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ADMINISTRATIVE POLICY IN PRIMARY SCHOOLS IN THE ARAB SECTOR IN ISRAEL AS A RESULT OF THEIR ATTITUDES TOWARDS THE INTEGRATION OF THE NATIONAL ICT PROGRAM IN TEACHING

Habib Allah Soleman*
[*]West University of Timisoara, Romania

Corresponding Author:-
Email: swakhaled@gmail.com Telephone: +972552272488

Abstract:-

This study aims to examine the relationship between principals' policies in the Arab sector in Israel and their attitudes towards the integration of the national ICT program in teaching, their implementation of this policy and the integration of ICT in their schools, as well as their impact on the implementation of ICT among teachers. The study included 20 schools and 345 teachers and principals.

The results of the study indicate that the manager's positive attitude toward ICT improves the perception of teachers' responsibility and autonomy, while the perception of responsibility and autonomy among them significantly improves the implementation of ICT in practice.

INTRODUCTION

Since 2010, the Israeli education system has been implementing a multi-year national ICT program entitled "Adapting the Education System to the 21st Century". It aims to integrate information and communication technologies into organizational, pedagogic and social aspects of the school through the application of best pedagogy in a technology-based environment. As a response to the need and national goal in preparing graduates of the education system for the demands of the 21st century working world (Magen Nagar et al., 2014).

Despite the progress made in integrating computers into education, there is still a gap between the promise inherent in the information, the communication revolution and the reality in the schools of the Arab sector, which has been discriminated against for decades (Abu Asbah, 2007). In recent years, many teachers and students have confirmed that there has indeed been an increase in the use of computers within the classrooms due to increased access to them, teacher training, and computer-encouraging policies, but mainly through basic operations such as using a word processor for writing (Cuban, 2001).

Many factors influence ICT in the education system, such as teachers' attitudes, perceptions, abilities and beliefs towards digital environments and their role in teaching in these environments. These are key factors influencing the actual integration of ICT in the classroom in order to assimilate the processes of teaching change in De Freitas & Liarokapis schools, Selwyn, 2010).

The reasons for the difficulties in integrating ICT in the education system can be divided into two general categories: organizational and administrative factors and factors related to teaching staff.

An example of an organizational aspect is the structural and operational preparedness of the school to instill change. The prevailing assumption is that there can be no significant changes in the education process without structural changes, such as: distribution of classrooms, flexibility of the content of study units, adjustment of physical learning infrastructures and peripheral equipment, with reference to quality and availability (Davis & Venezky, 2002).

The school principal is a key factor influencing changes. Promoted programs encouraged by the principal are more likely to succeed so that the principal provides the vision, directs the teachers towards common goals and drives the necessary resources to promote change.

Many studies have indicated that projects and programs that are encouraged by the principal who have received their support have had very high chances of success, thanks to his involvement, which was perceived as increasing the seriousness of the project, providing psychological support and mobilizing the necessary resources (Marsh, 2001; Akay & Marsh, 2001; Levin, AL-Harbi 2014; and Gemrawi, 2013)

School principals, as strategic managers, need to explain the educational-pedagogic objectives of ICT to teachers in order to create general consensus by sharing information. To this end, school principals should stimulate creativity and set directions for teachers to implement ICT in their schools so that school principals are a critical factor in the success of the implementation.

Entities that interact with the school, such as the local authority and the Ministry of Education, influence the integration of technology in the school. It can be seen that the multiplicity of entities involved in the processes of change creates great complexity, and more than once the result is requirements that are not compatible with actual reality, simplistic solutions and inconsistency in performance (Fullan, 2006)

There are many obstacles that may limit the integration of ICT into educational institutions. For example, a growing number of students in the classroom, insufficient information and communication technology equipment, along with inadequate technical support and maintenance, include lack of incentives for teachers to employ ICT in their classrooms (Bingimlas, 2009).

This study examines the relationship between principals' policies in the Arab sector in Israel and their attitudes toward the integration of the national ICT program in teaching, how they implement this policy, and manage the integration of ICT in their schools and to examine the extent of their impact on ICT implementation among teachers.

1. The research question

What is the relationship between the principals' policy in Arab elementary schools in Israel and their attitudes towards integrating the national ICT program into teaching?

2. The research hypothesis

The principal's policy and the management of ICT integration in the school positively affect the perception of the importance and contribution of the ICT integration in elementary schools in the Arab sector in Israel.

3. The research method

The study population

The study population includes 345 teachers from 20 primary schools in the Arab sector in Israel, who participated in the ICT program in the 2009-2010 academic years. All teachers have a "computer for every teacher". The entire population in primary schools has a low-average socioeconomic status, and it is possible that not all students have computers at home. The schools have very active computer laboratories that enable students to experiment with online assignments together with the classroom teachers.

Table 1 shows the distribution of participants according to their background data.

Table 1: Description of the distribution of participants according to their personal and professional variables

Variable		N	%
Position	Principal	20	5.8
	Teacher	308	89.3
	ICT coordinator	17	4.9
Gender	Male	118	34.2
	Female	224	64.9
	No reply	3	.9
Age	15-35	80	23.2
	36-47	149	43.2
	48-66	116	33.6
Education	First degree	212	61.4
	Second degree	129	37.4
	Third degree	2	.6
	No reply	2	.6
Teaching diploma	Yes	342	99.1
	No	1	.3
	No reply	2	.6
Experience teaching	Less than 2 years	14	4.1
	2 - 5 years	27	7.8
	5 - 10 years	29	8.4
	10 - 20 years	78	22.6
	Over 20 years	190	55.1
	No reply	7	2.0
Years of management experience	2 - 5 years	5	1.4
	5 - 10 years	9	2.6
	10 - 20 years	7	2.0
	Over 20 years	3	.9
	No reply	321	93.0

4. The research tools

Use was made in this study of a structured questionnaire to describe the management process and the teachers', principals' and ICT coordinators' perceptions and attitudes towards this process and everything related to it.

The questionnaire was designed for the present study, and is based on the questionnaires of Archambult & Crippen (2009) and of Antonovsky & Blau (2009), in consultation with educators and ICT experts, all under the supervision and guidance of the instructors and ICT experts, with reliability as average inner consistency of 82α =0

- This article is part of a more comprehensive study and included 106 statements. Here, the questionnaire includes 75 statements from 106 in the original, relating to the above dimensions:
- Management policy and attitudes regarding the integration of ICT
- Method of managing ICT
- Attitudes towards integration of ICT in teaching
- Autonomy and responsibility in ICT management
- The success of the ICT management process

When each category consists of a number of items / statements, the answer scale for each statement is on a 5-point Likert scale. Level 1 indicates that the participant strongly opposes the statement, level 5 describes absolute agreement with the statement and levels 2, 3, and 4 describe intermediate levels. Table 2

Dimensions / categories of the questionnaire, statements and Cronbach's alpha values for the reliability of internal consistency

Table 2: The questionnaire dimensions/categories, statements and Cronbach's alpha values for reliability and internal consistency

Dimension	Statements	Cronbach's Alpha
Principal's policy & attitudes regarding integrating ICT	,77 ,77 ,54 ,15 ,11 ,10 ,40 ,11 ,10 ,01 ,8 ,7 ,4	10817
Manner of managing ICT	,51 ,50 ,51 ,17 ,18 ,11 ,11 ,47 ,48 ,88 ,14 ,08 ,07 ,74 ,78 ,87 ,87 ,85 ,81 ,84 ,88 ,81 ,80 ,74 ,57 ,58 015 ,011 ,014 ,018 ,78 ,77 ,75 ,71	10710
Autonomy & responsibility managing ICT	,71 ,71 ,81 ,51 ,41 ,85 ,88 ,81 ,15 ,11 ,14 ,18 ,07 011	10754
Successful managing ICT	78 ,77 ,75 ,71 ,78 ,71 ,70 ,14 ,18	10775
	71 ,57 ,58 ,17	10871

The reliability of the factors was examined using an internal traceability reliability test with Cronbach's alpha coefficient. The findings presented in the table above indicate well to very high reliability. Therefore, the factors were

constructed by calculating the average responses of the participants to the statements that comprise each category. Each participant received a value in each of the six categories, the value ranging from 1 to 5. A high value indicates that the factor was perceived higher.

5. Main findings

Table 3: Averages and standard deviations for the importance, functions and the contribution of ICT Integration in school and to the dimension of policy and ICT management, and Pearson's correlation coefficient among them (N = 345)

	Average	S.D.	r_p
Importance and contribution of integrating ICT	4018	500	***10775
Manner of managing ICT	8077	470	

P<0.001***

The findings presented in the table above indicate the very strong, distinct positive connection between the dimension of importance, roles and the contribution of integrating ICT in school, and the dimension of the manner of managing ICT (rp=0.776,p<0.001). This means that the more the participants relate importance and high contribution to integrating ICT the more integrating ICT will be managed directly and is more controlled and planned. The hypothesis is confirmed.

The hypothesis was examined amongst teachers, principals and coordinators separately.

Table 4: The averages and standard deviation for the dimension of importance, roles and contribution of integrating ICT in school, and to the dimension of policy and the manner of managing ICT among principals, coordinators and teachers, and the value of Pearson's coefficient between them (N=345)

Managing (N=345)

	Principals (N=20)		Teachers (N=308)		Coordinators (N=17)	
	Average	S.D.	Average S.D.	S.D.	Average	S.D.
Importance and contribution of integrating ICT	4040	4410	4018	1050	4075	1017
Manner of managing ICT	4011	1081	8074	1048	4015	1008
rp	***10884		10758***		*10887	

*p***, 1011<p10110<

Table 5: Regression coefficients for predicting the importance and contribution of integrating ICT in school according to the dimensions of the principal's policy and manner of integrating ICT in school

	B	S.E0	Beta	t
Principal's policy and attitudes	4150	1770	8110	***10158
Manner of managing ICT	5880	1710	4710	***80887
F(2,342)=261.288,p,10110<R5104%=[1]				

0.001***

The findings presented in the above table indicate the very strong positive distinct connection between the dimension of importance, of roles and the contribution of integrating ICT in school and the dimension of the manner of managing ICT (rp=0.776, p<0<001). This means that the more the participants relate importance and a significant contribution to integrating ICT, and more intelligently and planned, the hypothesis was approved

The findings presented in the table above indicate that the regression model for predicting the perception of the importance and contribution of ICT integration in the school by the dimensions of the principal's policy and the method of managing the integration of ICT in the school is a significant model (P <0.001) (F(2,342)=261.288, p<0.001). The two predictors together (the principal's policy and the manner of managing the integration of ICT in school) explain 60.4% of the importance of the variable of importance of the variable of the contribution of ICT integration in the school.

It was further found that the variable of the manner of managing ICT better predicts than the variable of the principal's policy in predicting the perception of the importance and of the variable the principal's policy in predicting the importance and contribution of ICT integration in the school.

6. Discussion

The findings of the study indicate that there is a significant positive correlation between the importance and contribution of the ICT integration in the school and the management of ICT; a significant positive relationship was found between the level of knowledge and skills of the participants in the use of ICT and their attitudes toward ICT integration in teaching. The principal's policy and the management of the integration of ICT in the school were found to positively affect the perception of the importance and contribution of the ICT integration in the school. A significant positive correlation was found between the attitudes of the participants towards the integration of ICT in teaching and the perception of influence on students' achievements; and a connection was found between the personal and professional characteristics of the participants and their columns regarding the integration of ICT into teaching. A significant positive

correlation was found between the degree of responsibility and autonomy of the participants and the success of the implementation process and the integration of ICT in school teaching.

The research findings also indicate strong and significant positive relationships between the perception of importance and the contribution of ICT integration in teaching and the management of the integration and implementation of ICT in the school according to the of the principals' perception ICT coordinators and teachers. The three stakeholders believe that ICT is of high importance and has many different roles and contributes greatly to the school on the didactic, pedagogic and organizational levels, and this is likely to affect the management of assimilation and integration of ICT in the school that will be more organized, planned and efficient.

The confirmation of the research hypothesis stems mainly from the importance of the role of the school principal as an educational leader for all intents and purposes, which shapes the consciousness of the teachers by raising the issue of the urgency of organizational change in the manner of assimilating ICT in their teaching. A school principal of this kind is a designer leader. Therefore, one of the most decisive factors in leading organizational change is the leadership style of the school principal. A large part of the leadership is nothing more than carrying out routine operations that are no different from those performed by regular non-leaders. Most routine activities enjoy an aura of importance when classified as those belonging to the "leadership". The importance of the manager's formal location is essential for such counterfeiting, which leads to a problematic situation in which it is difficult to distinguish between a leader and a manager. It is to be expected that a routine action performed by the principal and labeled as a leadership action will be a highly important and "magical" action. Most employees in various organizations will find it hard to convince other people that their actions, such as talking or even explaining, are special activities, so they are quite routine (Alvesson & Svenningsson, 2003). Shamir-Inbal & Kelly (2009) argue that the assimilation of ICT culture occurs when a large proportion of the school's teachers use ICT to construct meaningful activities related to the curriculum and school policies. Positive attitudes of teachers towards ICT contribute to ICT integration.

The teachers see the advantages of the computer and attribute importance to the expected difficulties (Nachmias, Meuduser & Farkash Baruch, 2009). Other studies have shown that pedagogical knowledge among teachers with positive attitudes toward ICT affects their teaching strategies and willingness to introduce change in their work (Shamir & Kelly, 2011).

The rationale underlying the need for teacher training in ICT stems from the fact that the acquisition of learning experiences while exposed to different models of e-learning, in addition to acquiring the essential skills for intelligent use of ICT, is most basic and essential for teachers to be more positive about ICT (Goldstein et al, 2010). This means that even if the teachers' initial attitudes towards ICT are negative, the exposure to ICT can lead to a positive change therein. According to Harris (2009), all professional developments are designed to induce change, whether small or systematic. As computers became essential to our daily lives, there was need for an expert to assimilate expertise in teaching technologies. Such an expert can fulfill a range of roles, such as providing technical assistance and training for teachers and students for professional development (Ausband, 2006). Providing professional training to teachers while providing tools for assimilating computers and information technology in teaching can certainly increase their level of self-confidence and competence in relation to technology (Yost, 2007). Teacher training is one of the most important courses in order to change its attitude towards teaching. All the findings of Shamir-Inbal & Kelly's study (2009) show that teachers' guidance in using ICT, using an intervention model for this purpose, led to a situation in which ICT became an integral part of classroom teaching. The rates of its use increased significantly. The facilitation process encouraged the teachers to help each other, while collaborating during the instruction, leading to the decline of the resistance shown by some of the teachers at the beginning of the process.

Teachers report a high level of anxiety that they feel about using ICT because students sometimes know the online environment better than they do (Balanskat et al., 2006). Computer anxiety is considered one of the three critical factors affecting attitudes toward computers and technology in general (the other two factors are the enjoyment of computers and the benefits perceived by users). The extensive research literature on computer anxiety has provided significant evidence for the existence of a link between computer anxiety and computer use (Czaja et al., 2006; Tomte, 2008), so the higher the level of individual anxiety among computerusers, the lower the level of use. The research findings further indicate a positive connection between the ease of use of computers and the perception of self-efficacy of users, a perception that lowers the level of anxiety from the computers tested and is negatively associated with their ease of use (Saade & Kira, 2007) according to Beckers, Wichertrs & Schmidt (2007)

The findings of this study also indicate that the principal's policy and the management of ICT integration in school positively affect their perception in the school. These findings coincide with the extensive research literature that clarifies that the principal's role as an educational leader has been gaining importance in recent years. The school principal is an educational leader for all intents and purposes, and his role is not limited to simple administrative administration. The principal is the key to the creation of an optimal education climate that provides teachers with an adequate opportunity to sustain effective teaching processes that bring about the most meaningful learning possible (Elmore, 2008; Hopkins, 2008). His support, encouragement and involvement in the process and assimilation increase the chances of successful integration, because it expresses the seriousness of the subject in his eyes (Fullan, 1998; Marsh, 2001). A principal, who gives importance to the assimilation and integration of ICT in his school, then leads the teaching staff to take an interest in assimilation and increases their willingness to experience the application and integration of ICT in teaching, creating a supportive climate that affects teachers' confidence and reduces their negative attitudes toward assimilation and integration.

It should be noted that in the literature, few studies have been found that examine the role of the principal as a leader in computerized change processes in the school. The researchers (Wiburg, 1994; Fullan, 1992) discuss the

importance of the principal in leading the online change at the level of explaining its importance and supporting the allocation of resources. Wasserman (2001) found that principals are not very much involved in school computerization. They update on the subject, provide resources, and do not encourage teachers to participate in the process. They solve short-term problems, and their activity is pointed but lacks a systemic approach.

7. Summary

The findings of the present study can be summed up in the fact that the management's positive policy toward ICT improves the perception of teachers' responsibility and autonomy, while the perception of responsibility and autonomy among them significantly improves the implementation of ICT in practice. In other words, on the practical level, the only variable that affects the actual implementation of ICT in teacher education is the degree of decentralization of authority to teachers and the granting of a free and autonomous hand to them to act as they see fit and to the best of their judgment in the educational field, without any strict restrictions or decisions. Thus, it can be argued that the findings of the present study clearly indicate the high importance of school leadership in bringing the assimilation of ICT from the districts to those acting. In addition, the findings of the study indicate that the teachers' attitudes toward ICT are based on three main factors: the school principal's policy regarding computerization, the extent of the knowledge and skills of the teachers of ICT, and, finally, the teachers' personal characteristics.

The findings of this study also show that teachers play a crucial role in the successful assimilation of ICT programs in schools (Melamed & Salant, 2010; Halverson & Smith, 2010; Kozma, 2008). The more successful the teachers' experience, the more their perceptions change, and they develop positive attitudes towards integrating ICT in class (Abou-Dagga & Huba,
1997). Therefore their beliefs and perceptions affect their readiness to adopt change in their methods of teaching teachers' influence their willingness to adopt changes in their teaching methods (Albion, 1999; Lim & Chai, 2008).

One may claim that as far as attitudes are concerned, ICT is perceived both by principals and by ICT coordinators and teachers as contributing to learning and as empowering teachers' abilities and performance, and policy that encourages furthering 21st century skills in general and integrating ICT in particular. It enables applying innovative aspects in teaching and learning and likely to lead to far-reaching pedagogic change.

Many school principals view ICT as an important component of the school, and even developed a local policy regarding its use. Considerable investment in computerizing schools, in computer communication infrastructure, and Internet connection.

When it comes to using ICT, it is important to provide teachers with technical support as needed and in a way that is immediately available in the lessons used in ICT. Otherwise, teachers will despair of using ICT, and will rarely include it in teaching and learning. Therefore, the school support organization should be adapted to the immediate needs of teachers, both at the technical aspect of ICT integration and at the pedagogic aspect.

As regards the use of ICT, it is important to provide teachers with technical support as needed and in a way that is immediately available in the lessons used in ICT. Otherwise, teachers will despair of using ICT, and will rarely include it in teaching and learning. Therefore, the school support organization should be adapted to the immediate needs of teachers, both in the technical aspect of ICT integration and in the pedagogic aspect.

In addition to teacher training, it seems that school management should be proficient in navigating and assimilating the use of ICT in the school. The study points to the importance of school principals as agents of change on the one hand, and their lack of expertise in the field of ICT in many cases, on the other hand.

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