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Investigating primary school quality using teachers’ self-efficacy and satisfaction

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Abstract: The current study aims to examine the impact of teachers’ job satisfaction and self-efficacy in improving service quality. The results, using clustering, indicated three groups of respondents according to their behavior, as teachers emphasizing on different aspects of marketing: external, interactive and internal marketing. Moreover, factor analysis, revealed that their satisfaction was affected by “Workplace Relationships with the Director and Colleagues”, “Educational Management”, “Social Recognition and Professional Development”, “Relationships with Parents and Students”, “Infrastructure” and “Working Conditions and Nature of Work”, while “Class and Students’ Relationships Management” and “Students’ Engagement and Educational Strategies” were influencing parameters of teachers’ self–efficacy.

Keywords: Teachers’ self-efficacy, teachers’ job satisfaction, service quality in schools, service marketing triangle.

JEL Classification: A20, P36, I2

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1 INTRODUCTION

In a highly competitive environment organizations implement marketing policies to increase business performance and customers satisfaction. At the same time, “the becoming business-like of nonprofit organizations (NPOs) is a well-established global phenomenon that has received ever-growing attention from management and organization studies” (Maier, Meyer, and Steinbereithner, 2014), making thus many non-profits to view marketing as a main activity. Since Kotler and Levy believed that marketing can be applied to social problems and organizations, which “perform marketing-like activities whether or not they are recognized as such” (Kotler and Levy, 1969:11), many remarkable changes have been made to nonprofit organizations. Also, designing and managing services has become critical over the last decades, with service firms trying to achieve excellence in marketing. According to Kotler and Keller (2012: 365) “Marketing excellence with services requires excellence in three broad areas: external, internal, and interactive marketing”. On the other hand, education is an intangible service (Shostack, 1977), with a wide latitude in its delivery from the contact personnel to the customers (Lovelock, 1983). Elboim- Dror (1970) investigated the intangibility of educational goals, as a distinctive characteristic of Education Policy Formation System, while many authors studied the intangibility of services in business world (McDougall and Snetsinger, 1990). Donlagic and Fazlic, used the SERVQUAL model to overcome the difficulties in assessing quality in education due to its intangibility, by using a multiple-item scale for measuring the gap between customer expectations and perceptions (Donlagic and Fazlic, 2015). Furthermore, teachers in primary education could be viewed as internal customers, with their level of job satisfaction becoming a vital part of the total school quality offered, because “Only if internal customer relationships work can the
quality of the outcome be excellent, thus creating satisfied, or even better, delighted external customers”. In other words, “the employees are viewed as a customer market and with the overall objective of enhancing the service quality” (Gummesson, 2000:28 qtd. in: Aburoub, Hersh and Aladwan, 2011: 109, 110).

Therefore, the implementation of basic service marketing principles in Public Primary Education, as a nonprofit service provider are being investigated in the current study. The aim of this research is to examine the impact of teachers' job satisfaction and self-efficacy in improving service quality in an educational environment. More specifically, the main purpose of the study is to investigate the factors influencing job satisfaction and self-efficacy in the case of a total sample of 193 teachers from primary schools in Chios Island, who responded to the self-administered questionnaire. Furthermore, the research explores the various clusters of the respondents according to their behavior, as teachers emphasizing on different aspects of marketing: external, interactive or internal marketing.

The research is organized as follows. Following this brief introduction, a general overview of teachers’ self-efficacy, teachers’ job satisfaction, school quality and service marketing triangle are presented in the literature review. The research hypotheses and methodology used in this study are then discussed. Results are outlined in the next section using univariate, bivariate and multivariate data analysis. Finally, conclusions, limitations and recommendations are considered in section six.

2 LITERATURE REVIEW

2.1 Measuring teachers’ self-efficacy

Since the first definition of self-efficacy as a person’s belief about his ability to succeed or accomplish a task in specific situations (Bandura, 1997; Valachis et al., 2009) several researchers implemented teacher efficacy. Skaalvik and Skaalvik (2010) claim that teacher self-efficacy is related to instruction, motivating, adapting, discipline, cooperating, coping. Chen and Yeung (2015) identify three categories of influential factors for teachers’ self-efficacy: a) teacher factors (language, pre-service teaching training, experience, understanding of students) b) student factors (students’ responses, classroom discipline, motivation, student–teacher relations, age) c) contextual factors (culture, influence from other teachers, class size, resources). Poulou (2003) identifies personality, skills, motivation, preparation, enactive mastery, vicarious experiences, social, verbal persuasion, physiological state and university training as sources of teachers’ self-efficacy. In addition, internationally recognized instruments measure teachers’ self-efficacy. TSES - Teachers’ Sense of Efficacy Scale - (Tschannen-Moran and Hoy, 2001 qtd. in: Duffin, Patrick and French 2012) shows three areas of teaching efficacy: a) classroom management, b) student engagement and c) instructional strategies. PSES – Principals’ Sense of Efficacy Scale - (Tschannen, Moran and Gareis, 2004, qtd. in: Isik and Derinbay,2015) consists of three subscales: efficacy for management, efficacy for instruction, and efficacy for moral leadership.

2.2 Measuring teachers’ job satisfaction

Locke (Locke, 1976 qtd. in: Sempane, Rieger and Roodt, 2002: 23) defines job satisfaction as “a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences”. Many factors, environmental and personal, have been investigated concerning their effect to job satisfaction. Personal factors include: gender (Tefera, 2016; Msuya, 2016), age, years of service in public education (Saiti and Papadopoulos, 2015; Msuya, 2016) and marital status (Muhanji, 2017; Msuya, 2016; Lyons, & Branston, 2006). Giagometti (2005) support that teachers’ job satisfaction depends on: a) compensation and benefits, b) preparation in teaching curriculum, managing and accessing students, c) school and community support, d) culture shock, e) instructional support and f) emotional factors. Grammatikou (2010) claims that infrastructure, superior management, relationships with manager, school climate, relationships with students and parents, and professional development influence teachers’ job satisfaction. Antoniadi (2013) agrees with Grammatikou and adds working hours and salary. Korb and Akintunde (2013) stated that salary, principal – teacher relationship, instructional materials, teaching as a last resort career, attitude toward the teaching profession and social contribution are related to teachers’ job satisfaction. Nganzi (2014) identify three factors of teachers’ job satisfaction: personal growth and development, recognition and encouragement, and opportunities to meet personal goals. Moreover, international recognized instruments measure job satisfaction. JDI - Job Descriptive Index (Smith et al. 1969, qtd. in: Kinicki et al., 2002; Gholami et al., 2012) measures five factors: work, supervision, pay, co-workers and promotion. Additionally, “salary, promotion, supervision, fringe benefits, contingent, rewards, operating procedures, co-workers, work and communication” are work factors included in JSS - Job Satisfaction Scale (Spector, 1985, qtd. in: Saane et al., 2003:194).

2.3 Service quality in schools

A vast literature on service quality conceptualization and dimensions has been used during the last decades, defining quality as “fitness for use” (Juran 1988: 21), or “conformance to requirements” (Crosby 1979, qtd. in: Elshaer, 2012:4). Gronroos (1984) investigated service quality in three dimensions: functional, technical and image and states that the quality of service depends on two variables: the expected and perceived service. SERVQUAL, a widely used method to assess service quality comparing customer’s perception with expectation, suggested five dimensions to describe quality: reliability, tangibles, responsiveness, assurance and empathy (Parasuraman, Zeithaml and Berry, 1985; 1988). Since then, SERVQUAL scale has been used in service organizations in the context of education, as a basis for continuous monitoring of service quality, which provides a framework about students’ expectations and perceptions of teaching quality (Sigala & Christou, 2003; Oliveira and Ferreira, 2009; Çerri, 2012; Beaumont, 2012; Yousapronpaiboon, 2013; Krismanovic, Horvat and Ruso, 2014; Fu & Kapiki, 2016; Nair & George, 2016; Chatzigeorgiou et al., 2017). In other words, education institutions can improve their services and decrease the gap
between their students’ expectations and perceptions, considering that “Education services are often intangible and difficult to measure, since the outcome is reflected in the transformation of individuals in their knowledge, their characteristics, and their behavior” (Tsinidou, Gerogiannis, and Fitsilis, 2010: 227).

2.4 The service marketing triangle and marketing mix in education

The use of marketing principles in education sector is not something new. The importance of marketing in student recruitment have been recognized by many authors. Cubillo et al. (2006) identified the parameters influencing students’ decision making process of international students, while (Ivy, 2008), investigated the implementation of the traditional service marketing mix (7Ps) in the selection of a specific business school. Furthermore, the service marketing triangle of Kotler and Armstrong (2006, qtd. in: Kotler and Keller, 2012) describes the developing relations among the provider and the external customer (external marketing), the external and the internal customer (interactive marketing) and the internal customer and the provider (internal marketing). The combination of external marketing, which “describes the normal work of preparing, pricing, distributing, and promoting the service to customers”, internal marketing, which “describes training and motivating employees to serve customers well” and interactive marketing, which “describes the employees’ skill in serving the client” constitutes marketing excellence with services (Kotler and Keller, 2012; Christou, 2013; Nella & Christou, 2016). Bellaouaied and Yavad (2012), investigated the effect of internal marketing on customer orientation to the contact employee, which in turn affects service quality. In a similar way, Dabhade and Yavad (2013) concluded that marketing triangle plays an important role in services organizations, with external customers being connected to internal services between the different functions of a service provider.

3 RESEARCH HYPOTHESES

The literature review, presented on the earlier sections, led to the formation of the following hypotheses:

H1: Internationally recognized indicators determine teachers’ self – efficacy: a) students’ engagement b) instructional strategies c) classroom management.

H2: Internationally recognized indicators determine teachers’ job satisfaction: a) infrastructures b) sources c) nature of work d) working conditions e) school management f) school climate g) job status h) job perspectives.

H3: Teachers’ Personal characteristics such as work position, family status, teachers’ studies and working experience affect their job satisfaction.

H4: Internationally recognized indicators of service quality determine school quality: a) security b) reliability c) responsiveness d) empathy e) tangibility.

H5: Teachers can be grouped in three different types, according to achieving excellence in external, internal and interactive services marketing.

All the above hypotheses were used to investigate the purposes of the current research. In particularly, the last one could be associated with the implementation of service marketing triangle in education and school reality. More specifically, external marketing in education describes the relationships between the “Regional Directorate for Primary Education” and “students with their parents”. Similarly, interactive marketing describes the relationships between “teachers” and “students with their parents”, while internal marketing describes the relationships between the “Regional Directorate for Primary Education” and “teachers” (Figure 1).

Figure 1. The service marketing triangle in education

Source: An adapted form in Education from Kotler, P., Keller, K. L. (2012), Marketing Management, p. 365

4 METHODOLOGY

The questionnaire design has been the result of an extensive review of the relevant international and Greek literature, which was presented in the previous sections. At the same time, questions have been adjusted to reflect the current educational system in the frame of economic crisis as well as students’ and teachers’ needs according to daily school reality.

On the ground of this theory, the current study was conducted through structured questionnaires, in teachers of primary education in Chios Island, Greece, in both urban and rural areas, during the period from 1/5/2016 to 30/6/2016. Participants were asked to complete a 74-item questionnaire divided into 4 parts: The first part included 7 items about personal characteristics: sex, age, family status, studies, work position (principal, teacher etc.), work commitment (permanent / non-permanent staff.) and work experience. The second part included 16 items about school quality (e.g. modern equipment, facilities, understandable and up to date material, willing and helpful personnel etc.). The third part included 18 items about teachers’ self – efficacy (e.g. help my students make friends, work out a problem, establish positive relationships among students etc.). The fourth part included 33 items about job satisfaction (e.g. satisfaction with the building facilities, the working relations and working conditions etc.). The above items are presented analytically in table 3. At the end of the second and fourth part there were two general questions. The first one measured the extent to which teachers’ quality assumptions are reaffirmed in school reality. The second one measured teachers overall job satisfaction, by asking them whether they would suggest their profession to young people or not, in a 5-point Linkert type
scale, ranging from (1) = totally disagree to (5) = totally agree.
For the purposes of the current research, a sample of 193 teachers in a total number of 420 has been used, resulted in a response rate of approximately 46%, which was quite satisfactory to proceed with the findings (Skapinaki, 2016; Skapinaki and Salamoura, 2018).

5 RESULTS

SPSS version 23.0.0 was used for statistical analysis of the survey data: univariate, bivariate and multivariate data analysis.

5.1 Demographic Profile

Participants were mostly women (75.26%), permanent in their work position (70.1%), teachers of Primary Education category: 70 (74.74%) (Teachers P.E. 70 = teachers for all classes and lessons apart from English, French, Gymnastic, New Technologies), graduates of higher education universities (69.07%). Table 1 presents analytically the demographic profile of the respondents.

Table 1. Teachers’ demographic profile

<table>
<thead>
<tr>
<th>Gender</th>
<th>Marital status</th>
<th>Education Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Male</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Female</td>
<td>Female</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Work Commitment</td>
<td>Divorced</td>
<td>5,155%</td>
</tr>
<tr>
<td>Permanent</td>
<td>Permanent</td>
<td>Doctorate degree</td>
</tr>
<tr>
<td>Non-Permanent</td>
<td>Non-Permanent</td>
<td>22-30</td>
</tr>
<tr>
<td>Work Position</td>
<td>Work Position</td>
<td>5-10</td>
</tr>
<tr>
<td>Basic lessons</td>
<td>Basic lessons</td>
<td>5-10</td>
</tr>
<tr>
<td>Secondary lessons</td>
<td>Secondary lessons</td>
<td>16-20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20+</td>
</tr>
</tbody>
</table>

At first, Cronbach Alpha Test (Table 2) tested the internal consistency of our variables. More specifically, the Alpha coefficient for the sixteen items of our first basic variable - school quality - was .917, for the eighteen items of our second basic variable - teachers’ self-efficacy - was .926 and finally for the thirty three items of the third basic variable - teachers’ job satisfaction - was .939. The above values were close to the desired limits (quality’s KMO: .920 and sphericity sig: .000 <0.05, self–efficacy’s KMO: .945 and sphericity sig: .000 <0.05, satisfaction’s KMO: .906 and sphericity sig: .000 <0.05). To test the statistical significance of factors and determine the number of factors loadings we used Maximum Likelihood Extraction Method. Factor characteristics were simplified by Varimax Rotation Method due to preserving their authenticity and focusing on major items.

As it can be seen in the following table, factor analysis resulted in ten factors. The first two, “Reliability” and “Tangibility” were related to school quality and explain almost 61% of the variance of the original fifteen items. These two factors are bibliographically verified in SERVQUAL model (Parasuraman et al., 1985; 1988) and in SERVQUAL questionnaire for education (Oliveira and Ferreira, 2009) and they were included in our fourth hypothesis. The only unverified factors according quality were: “Security”, “Responsibility” and “Empathy”. “Security” probably was not mentioned because it is regulated mostly by curriculum orders that cannot be changed by teachers’ efforts. As far as it concerns the “Responsibility” we suppose that it was not revealed as a separate factor, because it was concluded in the reliability factor - in fact many questions of our questionnaire detecting teachers’ level of responsibility are included in the field of reliability. Finally, “Empathy” with the meaning of customization probably was not mentioned because personalization is already consisted as a fact in primary education where different classes, educational techniques and methods make each lesson a different experience for every student. The next two, “Class and Students’ Relationships Management” and “Students’ Engagement and Educational Strategies” were related to self–efficacy and explain almost 59% of the variance of the original eighteen items. These factors are also bibliographically verified and internationally recognized in self-efficacy’s measurement tools such as TSES (Tschannen-Moran and Hoy, 2001 qtd. in: Duffin, Patrick and French 2012) and PSES (Tschannen, Moran and Gareis, 2004, qtd. in: Isik and Derinbay, 2015) and they were included in our first hypothesis. The other factors, “Work Place Relationships with the Director and Colleagues”, “Educational Administration and Management”, “Social Recognition and Professional Development”, “Relationships with Parents and Students”, “Infrastructural” and “Working Conditions and the Nature of work” were related to job satisfaction and explain almost the 68% of the variance of the original thirty-two variables. The above factors are bibliographically researched as internal and external factors of job satisfaction and they are measured by certified tools, such as JDI (Smith, Kendal and Hulin, 1969, qtd. in: Kinicki et al., 2002) and JSS (Spector, 1997, qtd. in: Saane et al. 2003: 194) and they were included in our second hypothesis. The only unverified factor from hypothesis 2 was: “Sources”.

5.2 Multivariate Data Analysis

5.2.1 Factor Analysis

Factor analysis was conducted to summarize the determinants of our basic variables. The suitability of our data was checked by Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett’s test of sphericity. Again, values varied to the desired limits (quality’s KMO: .920 and sphericity sig: .000 <0.05, self–efficacy’s KMO: .945 and sphericity sig: .000 <0.05, satisfaction’s KMO: .906 and sphericity sig: .000 <0.05). To test the statistical significance of factors and determine the number of factors loadings we used Maximum Likelihood Extraction Method. Factor characteristics were simplified by Varimax Rotation Method due to preserving their authenticity and focusing on major items.

Table 2. Cronbach’s α (alpha) reliability test

<table>
<thead>
<tr>
<th>School Quality</th>
<th>Teachers’ Self-efficacy</th>
<th>Teachers’ Job Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
<td>N of Items</td>
<td>Cronbach's Alpha</td>
</tr>
<tr>
<td>.917</td>
<td>16</td>
<td>.926</td>
</tr>
</tbody>
</table>
Perhaps, economic crisis and limited educational investments forced teachers to focus more on the existing “Infrastructures” than to “Sources” as a factor of their satisfaction. Consequently, all the above factors confirm our first, second and fourth hypotheses about the multidimensional structure of our variables (Table 3).

Table 3. Factor analysis rotated component matrix

<table>
<thead>
<tr>
<th>School Quality</th>
<th>Self-Efficacy</th>
<th>Job Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern Equipment</td>
<td>0.49</td>
<td>-0.01</td>
</tr>
<tr>
<td>furniture</td>
<td>0.31</td>
<td>-0.02</td>
</tr>
<tr>
<td>Teacher's Vintage</td>
<td>0.48</td>
<td>-0.02</td>
</tr>
<tr>
<td>Parental Support</td>
<td>0.47</td>
<td>-0.03</td>
</tr>
<tr>
<td>Students Engagement</td>
<td>0.43</td>
<td>-0.03</td>
</tr>
<tr>
<td>Teacher's Behavior</td>
<td>0.35</td>
<td>-0.04</td>
</tr>
<tr>
<td>School Environment</td>
<td>0.36</td>
<td>-0.02</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>0.30</td>
<td>-0.01</td>
</tr>
</tbody>
</table>

In addition, the Independent Samples t-Test allowed us to associate factors of teachers’ job satisfaction with demographics through comparing the means of two independent groups. However, the assessment of the normality of our data was a prerequisite for the following tests. Considering that t-test requires approximately normal data we tested the data’s normality firstly using the Kolmogorov-Smirnov test, later the Levene Test for Equality of variances and finally t-test for Equality of Means. Non-parametric Mann Whitney test was used as an alternative for data failed the assumption of normality. As it can be seen in Table 4, the revealed correlations verify Tefera’s (2016), Msuya’s (2016), Saiti’s, Papadopoulos’ (2015) and Muhanji’s (2017) theories about demographics and job satisfaction and our third hypothesis.

5.2.2 Cluster Analysis

Cluster analysis grouped our data in such a way that respondents in the same group were more similar to each other than those in other groups. Hierarchical and k-means clustering were used to determine the number and the characteristics of the groups respectively (Christou, 2003). Consequently, the first cluster could be defined as teachers emphasizing on “external marketing”. The second cluster includes seven factors, which are related to teachers’ job satisfaction, teachers’ self – efficacy and school quality. More specifically, it reflects the correlations among the environment (Tangibility, Infrastructure), the people (Reliability, Class & Students Relationships Management, Students Engagement & Educational Strategies, Workplace Relationships with the Director and Colleagues) and the processes (Social Recognition & Professional Development). Consequently, the second group could be defined as teachers emphasizing on “interactive marketing”. Finally, the third cluster includes one factor “The educational Administration and Management”, that involves how satisfied teachers (internal “customers”) are with the rat of school buildings, the number of school units (internal place), the income’s management (internal price), the conditions in the workplace, the rate and number of changes, the career alternatives (internal product and promotion). Consequently, the third group could be defined as teachers emphasizing on “internal marketing”. These three types of relations between the service provider and the internal and external “customers” of
the service confirm our fifth hypothesis, Kotler’s and Armstrong’s (2006) theory about marketing triangle and the marketing mix.

6 CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The current study explored the implementation of marketing in primary educational services. More specifically, the interrelations between teachers’ self-efficacy, teachers’ job satisfaction and school quality were investigated in the case of 193 teachers in Chios Island. The survey revealed that “Class and Students’ Relationships Management” and “Students’ Engagement and Educational Strategies” were key factors affecting teachers’ self-efficacy. In addition, teachers’ job satisfaction can also be determined by factors, such as “Workplace Relationships with the Director and Colleagues”, “Social Recognition and Professional Development”, “Relationships with Parents and Students”, “Infrastructure” and “Working Conditions and Nature of Work”, with a percentage of 54.64% of teachers in Chios Primary Education being satisfied with their job. Furthermore, “Reliability” and “Tangibility”, highlight what teachers regard as important to their expectations about service quality were verified in school reality. Apart from the above factors, socio-demographic variables such as work relationship, marital status, education level and experience affect job satisfaction in public primary schools in Chios Island; similar findings were identified by other researchers at different cultural settings (Christou & Nella, 2010). Primar et al, 2019). Moreover, cluster analysis indicated three types of teachers according to their behavior, as teachers emphasizing on different aspects of marketing: external, interactive or internal marketing.

While this paper is a preliminary study, an indication for further research would be to extend it to a larger sample from other schools, or with parents to compare the total level of their satisfaction with the findings from the current research. This will reinforce the implementation of marketing in an educational environment (Fotiadis, 2018). The above findings have implications for teachers and education managers, as it can considered as a proposal to harmonize education with the needs of modern times. As education service is fundamental to a country’s development, annual surveys should be planned from the government educational policy makers to highlight not only teacher’s self-efficacy and satisfaction, but also students’ and parents’ satisfaction and school quality. Considering that public primary education is an NPO, which incorporates interactions between these three parties one can better understand that “organizations are best understood as embedded within communities, political systems, industries, or coordinative fields of organizations” (Feeney, 1997, qtd. in: Eikenberry and Kluver, 2004: 133).

REFERENCES


