The Role Educational Technology In Developing School Staff

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Abstract

The aim of this study was to investigate the impact of educational technology on leadership traits in the Saint Joseph School staff. The researcher in this study was using both descriptive qualitative and quantitative methods by collecting and analyzing the questionnaire's answers and by conducting interviews with several teachers and technology coordinators from the school. The sample size was 70 participants composed of teachers, administrators and technology coordinators. The results showed that educational technology had a positive impact on both the school staff and the students, it showed that the school staff are meeting and applying the TSSA standards. Also there is a significant relationship between the staff age and their technology leadership, however there is no significant relationship between the participants gender, school level, years as an educator and their technology leadership .

Keywords : TSSA standards, leader's skills , teacher's leadership, system theory.

ملخص البحث

كان الهدف من هذه الدراسة هو التحقيق في تأثير تكنولوجيا التعليم على سمات القيادة في موظفي مدرسة القديس مار يوسف الظهور. استخدمت الباحثة في هذه الدراسة كلّا من الأساليب الوصفية النوعية والكمية من خلال جمع وتحليل إجابات الاستبانة وإجراء مقابلات مع العديد من المعلمين ومنسقي التكنولوجيا في المدرسة. كان حجم العينة 70 مشاركًا مؤلفًا من معلمين وإداريين ومنسقي

التكنولوجيا. أظهرت النتائج أن تكنولوجيا التعليم كان لها تأثير إيجابي على كل من موظفي المدرسة والطلاب، حيث أظهرت أن طاقم المدرسة يلتزمون ويطبقون معايير TSSA. هناك أيضًا علاقة مهمة بين عمر الموظفين وقيادتهم التكنولوجية ، ولكن لا توجد علاقة ذات دلالة إحصائية بين جنس المشاركين ومستوى المدرسة وسنوات الخبرة وقيادتهم التكنولوجية.

الكلمات المفتاحية : معايير TSSA. ، مهارات القائد، قيادة المعلم، نظرية النظام.

Introduction

In our present time, technology is undoubtedly influencing leadership. The perception of success is different; today a good leader is an effective one in showing and sharing results. Technology in the 21^{st} century demands many advancements and that, in turn, demands change and quality improvements in education in schools around the globe. Hence, “educational leadership” is regarded as a key to effectiveness in schools and becoming a complicated and arduous task to keep up with. It is of great importance for this technology to be used for simplifying the way things are done for students, teachers and administrators at schools; also this can be extremely beneficial.

Swift technological innovation impacts school management. With social growth, technology also reaches the environment; school leaders face the means of integrating technology into meaningful learning activities, and the evaluation of technological usage at their schools. Leaders must meet the needs of teachers and recognize them, providing support in effective use of technology in classrooms. Furthermore, leaders have to be familiar with, and knowledgeable about the technology, which holds a detailed understanding of how and when technology can be used effectively in order to enhance student learning.

Administrative technological standards guide schools staff by developing and redesigning new courses and training experiences. But most efforts in professional development concentrated on teacher’s needs, with less regard to administrative needs. Nearly all school staff learned the tools and competencies of technology when they became employers, with irregular coaching given by various vendors, expert organizations, colleges, and

universities.

School administrators have a vital task to guide and facilitate the application and utilization of technology in schools, and they are one of the most leading factors to successful technology planning and implementation. " when administrators act as technology leaders, the teachers and students integrate and use technology more successfully"(1).

The following research questions guided the study:

Question 1: What is the relationship between the leader's skills and the proper use of technology in schools?

Question 2: To what degree do school staffs meet the technology standards for school administrators (TSSA)? The standards of: a. Leadership and Vision b. Learning and

Teaching c. Productivity and Professional Practice d. Support, Management, and Operations e. Assessment and Evaluation f. Social, Legal, and Ethical Issues.

Question 3: What is the impact of educational technology on the instruction in schools?

Question 4: What is the relationship of demographic background of the school staff and their technology leadership? Demographic Variables: a – age, b–Gender, c–school level, d– school location, e –school size, f– how many years they have been in the education field.

Literature Review

(1) System theory and characteristics:

Ludwig III von Bertalanffy founded this theory in 1928, and was used in many institutions. The system theory emphasize on the importance of having goals and reaching these goals in an organization.

The system is made up of four main elements, which are: inputs, processes , outputs , feedback.

The system is made up of four main elements, which are:

1) Inputs: that are resources, both human and capital are required to run an organization. Those resources need to be planned carefully, organized, motivated, and controlled to achieve the intended goals.

2) Processes: it refers to different guidelines and rules regarding resources usage. They provide a guideline and expectations of how diverse activities need to be carried; it provides structure to an organization. Without structure there will be disarray and chaos, and abuse of resources leading to subsequent failure of the organization in goal achievement.

3) Outputs: the services and products offered by the organization. Outputs of the system give justification for the worthiness of resources implemented in the system. Looking at outputs, objectives need revision in order to figure out if they are being achieved.

4) Feedback: these come from human resources carrying out the process (employees) and other diverse areas affected by the organization. It is done through measuring improvements with research in different aspects of the system. " It is very important for a system to have a control mechanism that ensures that information from the system output is evaluated against the stipulated goals of the system and provide feedback on this evaluation so as to further inform the inputs" (2).

The system theory gives new means of viewing management provok-

ing managers to look at their institution from a wider, broader perspective. According to this theory, it is of great importance to give attention to the interrelation of different components of their organizations and look at things broadly, as a bundle, and not one by one.

(2) Definition of technology

1) It is a physical component made up of items like products, equipment, tooling, techniques, blueprints, and processes.

2) The informational component which consists of the know-how in management, production, marketing, reliability, quality control, skilled labor and functional areas. Nowadays research on the shift of technology has linked technology with skills and additional interest is set to the process of research and improvement .By scrutinizing the technology definition, there are two basic components that can be identified: 1) 'knowledge' or technique; and 2) Process. "Technology is always connected with obtaining certain result, resolving certain problems, completing certain tasks using particular skills, employing knowledge and exploiting assets"(3). The perception of technology is not described as a product but it is also related with the facts or information about how to use it, apply it and the process in upgrading the product.

(3) Technology tools and their importance:

There is a lot of technology that can be used in learning for example: WebCT, Blackboard, publisher Web sites for online grading, clickers, tablet PCs, podcasting, instant messaging, text messaging by cell phone, Webcams, etc. Using these technologies will help increase the student engagement in classroom. Research has shown that "engaging the minds of the students during the class time draws the individual student into an active participant role in the learning process "4 . Differences across these technologies in the degree of student engagement are likely to exist.

(4) Relationship between system theory and E-technology:

For schools to be able to integrate technology effectively schools have to have a system that manages this technology and this system should know how to implement technology. The implementation of technology is very important in today's schools because it gives schools empowerment "in today's world, an institution cannot reach its educational goals without utilizing tetechnology" (5) . The planners should implement technology in a way that guides schools to reach its objectives and vision. " Technology management refers to the policies and practices that guide the use of technologies so as to optimize the tools in enhancing the capacity of a particular entity" (6).

On the other hand, " the process of international technology transfer is sometimes unsuccessful because in most cases the receivers do not have the skills to manage the technology effectively" (7) .Supervision systems must be one of the significant parts of technology exchange on the grounds because as the National Research Council says, technology supervision guarantees that mechanical capacities are utilized to form and accomplish operational goals of an association. Research has appeared for organizations to excel in using innovation, they need an administration structure that is resolved to administer the appropriate resources, excellent coaching and putting rules, research and advancement which are appropriate to the colleague requirements.

(5) Relationship between technology and education:

"Digital technologies seem to improve the outcomes of student teaching " (8).The apple classrooms of tomorrow (ACOT) reports that students a) understood and explained the ideas rapidly and in different ways; b) increased their social consciousness and self-esteem; c) exchanged information to others and explained complicated approaches effectively; d) were self-reliant students; e) were good cooperative learners; f) appreciated their skills and shared them; and g) knew the right way to use technology consistently(10).

(6) Relationship between technology and school staff leadership:

Thanks to the constantly changing technology, teachers are offered a lot of educational technology to be used in classrooms. School leaders/administrators have the most important job; it's because of them that educational technology can be implemented in an efficient way. A lot of educational departments tried to put plans in order to use technology in the correct fruitful manner, and to guide administrators in planning to integrate the educational technology that will increase their school's effectiveness, efficacy, and outcomes.

"Yet many school administrators are novice technology users and have little experience or training in the knowledge and skills required to be effective technology leaders"(9) .The leaders present in schools should always know the new updates in educational technology in order to guide teachers integrating the technology in classrooms.

(7) Development of school staff leadership competencies:

School administrators play an important role in facilitating technology use in schools and they are one of the keys to successful technology planning and integration"(8) ."When administrators act as technology leaders, the teachers and students integrate and use technology more successfully" (1).

The TSSA effort provided a framework for considering what school leaders must know and be able to do to ensure optimum benefit from technology use.

The TSSA work give a structure of the essential knowledge leaders should have including the appropriate way to use technology. The TSSA criteria are national standards among stakeholders of education .It provide criteria for an effective administrative leader that know and can use educational technology in a fruitful way. The following are the 6 criteria mentioned by the TSSA: leadership and vision—learning and teaching—productivity and professional practice— support and management, and operations—assessment and evaluation—social, legal, and ethical issues.

Methodology

Sample population:

A random representative sample of the school administrators, teachers and technology coordinators in Saint Joseph school will be used for the survey. School staff who will express their willingness to participate in the study will be provided with the copy of the questionnaire.

The researcher picked this sample population for a reason because the teachers and technology coordinators are in direct contact with the school administrators this will provoke an accurate and objective response about the technology leadership of the administrators in the Saint Joseph school.

Seventy four participants out of ninety one teachers and administrators were included in this study.

Study Tools

The researcher adopted a validated standardized two-part-questionnaire; it is designed and validated by the committee on research ethics at LIU, in order to be used in this study. In the first part of the questionnaire the data regarding demographic factors of respondents concerning their personal background, such as age, gender, school level, will be gathered. Part two will be dedicated to collecting respondents' opinion on TSSA skills. The questionnaire will consist of 35 rating scale matrix questions, for each of 6 competencies which are: These will be graded using a 5-point Likert Scale , to measure the frequency with which the respondents demonstrate 6 TSSA skills items.

The questionnaire is based on the following instruments: Social Skills Improvement System (SSIS) including: frequency analysis, descriptive analysis, and ANOVA test analysis.The data collecting and analysis took place during the last quarter of 2019.

1. Descriptive analysis – will investigate the skills and competencies of the participants including teachers, administrators and technology co-

ordinators in the six dimensions of the TSSA standards: a. Leadership and Vision b. Learning and Teaching c. Productivity and Professional Practiced. Support, Management, and Operations e. Assessment and Evaluation f. Social, Legal, and Ethical Issue.

2. ANOVA test analysis – To investigate the effect of the participant's demographic variables (Age, gender, years of experience, school level) on the six dimensions of the TSSA standards.

Interview questions for the elementary, middle, and high school teachers and technology coordinators that are with or against using technology in classrooms, were created after an in depth research of literature of the subject. The interview questions collected information about the use and the application of educational technology in classrooms.

Interviews are used frequently in educational research to collect data about phenomena that are directly observable, such as personal experience, opinions, values, and interests, as well as similarities across these phenomena .

Results

Descriptive Analysis of Participants Responses to the 6 dimensions of the technology standards for school administrators (TSSA) standards in the school staff:

This section comprise 35 items divided into 6 dimensions respectively on 5- point Likert scale with numerical values given for each response as 1= not at all ,2= minimally,3= somewhat,4= significantly, and 5= fully .The researcher planned to investigate to what extent school staff at Saint Joseph de l'apparition school practice leadership at their schools in the following 6 dimensions: (1)Leadership and vision, (2)Learning and teaching, (3) Productivity and professional practice, (4) Support, Management & Operations, and (5) Assessment & Evaluation, (6) Social, Legal & Ethical Issues.

In the following section, descriptive statistics for each dimension explain how effective the TSSA utilization is among the school staff.

Table 1: Descriptive statistics for the 6 dimensions of TSSA:

Six Dimensions	Mean	Standard deviation
Leadership and vision	3,78	0.5
Learning and teaching	3.32	0.18
Productivity and professional practice	3.56	0.12
Support, Management & Operations	3.70	0.02
Assessment & Evaluation	3.3	0.15
Social, Legal & Ethical Issues	3.74	0.07
Total	**3.56**	**0.17**

Result of the 6 Dimensions of technology standards for school administration:

Based on table 1 the results indicate that the mean and SD for the dimension of Leadership and Vision in the saint Joseph school was the highest among other dimensions (3.78) and the SD (0.5), this positive value is attributed to the skills that the TSSA standards has given to all the educational leaders in the Saint Joseph school that focused on having a similar vision for implementation of technology and making a climate that will permit the accomplishment of this vision.

The mean for the Learning and teaching dimension is (3.32) and the SD (0.18), this positive value demonstrate that the Saint Joseph school staff have strong skills and competencies in this area and that the educational

leaders are paying attention to the curricular design, educational techniques, and learning climate which will allow the proper technologies to enhance the learning and teaching, but they should work harder to excel in this dimension, by assisting teachers to integrate technology and by doing self-evaluation .

The mean of Productivity and professional practice is (3.56) and the SD (0.12), the Support, Management, and Operations have a mean of (3.70) and a SD of (0.02) , this positive value demonstrate that there is present a strong competencies and skills among the Saint Joseph school staff in the support, management and operation system which prove that educational leaders are integrating the technology in order to support productive systems for learning and administration. "The money and financial support are very important and they integrated it in their way to management technology" (11). For the Assessment and Evaluation the mean was the lowest among other dimension (3.3) which indicate that the school staff need to stress on developing the skills and competencies in this dimension; and for the Social, Legal, and Ethical Issues the mean is (3.74)and the SD is (0.07), this positive value demonstrate a high level of competencies among the Saint Joseph school staff at this dimension and that the educational leaders have a well knowledge of social, legal, and ethical problems and issues concerning technology use and implementation also they make responsible decision related to these issues by collaborating with an organization called "Wiznet" her mission is to raise awareness about social and ethical issues concerning the use of technology by doing a routine presentations for the students and staff." Students require to depart from the classroom to their responsibility they will have when they finish their schools and become employers, parents, and engage in society" (12).

To interpret the results the researcher took the total mean for all the 6 dimensions as a way to accept or reject the hypothesis (Table 1) . If the total mean is less than 3 then the H01 will be accepted , and if the total mean is equal or greater than 3 then H01 is rejected.

$H_0 1$: The school staff are not meeting the TSSA standards. The standards of: a. Leadership and Vision b. Learning and Teaching c. Productivity and Professional Practice. d. Support, Management, and Operations e. Assessment and Evaluation f. Social, Legal, and Ethical Issues.

Because the total mean for all the 6 dimensions is 3.56 (table 1). H01 hypothesis is rejected.

The researcher will accept the alternative hypothesis H11.

$H_1 1$: The school staff are meeting the TSSA standards. The standards of: a. Leadership and Vision b. Learning and Teaching c. Productivity and Professional Practice. d. Support, Management, and Operations e. Assessment and Evaluation f. Social, Legal, and Ethical Issues.

ANOVA Analysis:

In this sector, the researcher aim to study the effect of the participants demographic variables (Age, gender, years of experience, school level) on the following six dimensions: (1) Leadership and vision, (2) Learning and teaching, (3) Productivity and professional practices, (4) Support, Management and Operation, (5) Assessment and evaluation, (6) Social, Legal and Ethical Issues..

To analyze the results , the researcher used ANOVA test; it is a tool to find out if survey results are significant and it guide the researcher decide to reject the null hypothesis or accept the alternate hypothesis.

P-value is compared with α (error ratio = 5% i.e. 0.05).

If p-value < α → The researcher assumed the results are significant and vice versa.

The level of significance of the ANOVA test was taken as 0.05 , the results of hypotheses were as the following:

Table 2: Result of the Impact of the participant's demographic variables on the Factors of the Study.

Demographic Variables	Total P-value
Age group	0.035
Gender	0.227
Years as educator	0.064
School level teaching	0.147

Table 2 shows the results of the impact of the participant's demographic variables on the dimensions of the study . The results reveals that the participants age have a significant impact on the school staff technology leadership practices and skills in the six dimensions. In contrast, the participants gender , school level of teaching and years of experience have no significant impact on the school staff technology leadership practices and skills in the six dimensions.

Analysis of the Results

Analysis of the school leaders (teachers and technology coordinators) interviews revealed that the relationship between the leader's skills and the proper use of technology in schools depends on an important factor which is the professional training for the school staff, all teachers and technology coordinators believe that training have many advantages like acquiring the needed competencies for the proper and effective use of technology in the school and to be always updated on the newest technology used in classrooms.

Data taken from the interview of several teachers were grouped into 2 categories: (a) teachers that are against the use of technology and (b) teachers that are with the use of technology in classrooms. Analysis of the

interview of those 2 categories revealed the impact of the educational technology on the instruction in schools .

Analysis of category (a) revealed 3 themes: (1) Technology use save time on the teacher ,(2) the teacher will grasp the attention of his students (3) the students are happy and tend to better understand the information.

Analysis of category (b) revealed 4 themes: (1) students will be happy and encouraged to learn (2) If technology is used alone books will lose its value. (3) Arabic language is perished because students are using more the foreign language. (4) technology integration is time consuming.

Conclusions

" The TSSA standards are a god predictor for the effective integration of the technology in the curricula and it help the educational leaders to brighten up and/or advance the latest courses in school management programs" (9).

Evidence show that there is a positive impact for the TSSA appliance among the school staff including administration, principals and teachers on the skills and competencies in the following six dimensions: 1) Leadership and Vision 2) Learning and Teaching 3) Productivity and Professional Practice 4) Support, Management, and Operations 5) Assessment and Evaluation 6) Social, Legal, and Ethical Issues. Still the school must stress on the students assessment data usage in classrooms because it is missing in the evaluation process.

The results indicated that there is a relationship at the level of 0.05 between the demographic variable of age of the participants and their technology leadership. Plus , the results shows that there is no statistically significance between the demographic variable of the participants years of experience , school level and gender and the school staff technology leadership practices and skills in the six dimensions.

Also, the relationship between the leader's skills and the proper use of technology in school depends on an important factor which is the pro-

fessional training for the school staff, and that all teachers and technology coordinators believe that training have many advantages like acquiring the needed competencies for the proper and effective use of technology in the school and to be always updated on the newest technology used in class-rooms.

Analysis of the interview done with the staff that use technology revealed 3 themes: (1) Technology use save time on the teacher, (2) the teacher will grasp the attention of his students (3) the students are happy and tend to better understand the information.

Analysis of the interview done with the staff against the use of technology revealed 4 themes: (1) students will be happy and encouraged to learn (2) If technology is used alone books will lose its value. (3) Arabic language is perished because students are using more the foreign language. (4) tech-nology integration is time consuming.

The researcher deduces that the school staff is meeting the 6 dimen-sions of the TSSA standards and they are applying all the standards in their classrooms.

Recommendations

Training is crucial for developing adequate knowledge and skills to become effective leaders while using technology, so the school should aim to include continually a training program with the collaboration of several organizations like WIZNET. This will ensure the success of the school in the technology field.

Second, the school should continue to follow and apply the TSSA stan-dards while working with technology to guarantee that it is being used in the correct which will increase the learning outcome and maintain the school success.

Plus, the technology leaders in the school should include technology based evaluation systems for assessing students in all the departments, by pro-

moting and modeling best practices to use such systems, this will guide the teacher to be more efficient and productive.

Also they should assist and guide the teachers that don't use technology to use it for instructional purposes and for interpreting and analyzing student assessment data.

It would be beneficial for the school to extend the use of technology to all the teachers and school levels so that they further reach the schools' vision and goals ,and to help both students and school staff to ease their work and maximize their productivity.

Finally, the researcher recommend that the school principal use the TSSA standards questionnaire to evaluate the school staff annually so that they can maximize the implementation of those standards and to monitor their progress. This method will help in boosting the effectiveness and efficiency of the school staff because they will be responsible for their acquired knowl-edge and skills.

Appendix A

:Demographic Questions

What is your age?
24-29, 30-39, 40-49, 50-59, 60+

What is your gender?
Male, Female

What is your school level?
Elementary School, Middle School, High School

What is your school location type?
Rural, Urban, Suburban

What is your school size?
1-249, 250-499, 500-749, 750-999, 1000-1499, 1500 +

How many years do you have as an educator?
1-4, 5-9, 10-14,15-19, 20-24, 25-29, 30-34, 35-39, 40+

How many years do you have as a public school administrator?
1-4, 5-9, 10-14,15-19, 20-24, 25-29, 30-34, 35-39, 40+

How many years in your current position?
1-4, 5-9, 10-14,15-19, 20-24, 25-29, 30-34, 35-39, 40+

Appendix B

TSSA STANDARDS QUESTIONNAIRE

" Virginia Principals' Technology Leadership. Presented at the 64thannual meeting of the Virginia Middle and High School Principals, Conference ,Wil-liamsburg, VA" 13.

Average time to complete the assessment is about 20 minutes. Answer, please, each statement honestly, thinking about your likely behavior Please, circle the appropriate corresponding scale (One circle per each item only)

1- Not at all; 2- Minimally; 3- Somewhat; 4- Significantly; 5- Fully

I. Leadership & Vision

1. To what extent did you participate in your district's or school's most recent technology planning process?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

2. To what extent did you communicate information about your district's or school's technology planning and implementation efforts to your school's stakeholders?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

3. To what extent did you promote participation of your school's stakeholders in the technology planning process of your school or district?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

4. To what extent did you compare and align your district or school technology plan with other plans, including district strategic plans, your school improvement plan, or other instructional plans?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

5. To what extent did you advocate for inclusion of research-based technology practices in your school improvement plan?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

6. To what extent did you engage in activities to identify best practices in the use of technology (e.g. reviews of literature, attendance at relevant conferences, or meetings of professional organizations)?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

II. Learning & Teaching

1. To what extent did you provide or make available assistance to teachers to use technology for implementing and analyzing student assessment data?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

2. To what extent did you provide or make available assistance to teachers for using student assessment data to modify instruction?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

3. To what extent did you disseminate or model best practices in learning and teaching with technology to faculty and staff?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

4. To what extent did you provide support (e.g., release time, budget allowance) to teachers or staff who were attempting to share information about technology practices, issues, and concerns?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

5. To what extent did you organize or conduct assessments of staff needs related to professional development on the use of technology?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

6. To what extent did you facilitate or ensure the delivery of professional development on the use of technology to faculty and staff?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

III. Productivity & Professional Practice

1. To what extent did you participate in professional development activities meant to improve or expand your use of technology?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

2. To what extent did you use technology to help complete your day-to-day tasks (e.g., developing budgets, communicating with others, gathering information)?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

3. To what extent did you use technology-based management systems to access staff/faculty personnel records?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

4. To what extent did you use technology-based management systems to access student records?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

5. To what extent did you encourage and use technology (e.g., e-mail, blogs, videoconferences) as a means of communicating with education stakeholders, including peers, experts, students, parents/guardians, and the community?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

IV. Support, Management & Operations

1. To what extent did you support faculty and staff in connecting to and using district- and building-level technology systems for management and operations (e.g., student information system, electronic grade book, curriculum management system)?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

2. To what extent did you allocate campus discretionary funds to help meet the school's technology needs?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

3. To what extent did you pursue supplemental funding to help meet the technology needs of your school?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

4. To what extent did you ensure that hardware and software replacement/upgrades were incorporated into school technology plans?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

5. To what extent did you advocate at the district level for adequate, timely, and high-quality technology support services?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

6. To what extent did you investigate how satisfied faculty and staff were with the technology support services provided by your district/school?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

V. Assessment & Evaluation

1. To what extent did you promote or model technology-based systems to collect student assessment data?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

2. To what extent did you promote the evaluation of instructional practices, including technology-based practices, to assess their effectiveness?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

3. To what extent did you assess and evaluate technology-based administrative and operations systems for modification and upgrade?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

4. To what extent did you evaluate the effectiveness of professional development offerings in your school to meet the needs of teachers and their use of technology?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

5. To what extent did you include the effective use of technology as a criterion for assessing the performance of faculty?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

VI. Social, Legal & Ethical Issues

1. To what extent did you work to ensure equity of technology access and use in your school?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

2. To what extent did you implement policies or programs meant to raise awareness of technology-related social, ethical, and legal issues for staff and students?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

3. To what extent were you involved in enforcing policies related to copyright and intellectual property?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

4. To what extent were you involved in addressing issues related to privacy and online safety?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

5. To what extent did you support the use of technology to help meet the needs of special education students?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

6. To what extent did you support the use of technology to assist in the delivery of individualized education programs for all students?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

7. To what extent did you disseminate information about health concerns related to technology and computer usage in classrooms and offices?

Not at all	Minimally	Somewhat	Significantly	Fully
1	2	3	4	5

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