb alnizam dun altawasue lilrabt mae wasayil altawasul alaijtimaeii 'aw aistikhdam mabadi aldhaka' alaistinaeii. aihdaf albahth bihadaf albahth alhalii 'iilaa wade khawarizmiat wakharitat tariq litanfidh nizam alashiraf altarbawii alalkutrunii almuetamad ealaa milafi alainjaz alalkitrunii Web folio wayakhtar aladawat albarmajiat allaazimat litanfidh alnizami.

Fourth – Unnatural problems, which were manifested due to the unnatural circumstances experienced by Palestine and include:

1. The economic siege, which lasted for eleven years, impoverished the economic situation of the educational supervisor in particular and the entire educational system, which hindered the supervisor from developing his abilities due to the difficulty of obtaining academic resources, and directing intelligence to secure his living conditions, and also resulted in the impoverishment of educational institutions and preventing them from participating in international forums in the field of education during the siege period...
2. The wars from Palestine in this state at the beginning of the American occupation of it, and during the previous strikes in which the headquarters of the Ministry of Education were hit and schools were bombed and heroes were martyred while defending their country's educational institutions

Importance of the research:

The presence of a resident supervisor in the school becomes necessary with the increase in the number of students and teachers. It makes him continue in the teaching process, and keeps him in contact with the school environment that he is supposed to establish and improve and even make him a part of it. This is what most recent Arab and foreign studies have agreed upon regarding the role of the educational supervisor. He is a firm person with a charismatic leadership style, creative in solving problems, and positive in reconciling teachers, administrators, and students. He is simply the heart of the school, which is full of life. Hence, the need to pay attention to his role and develop his work mechanisms, especially by integrating these mechanisms with information technology, computers, the Internet, and social media tools to achieve the dream of better education.

Research Limits:

The current research is concerned with defining the electronic achievement file for specialist supervisors in Palestine and implementing it on the scale of one educational district as a first model and using available free technologies, and describing the construction of the core of the system without expanding to link with social media or using the principles of artificial intelligence.

Research Objectives:

The current research aims to develop an algorithm and a roadmap for implementing the electronic educational supervision system based on the electronic achievement file Web folio and select the necessary software tools to implement the system.

Definition of Terms:

First, the electronic educational supervisor:

Albar defined it as an automated vision of the evaluation process that requires diverse experiences that must be available to its users to achieve better results, including greater skills in using computer networks, advanced communication capabilities, and the ability to accurately express ideas and concepts (Albar, 2012. 2).

Yogo, igwoke defined it as a reference to the use of video conferencing technology to provide evaluation in real time. This allows the supervisor to better monitor the activities of teachers at the time of their tool, reduces the costs of transporting supervisors, their numbers, and ensures better educational outcomes (Ugwoke, 2012, 1)

Merdah defined tools that individuals use with purity to be affected by the geographical factor, which leads to building an electronic communication network that facilitates work between educational supervisors, school principals, and teachers (Merdah, 2013, 2)

Han defined what the teacher uses as open learning and computer-assisted learning depends on real-time monitoring techniques, feedback, and the use of electronic conversation techniques and interactive conferences to monitor, develop, and evaluate teachers' skills (20142 Han)

Secondly, the electronic achievement file E-Portfolios

Wiki defined it as: a record of the group of works that reflect the activities of the individual and the development of his abilities and achievements, and is characterized by making information more widespread and facilitating the communication process, and evaluating teachers' skills (20072.Eautech)

Malina defined it as a new tool that provides sources and methods that contribute to Developing a new vision for professional development of learners by supporting teachers' efforts and monitoring the evaluation process according to students' needs (1 2009 Malite

Qter knew it was a record or electronic portfolio to collect the teacher's activities from lessons, lectures, projects and exercises of one or more courses, and the components of the portfolio change according to the educational institution and its laws) Qtet. 2009 p382()382 Qtet 2009 p

I sent

Third, databases on computer networks

Dleni knew it is basically databases that can be accessed from a local network, or from the Internet.

Instead of being limited to a desktop computer or a closed storage unit attached to it, it is used for personal or professional applications and stored on network sites, and is accessed through browsers (Muslihat. 2018. 2).

Aj defined it as databases designed and uploaded in web format, and opened through web browsers that have a file system designed to store data, and are accessed from specific subscription contexts (G1.2019, 2).

Mig defined it as database applications designed to be managed and accessed through the Internet. Site operators can manage data in it and display analytical evaluations of it. It appeared in the early nineties, and was based on economic applications, and is now spreading in all fields (North, 2019. 1).

First topic: Educational Supervision

Concept of Educational Supervision

Researchers and specialists have developed many concepts for educational supervision, and you can refer to the source The researcher preferred to choose the definition adopted by the competent authority responsible for education inPalestine, which described the enlightenment process as a directed activity based on studying the current situation and aims to serve all workers in the field of education and teaching to provide them with services and raise their personal and professional level in a way that achieves raising the level of the educational process and achieving its goals (Mubarak. 2009.p13).

Types of educational supervision:

The types of educational supervision can be summarized in the following general types:

1- Preventive supervision: This type is evident in the accumulated experiences of the educational supervisor, which generates a proactive vision and the ability to predict the difficulties that the school and teachers will face. This is what makes him focus on directing teachers and administrators to confront them before they occur.

2- Corrective supervision, sometimes known as reformative supervision, emphasizes that a person is not a programming machine, and therefore the factors of upbringing, intelligence quotient, and collective and individual behavior inevitably affect the teacher's work and style.

The supervisor finds some mistakes in him, and the supervisor must take into account all of these factors, as some of them will be corrected by the teacher through experience and accumulated expertise, and he should not resort to official means and correspondence except in extreme cases. The supervisor can point them out in a general dialogue, or in a separate meeting.

3- Creative supervision: The supervisor's role shifts to encouraging teachers and pushing their energies to reach the maximum limits of their creativity, which is represented by increasing their positive feelings towards the teaching process. Creative supervision is based on granting freedom to teachers and administrators and urging them to be creative and search for new ideas and experiences that raise the quality of the educational process (Khalil, 1970, pp. 19-22) (Khalil, 1970, 19-22) (Afandi 19760 p. 38 (Afndi. 1976, p38-40).

4- Comprehensive educational supervision: This type crystallized from a principle that says that the educational process is an indivisible whole and is based on a modern concept through which the supervisor looks at the entire educational process and not just the teacher (Abdul Aziz, 1991.61)

Achievement and education file

Educators were not angry about the use of the electronic achievement file, and it received discussions and interest in the developed world, and the most interested in it were the Europeans and Americans

The European experience The European Institute for e-learning was interested in the subject of the electronic achievement file Academic, and launched a special conference to develop it, God willing, the conference (PIC), which resulted in the establishment of the Association for Quality Assurance of E-Learning (EFQUEL), which had as one of its objectives the launch of the European Portfolio project in education. Which began to be used after its adoption by the European Schools Network (European Schools Network - EUN), which includes schools in thirty countries inside and outside the European Union (Fuglik, 2013, p7).

The American Experience Educators in the United States were interested early on in the idea of the electronic portfolio, and one of the most important fruits of that interest was what the American Association for Higher Education (AAHE) did, which adopted it as a basic tool to improve teaching in schools and universities, and its possession and excellence in its contents became a necessary condition for practicing the teaching profession therein (Qtet. 2009, p379).

Standards for the electronic educational achievement file

One of the most important elements for the success of any idea or concept is to frame it in a way that defines its boundaries and clarifies its objectives. From this standpoint, Carney and Zener set six standards for designing a successful electronic achievement file

1- Determining the objectives.

- Control who will display the file and who has the right to update it.
- Display style (including all types of selected multimedia).
- Interacting with social media.
- Updating evaluation grades.

Mechanisms of use and access (Educational Wikipedia, 2019, p. 5):

Academic electronic achievement file applications

The applications that were discussed were divided into three main sections

Commercial applications are those produced by companies or institutions with a commercial nature and are sold for a price. They are usually closed and cannot be modified. The producing entities have the exclusive right to sell, update and maintain. Examples include the Nesten application (Digication), the Diction application (Foliotek), the Voltek application (Keeboo), and the KU system (Epsilen).

Free applications are usually produced by institutions that do not seek material profit, but rather to spread their technological principles and are available to everyone without charge. Despite the free use, they remain closed source, which leaves the right to develop, update and maintain in the hands of the producing institution. Examples include the Mahara application and the Edu portfolio application.

Free and open-source applications, which are applications characterized by their source code Available to all programmers and users, these applications are usually more effective and widespread, especially with the development of social media (OSP), the Cyberfolio application, and the Keep tool. Examples of these include the Keep tool and the educational syllabus 2019 AD (1) (20196 Wikiadu)

Third, Educational Databases

Databases are one of the important fields of computer science and applications, and it is no exaggeration to say that they are the most widespread and connected to our daily lives, such that access to them represents a qualitative leap in human civilization. At first glance, the observer thinks that they are static and do not develop, but the one who examines their subject realizes that they are in a state of constant development, from the tables called punched cards to the formulas of the rules that work on smart phones and the Internet. If we want to know

databases in a simplified way, we can say that they are a set of data organized and linked in a logical way (Woofer 2015, p. 7 (2015.7, Woofer). Database applications have not left any aspect of life without playing a positive role in it, including the field of education.

Databases in Education

The programmers and educators have been using it in the field of education since the advent of the personal computer since the advent of the personal computer. The history of the entry of databases into societal fields dates back to the middle of the last century when the computer was used in preparing the population census in the United States in 1951 AD (Jejawi, 2001, p. (1) (Jejawi 200131). Since that time, educators have looked at what databases can offer them, and universities have begun to provide research and studies on them. Not much time has passed until many countries have developed ambitious plans to automate education, leading to what is known today as e-learning, and some countries have become commercial pioneers in applying databases in schools, including the Irish experience that linked all primary schools in the country to a database. Automated data known as (POD) was launched in 2016 (POD website, 2019, p1). All this prompted companies working in information technology, especially those related to it, to invest in applying and developing database services in education. An example of this is Oracle, which launched giant plans to make its database product serve the educational process and designed a special financial model for that (Oracle 2015. p7). Web databases

All of this was not enough to increase the spread of databases, especially in education, but what was not taken into account was the development of computer network science and its compatibility with databases, which led to the emergence of what is known as web-based databases, which made databases available on website platforms and can be defined as "a database

located entirely on one of the Internet servers, and is handled by web browsers and managed by a password system that determines the permissions, and the source of this type of database can be divided into four sections:

- Browser layer.
- Logical applications layer
- Communications layer (Cape town university bboklet.2019.9)

Fourth, electronic educational supervision E-Supervision

Technology, especially in the field of information, has imposed major changes in the field of education and learning alike, and has begun to introduce a new model in teaching methods, evaluation and curriculum design. There is no disagreement that the most important element in the education department is the teaching process. After supervision is the real controller of the teaching process, the supervisor also needs to change and develop and be more flexible Han (2011) saw that it is necessary for modern supervision to be linked to the concept of real time through:

- Monitoring, evaluating and documenting teaching
- Monitoring, evaluating and documenting discussions
- Monitoring, evaluating and documenting tests
- Monitoring, evaluating and documenting homework (2014.099 Man)

Electronic educational supervision is an online laboratory system that uses multi-agent technology and works remotely from the agent by dealing with databases of schools and teachers. Such a system usually requires certain characteristics Including:

- The participant has the skill of browsing in Internet browsers.
- Has the ability to write and type on the keyboard.
- The ability to express himself and opinions.

- Has excellent communication skills (Albar, 2012. p142)

The system model must take into account the needs of educational supervisors. It provides a hierarchical hierarchy starting at the top with senior teachers, educational supervisors) (Merdah, 2012, 4). The electronic educational supervision system provides a basis for the quality of education.

The educational system helps to diagnose and overcome obstacles in the following joints:

- Integration and understanding of information –– intersections of administrative powers.
- Communication channels with teachers – decision-making processes.
- H Positive criticism of the educational process staff (Ugwoke, 2012, p339)

Uses e-mail, chat, interactive sites, video chat and other technologies. Which supports e-learning processes (2012.145 Albar) One of the researchers divided the electronic educational supervision system into seven

Agents built with the proxy server system are:

- The interaction agent is a platform for exchanging opinions between supervisors and teachers.
- The information agent provides information to users according to their permissions.
- The administration agent, which represents the search engine in the system.
- The educational supervisor agent monitors teachers' activities according to a standard algorithm.
- The directing agent suggests plans to teachers to develop their capabilities.

- The handling agent records users' logins and the extent of their benefit from the system.
- The supervisors' files agent is the part related to managing the academic file of teachers, schools and educational administrations (Merdah. 2012.p5)

First, choosing the system building tools

- The researcher recommended using the XAMPP package, which is a free German tool that installs a set of programs that turn the computer into a server - it contains Apache, an interpreter and an editor for each PHP language and MySQL databases. And it downloads them all at once. It can be obtained from the Internet (Wipekedia.2019 XAMPP)
- PHP language: It is one of the most prominent languages for developing websites. It is a script that interacts with servers. It is usually used for interactive websites and Internet applications, and the end user does not interact with it directly.
- MySQL databases: It is a relational database management system that is characterized by being free and open source. Its use is published (Suehring. 2009.p3-4(Perl and Python PHP leaves its conflict with other languages such as

Features of the MySQL application

Flexibility, the application supports more than fourteen platforms, so it can be adopted and operated regardless of the operating system you use. Peter deals with most programming languages..

Since its inception, it has supported search and indexing mechanisms.

Provides temporary storage for queries, which is one of its most important features.

Replication, which allows the entire database to be copied from one server to another, which contributes to its availability for a larger number, in addition to the possibility of overcoming stoppages

Security, in providing high-security solutions, including language control, memory allocation, database connection time, package size for each user, and the number and type of permitted queries for each of them (Gilmore, 2010, 478).

Second, the proposed implementation mechanism

Making the decision after making the decision at the senior management level is the cornerstone of Without the availability of a firm will that realizes the importance of this transformation, the project will not succeed, so the senior educational management in the country must understand the importance of investing in educational technology, and that Integrating information technology into education and e-governance has become a necessity, not a luxury, in our modern world.

Assigning a joint team consisting of programmers and educators equally from the Ministry of Education and university professors specialized in the subject to prepare a comprehensive feasibility study on the material and technical needs and determine the timetables necessary to complete the project

Preparing the halls in which the project will be held and connecting them to the Internet system with a wide range to withstand the pressure that they will face as a result of operating the site.

General requirements of the project:

Human needs require a cadre of programmers of not less than twenty programmers, and they must be trained in managing web servers and programming interactive sites, especially the languages (PHP) and (ASP)

and database management systems (MS Sql-Server) (MySQL) environments

Material needs. This includes building two computer labs containing two or three paired servers according to their capacity, in addition to providing programmers with computers

Providing equipment that allows networking of the labs to the Internet at the near and distant levels and with a broadband.

Actual data Data on teachers and schools must be provided in simple and convertible data files (Excel application files), and then converted, and UNESCO table models can be adopted as in the appendix for this purpose.

- Mechanism for building the site
- Perfect installation of servers with the (XAMPP) package
- Perfect conversion of actual data from simple Excel format to MySQL database tables format.

Changing the laws in force that frame the educational supervision process in line with the new system. And following the example of countries Advanced and benefit from its legislation, with changing the structure and workflow of the administrative work associated with it.

Conclusions:

The researcher reached the following conclusions through sources and experiences:

- Implementing the electronic educational supervision project is easy and possible, but it needs the will of a national educational leadership that believes that its work is to preserve an entire country and not just employees who perform office work.
- Reformulating the rehabilitation and training programs for educational supervisors to focus on information technology.

- The application of this system eliminates corruption and the interference of tribes and political parties in the work of the Ministry of Education and removes embarrassment from directors and relieves them of pressures.
- This system – if implemented – provides Palestinewith a common language with advanced countries, and gradually qualifies it to enter into international standards and criteria related to the quality of education, which has become an urgent necessity for recognizing the educational system.
- This system will kill the financial expenses and the budget allocated for monitoring and evaluation. It allows competent supervisors to go beyond the imaginary regional boundaries

Recommendations:

- This system is part of the e-learning portal adopted by the Ministry of Education within the governance projects. Activating this path requires the sponsoring and producing bodies of information technology to pay attention to the elements of network databases and computer network security by developing study and training programs for them to prepare specialized and capable cadres.
- The Ministry of Education must adopt a training approach towards training teachers and educational supervisors on the use of computers in the evaluation process, especially the use of SPSS and Excel applications.
- Prepare a realistic and multi-stage plan for implementing the project, in a way that ensures the possibility of its implementation.
- Use international expertise such as that provided by international organizations such as UNESCO and countries that adopt governance in their educational system such as the United States of America, Canada and the countries of the European Union

- Changing the laws in force that frame the educational supervision process to suit the new system. And following the example of advanced countries and benefiting from their legislation, while changing the structure and course of administrative work associated with them.

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