Διεπιστημονικές Προσεγγίσεις στην Εκπαίδευση

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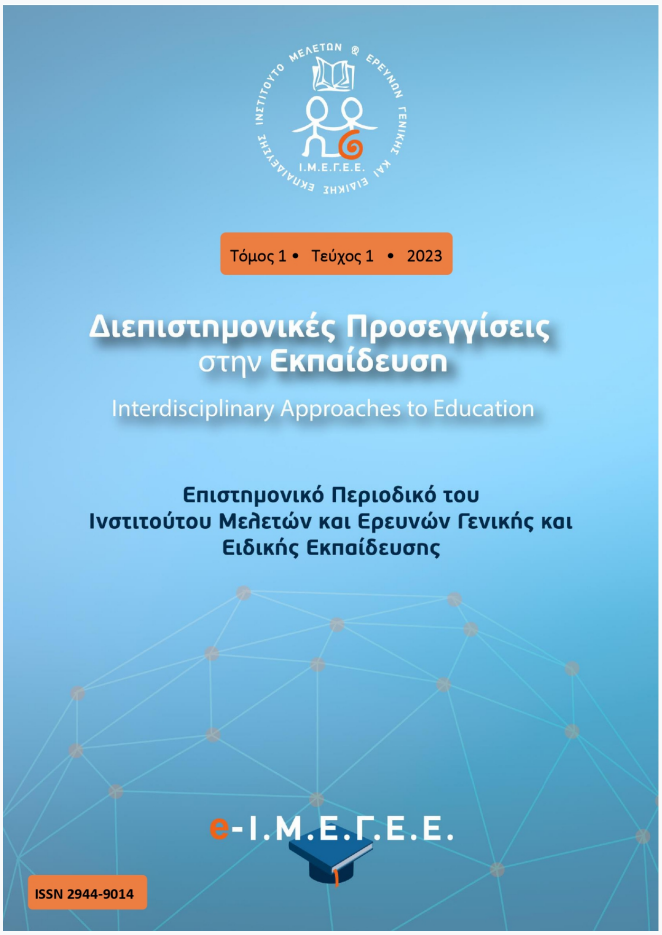

Οι Τ.Π.Ε. στη σχολική ηγεσία μονάδων ειδικής αγωγής

ΓΕΩΡΓΙΟΣ ΡΑΦΤΟΥΛΗΣ, ΔΗΜΗΤΡΑ ΚΟΝΙΑΡΗ

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ICT in school leadership of special schools

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ABSTRACT

This investigation has as its main purpose to detect the digital competence of principals of special secondary education schools with students with special educational needs (SEN from now on) in Greece. Furthermore, its main goal is to highlight principals' digital competence offering in their administrative issues. For the collection of the data relevant to the purposes of this research, the quantitative method using especially the method of survey and the questionnaire was mainly used. The questionnaire distributed to as much as possible principals of special secondary education schools of all regions of Greece. Due to Covid-19 as well as because of distance in kilometres, the questionnaire was sent online via Google forms. From the 198 principals that it was sent, 174 principals, finally, sent it back to us. As it has emerged from the analysis of the results, digital competence contributes significantly in principals administrative management helping them to save time and reducing the volume of documents ensuring their easy access to digital world.

KEYWORDS: Special education; principals, ICT, digital competence

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1. Introduction

No one can dispute that the world where we live, work and communicate has digitalized (Jackman et al., 2021). In this world, as better is the administration of every school unit, and especially of every special education school, so better it functions contributing, consequently, the maximum to every educational structure (Hatlevik & Christophersen, 2013; Pettersson, 2017). As Information Communication Technologies (ICT from now on) has entered rapidly to every school, principals, nowadays, are faced with new challenges (Pettersson, 2017; Zeike et al., 2019). In the century of information and technological explosion, the education must be adapted to new technological conditions so as not to be only an observer to developments but an active member (Ottestad & Gudmundsdottir, 2018). So, the importance of this article is to justify the crucial role that principals of special secondary education schools have to play in order to be able to be corresponded and adapted to new challenging conditions.

Particular significance must be given so as to the entrance of digital competence to school units by its leaders as well as to elimination of any type of discrimination in its gulf (Hatlevik & Christophersen, 2013; Pettersson, 2017; Zeike et al., 2019). In the age of digitalization, the education must be open and accessible to all students. Besides, it is the large bet that the modern education system and school unit must have to answer to it (Nanou, 2013).

1.1. The role of school leaders of special education schools in nowadays multicultural environment

The term of special education needs is referred to any educational intervention and support that must be given to those students who have medical, social and bio-psychosocial disorders (World Health Organization, 2007). These programmed interventions have no borders but they can take place wherever. Special education intervention is addressed to those students who have something “different from” or “additional to” those ones who are in the same age (Poulter & Timpson, 2015, p. 15).

Every democratic society must have in its centre the same rights and access to educational and social life for every citizen and student including, of course, every student with SEN (Stankovska et al., 2015).

In this complex framework, the role of every school leader is multidimensional as, except from its administrative role, every school leader has to promote a democratic culture where any kind of discrimination has no position (Pont, 2014).

1.2. Digital Competence

In Europe the term of digital competence that has emerged the last decade is referred to this competence that is necessary to our modern digitalized society (Hatlevik & Christophersen, 2013).

Additionally, to all roles that every school leader has, additionally, every effective school leader must provide the suitable competence, including digital competence to all students so as the last ones be adapted and corresponded properly to complex social- economic needs of our 21st century (Roblyer & Doering, 2014). ICT as well digital competence has modified, rapidly the pedagogical and administrative

approaches. In this framework, digital competence has changed the learning and teaching way (Area-Moreira et al., 2016).

Digital competence is defined as the creative, critical, and safe use of ICT so as to reach goals related to work, employability, learning, inclusion, and social participation (Ottestad & Gudmundsdottir, 2018).

According to Janssen et al.: digital competence is referred to the legal knowledge of its role (Janssen et al., 2013).

After all, digital competence rightly, was described as one of the eight key competence that every active citizen must to have in our 21st digitalized century(Guitert et al., 2020).

Digital competence is very important for directors according to Raftoulis, Prendes-Espinosa & Sanchez Vera (2021) refer, as it helps to the investigation of local needs facilitating the administrative issues.

2. Method

As it has been mentioned above, in this survey has been followed the quantitative method. The last one helps significantly the researcher to make general proposals for all the population that it is difficult to take part in a survey (Bhandari, 2020). The collected data is in numerical form and the analysis is been made through the use of statistics (Apuke, 2017).

In this survey- using the survey-type study- it is used the descriptive study that intends to explain and interpret the digital competence of school leaders (Tripodi & Bender, 2010).

2.1. Research problem- Research questions

The research problem of this survey is to analyse the digital competence of principals of special secondary education schools in Greece with students with SEN.

The research questions are the following:

- Is there any effect between the digital competence and the demographic elements of principals?
- How does it is connected the digital competence perception of principals the level of their self-assessment?
- In which extend does the digital competence of principals affect the extent to which they use ICT in school leadership?

2.2. Sample

In this survey took part the principals of as much as possible public special secondary education schools. Especially:

- 32 principals of united special vocational education gymnasium-lyceum,
- 31 of united special vocational gymnasium with lyceum classes,

- 17 of united vocational special gymnasium,
- 48 of special laboratories of professional education and construction,
- 46 of integration departments.

2.3. Instrument to collect data

The questionnaire was the main tool to gather and investigate the answers of the school leaders. The main advantage of the questionnaire is that it is not subjective but it reflects the reality related to participants behaviours and beliefs (Jain et. al., 2016).

The initial questionnaire was piloted by 20 principals and after was made some small corrections based on the principals' suggestions. The process of checking a questionnaire (Gay, 1996) is necessary in order to be detected omissions and make suggestions for further improvement.

2.4. The final questionnaire

The questionnaire modified a lot of times until to take its final form. The last one has the following parts.

Before the completing of the questionnaire, there is a cover letter that present and explain to participants the subject under investigation. Additionally, there is directions and clarifications related to the completion of this specific questionnaire. One of the most important part is the part that informs participants ensuring their anonymity.

The questions of first part are about personal information’s of principals.

The questions of second part are about their extend of agreement of using digital competence in school unit and their desire to use it, according to Likert scale.

The questions of third part of the questionnaire that is used the Likert scale is related to the extent of school principal’s agreement or disagreement according to the need of using digital competence in administration.

The questions of last part -where it is, also used the Likert scale- try to detect the self-evaluation of school leaders digital competence as well the factors that would be a mmotivating power to them. Moreover, it is a listed the factors that have a negative effect to them.

In this survey, the questions to participants are mainly closed. This type is suitable for statistical analysis providing important information’s according to the subject that is under investigation (Javeau, 2000).

2.5. Proceedings

This survey carried out during the period May-June 2020. As it has been mentioned, the questionnaires were sent in electronic form via Google forms to the mails of principals. Some questionnaires were given to those principals that were near to our place of residence.

Having gathering the questionnaires, we proceeded to the procedure of entering the data to statistical package SPSS 17 (Statistical Package for the Social Sciences, SPSS-Version 17.0).

The control of the questionnaires that has been made before their codification in which every question took a code number ensures that the questions are complete and accurate (Cohen & Manion, 1994; Moser & Kalton, 1977).

3. Results

In this survey took part 174 people. A percentage of 51% were men and 49% were women. The most school leaders are between 51-60 years old (53%).

The most of the participants of this survey have a postgraduate diploma (59%).

The most leaders have 24 years of educational service while the average of years in administration is 7.6.

At a rate of 93%, these school leaders have attended a special ICT training program. Digital competence of ICT as well as their educational utilization was both the most frequently attended training programs. At a rate of 40% they use the digital competence very often administrative issues.

Firstly, it is analysed the perception of their digital competence and its effectiveness in the school leadership as it is analysed in question 16. This specific question is consisted by twenty-one sub-questions. The overall average is 3,703 and the sub-averages of the statements range from 2.5 to 4.5. It proves a medium to very large influence of digital competence and its effectiveness in school leadership. Before their using, the questions were checked for their reliability, using Cronbach's alpha = 0.934 (Table 1). The reliability has proven to be excellent. The exclusion of question 16.3 were excluded, would increase slightly the reliability of the questions (Cronbach’s alpha= 0.951) (Table 2).

Table 1: The perception of digital competence and its effectiveness in the school leadership

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.934	.938	21

In table 2 it is seemed whether there is any correlation between digital competence of school leaders and the extend of using it in school leadership. So, a control it is made between the type of school (Q4) and the grouped answers of question group 17 about the usefulness of the capabilities of ICT in the school leadership, (mean.Q17).

Table 2: The managers' perception of digital competence and their degree of use it in school

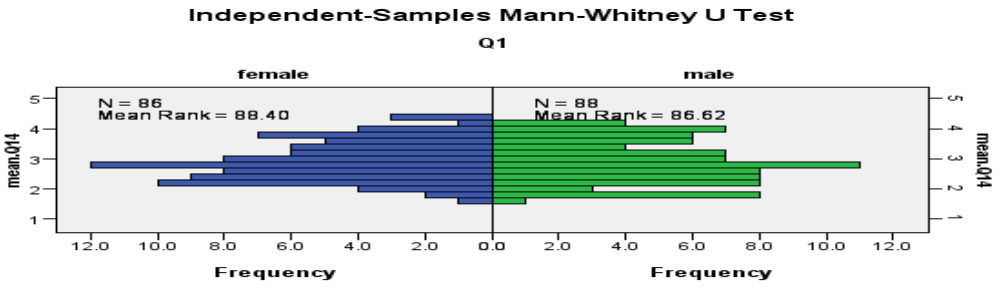
	Type of school where do you work (Q4)	N	Mean Rank
Do you find useful the following capabilities of ICT in the school leadership of your special education school with immigrant students?(mean.Q17)	Special Vocational High School	18	77.75
	Special Vocational High School with Lyceum Classes	31	89.98
	Special Vocational High School / High School	30	82.07
	Special Vocational Education and Training Laboratories	49	70.81
	Department of Integration	46	110.97
	Total	174	

Table 3: Chi-Square Tests: Frequency of use the perception of digital competence in school leadership by managers and their years of experience in using ICT

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	148.935[a]	9	.000
Likelihood Ratio	140.657	9	.000
Linear-by-Linear Association	98.222	1	.000
N of Valid Cases	174		

It has emerged that the value of p-value = 0.000. It is less than the significance level $\alpha = 0.05$. From the above analysis seems that there is a statistically significant dependence between these two questions. Consequently, there is a correlation between the frequency of use digital competence in school leadership and their years of experience in ICT (Table 3).

Continuing, it is examined whether there is any correlation between the gender of school leaders and their digital competence. For this reason, the gender (Gender, Q1) and the frequency of using digital competence for communication (mean.Q14) were checked.



Total N	174
Mann-Whitney U	3,861.000
Wilcoxon W	7,602.000
Test Statistic	3,861.000
Standard Error	331.847
Standardized Test Statistic	.232
Asymptotic Sig. (2-sided test)	.817

Figure 1: Independent- Samples Mann- Whitney U Test: The gender and the frequency of using the perception of digital competence

The value of p-value = 0.817, being greater than the significance level α = 0.05. So, there is no statistically significant dependence between the two questions, in other words. the gender is not correlated with the frequency of using digital competence in administrative issues (Figure 1).

Furthermore, it is important to be examined the correlation or not between the digital competence of school leaders and their level of self-assessment. For the above needs, it is checked the experience of school leaders in ICT (Q11) and the digital competence of them (Q15.1) (Table 4).

Table 4: Correlations: Years of experience and their self- assessment

			Years of experience in the use of ICT(Q11)	Perception of digital competenc e (Q15.1)
Spearman's rho	Years of experience in the use of ICT (Q11)	Correlation Coefficient	1.000	.626**
		Sig. (2-tailed)	.	.000
		N	174	174
	Perception of digital competence Q15.1	Correlation Coefficient	.626**	1.000
		Sig. (2-tailed)	.000	.
		N	174	174

**. Correlation is significant at the 0.01 level (2-tailed).

From the table 4, it is proven that the value of p-value = 0.000. It is less than the significance level $\alpha = 0.05$. Consequently, there is a statistically significant dependence between the two questions. Therefore as more years any school leader has in ICT so much better evaluates himself/herself better (cor coeff: 0.626).

4. Discussion and Conclusions

It is worth mentioning that in Greece there is no any other previous research about the digital competence of school leaders of secondary special education schools.

From all the above analysis we have concluded to the following: The large majority (52,3%) of school leaders of this survey are between 50-60 years old. Only a small percentage of 10,3% of leaders seems to be under 61 years old while only 6,3% of participants is under 40 years.

About their level of education, more of the half (59,2%) of the participants principals have a master diploma in contrast to little those of them (8,6%) have a PhD diploma. In this point, it must be highlighted that the level of studies affects positively their digital competence. Of course, those school leaders who have obtained a PhD diploma use more frequently their digital competence in administration. The two most important keys so as school leaders use more their digital competence are, firstly, their spherical training in digital competence issues without their own expenses as well the existence of adequate technological equipment.

Stuart et al. (2009) have examined the correlation between the digital competence and the intension of school leaders to obtain more knowledge. Unfortunately, it has been proved that principals must be digital leaders themselves on the other hand the most of them have not the suitable training so as to be feel certain with their use (Stuart et al., 2009).

In addition, the frequency of using digital competence rather than the gender of school leaders seems to be a crucial factor that affects the digital competence of leaders (Krumsvik et al., 2016).

Especially, in this survey it has been proven that a large majority of school leaders have adequate digital competence finding it necessary in the administration of school organization. Digital competence facilitates their school leadership. From the other hand, the type of special secondary school affects the digital competence of leaders.

Yuen & Ma (2002) claim that the gender plays a crucial role about the use of ICT. In the review article “Factors Affecting Teachers” Use of Information and Communications Technology: A Review of the Literature”, Mumtaz (2000), Christensen & Knezek (2008), Yuen & Ma (2002), Loveless, et al. (2011) are referred some demographic elements that affects the use of ICT. Cox et al. (1999) and Cuban et al. (2001) are referred to the same tensions according to the school administration. The research of Ferrari (2012) has driven to the same results.

The studies of Sipilä (2013), Howard (2013), Loveless et al. (2011) unfortunately, have concluded that teachers have no adequate digital competence despite the challenges of our digitalized society.

Krumsvik et al. (2016) came to the conclusion that the gender is a very crucial factor. In their survey it has been proved that women have more digital competence compared to men. Moreover, those teachers who have educational experience more than 15 years have lower digital competence. As it is reasonable, teachers of 50 years old and older have lower level of digital competence.

From this survey, has been highlighted that although the digital competence of principals is very crucial in their school leadership helping them to make faster their administrative tasks from the other hand the majority of them states that it is difficult for them to change their way of teaching and administrate.

The self- evaluation of digital competence can facilitate principals so as to introduce special educational models as well as to contribute to the opening of school unit to society. Afshari (2012) concluded that principals find ICT so helpful and important as it contributes positively so as to communicate better and fertile with the other teachers creating a friendly atmosphere.

This present study has led to interesting findings in a field where the available data is limited. However, it is distinguished by some limitations that are mentioned immediately below.

Firstly, one vital restriction of this survey is that it investigates only digital competence of principals and not and this of teachers of special and general secondary school units. Secondly, the questionnaire has distributed electronically. Regarding the methodology, a combination of qualitative and quantitative approach using interview as a method of collecting research data would probably provide a better understanding, highlighting additional areas related to the subject of this study.

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