

## **Service Quality in Pedagogical Training Programs on SERVQUAL base Model**

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### **Abstract**

*Teachers in order to offer and upgrade the quality of their work require to receive high quality educational services during their initial and continuing training. High educational service quality is being achieved by a customer-oriented approach. The core base of this customer-oriented approach is teachers' expectations in which educational institutions should rely on. Investigation of quality services, in a pedagogical training program, was the main target of this paper. 101 teachers participated in the survey. From the gap analysis emerged that the perceptions of learners, in relation to their initial expectations, regarding the quality of educational services, outnumbered in all quality dimensions of the measuring tool, with that of "Assurance" (-0.18) and "Responsiveness" (-0.16) to present the highest deviations. However, overall candidate teachers seemed satisfied with the services provided as the weighted index EppaikQual (-0.12) was borderline negative.*

**Keywords:** Servqual, Public Administration, Quality Teachers' Training

### **1. Introduction**

In the early 1970s, in the United States of America, a new model of organization and administration of the public sector emerged, the New Public Management (NPM) (Osborne & Gaebler, 1992). This model seeks the success of an organization through a long-term planning and a dynamic targeting, focusing on results (Gurova, Piattoeva & Takala, 2015). It is an attempt by the public administration to improve its services by means of techniques of the private-business sector (Denhardt & Denhardt, 2000), which rooted on the basis of the theories for market-oriented administration, as such an approach appears to improve public performance (Walker, Brewer, Boyne & Avellaneda, 2015). The use of an outcome-oriented administration method in public sector was gradually adopted by OECD members to achieve more economical, efficient and effectiveness operation and to correct possible malfunctions (Brignall & Modell, 2000).

In Greece up until recently, public sector focused on a bureaucratic approach of administration without emphasizing on outcomes (Michalopoulos, 2016; Zervopoulos & Palaskas, 2010). However, such an approach in the light of the current economic conditions and the competitiveness of the broader environment in which the public is operating could not make it feasible to meet the requirements of its mission. Therefore, the adoption and the establishment of measuring performance models as key elements for new public management appear to be a way of administration that can respond to global and local political, economic, and social developments (Karkatsoulis, 2004).

The "product" of the public sector is service, service is defined as "Any action or benefit that can be offered to someone else, which is essentially intangible and does not aim at owning anything" (Armstrong & Kotler, 2009:313). The quality service definition has strongly occupied the scientific community, due to the difficulties that exist both in the definition of the concept of quality and in the way of measuring it (Wisniewski, 2001). The concept of quality in the public sector concerns the provision of a service with a set of characteristics/properties that meet and satisfy, in a sustainable manner, the expectations of the citizens/customers as well as, the expectations of all other parties involved and finally the specifications/requirements of the law. Likewise Zeithaml, Parasuraman and Berry (1990) defined the quality of the services as the degree of coincidence between the expectations of a receiving service (before receiving) and the perception someone forms (after receiving).

If, therefore, the customers' perception of the "consumption" of a service is greater than his/her expectation, then the service provider satisfies the customer and the company achieves a competitive advantage (Rosen, Karwan&Scribner, 2003).

Pedagogical and teaching competency programs are educational services that are part of the tertiary sector of the economy, that is, the provision of services. In this field, the emphasis is placed on the recognition and understanding of the expectations and the perceptions of customers who are the recipients of these services (Jones&Shandizo, 2015), and in the case of training programs this role is performed by candidate teachers (Oliveira&Ferreira,2009). Therefore, we can consider trainees as the "customers" who undergo the experience of the services of the training programs provided by a public education institution. By exploring their expectations and perceptions, it is possible to assess the quality of the educational services provided, in our case by theSchool of Pedagogical &Technological Education (ASPETE).

ASPETE is a public tertiary educational institution which offers complementary to its undergraduate programs, a self-funded program named Pedagogical Training Program (EPPAIK), lasting two academic semesters. This program is aimed at candidate teachers and is offered in twelve cities in Greece. ASPETE as a public educational institution in the framework of the New Public Management is called to adopt result-oriented management systems (Tolofari, 2005) and to implement a strategic plan based ontrainees'satisfaction (Gunter et al.,2016). The purpose of our research is to measure the quality of educational services inEPPAIK, which has been one of the most popular educational training programs in Greece for many years.

## 2. Measuring service quality with Servqualmodel

One widely used methodology for measuring service qualityin many public and private organizationsis Servqual, which is the measuring tool adopted in the context of this work. The Servqual, creation of Parasuraman, Zeithaml and Berry in 1988, is a part of the philosophy of new public management tools that measure service quality. Its purpose is to act as a diagnostic tool to reveal broader areas of strengths and weaknesses in the quality of services in a business-organization. Therefore, using the Servqualtool, service quality is approached through the customers'perspective (Soares, Novaski&Anholon, 2017), which is proposed as the best way to conduct public administration today. Service quality is approached through five representative quality dimensions in each of which corresponds specific statements (Table1).The basic model includes 22 statements measuring the five dimensions of service quality. For each of these dimensions, specific statements correspond to both expectations and customer perceptions.

Dimension	Description	Quality Statements
<i>Tangibility</i>	Appearance of physical facilities, equipment, personnel	<ol style="list-style-type: none"> <li>1. The educational institution should have modern equipment such as classrooms, laboratories, technology.</li> <li>2. The physical facilities of an educational organization must be visually appealing.</li> <li>3. The staff of the educational institution are neat-appealing.</li> <li>4. The educational institution must have all the necessary classrooms-computer labs</li> </ol>
<i>Reliability</i>	Ability to perform the promised service dependably andaccurately	<ol style="list-style-type: none"> <li>5. When the educational institution promises to do something at a certain time, it does so.</li> <li>6. When the trainees have a problem, the educational institution should show a sincere interest in solving it.</li> <li>7. The services provided within the educational institution must be reliable and correct from the first time</li> <li>8. Personnel of the educational institution must provide their services at the time it promises to do so.</li> <li>9. It should be expected that the educational institution will keep accurate records of its trainees.</li> </ol>

<i>Responsiveness</i>	Willingness to help customers and provide prompt service	<p>10. The staff of the educational institution must inform the trainees exactly when services will be performed.</p> <p>11. The employees of the educational institution will give prompt service</p> <p>12. The employees of the educational institution will always be willing to help trainees.</p> <p>13. Employees of the educational institution are never too busy to respond to trainee’s requests.</p>
<i>Assurance</i>	Knowledge and courtesy of employees and their ability to convey trust and confidence	<p>14. The behavior of employees of an educational institution instills confidence in trainees</p> <p>15. The trainees of the educational institution will feel safe in their transaction with it.</p> <p>16. The employees of the educational institution will be consistently courteous to the trainees.</p> <p>17. The staff of an educational institution must have the knowledge to answer the questions of the trainees.</p>
<i>Empathy</i>	Caring, individualized attention provided to customers	<p>18. Employees of the educational institution should give individual attention.</p> <p>19. The educational institution has operating hours convenient to all trainees.</p> <p>20. The educational institution will have employees who give personal care to trainees.</p> <p>21. The educational institution has trainees’ best interests at heart.</p> <p>22. The employees of the educational institution will understand the specific needs of the trainees</p>

**Table 1: Statements per Servqualdimension**

Although SERVQUAL methodology is widely used to assess the quality of services, there have been several criticisms of its applicability in different environments (Atrek,2012). The most important criticism concerns the volatility of its basic structure between the different service sectors (Babakus&Boller,1992).Parasuraman et. al. (1991) made successive clarifications of their theory and presented additional evidence to confirm the psychometric validity and practical value of the tool. Furthermore,Parasuramanet.al. (1993) implemented the methodology in various service sectors in order to confirm its validity and concluded that Servqual is a general instrument for measuring the service quality, whose five dimensions apply to all service environments.

In a nutshell, there have been 27 years by the time of the design period of the revised Servqual model and until today many researchers continue to use it for measuring service quality in various sectors (Wang, Luor,Luarn&Lu,2015;Chatzoglou et.al.,2013).

**3. Servqual in public education–Research data**

There are many research projects in the recent bibliography, in which Servqual is adopted as a tool to measure service quality in the educational sector, most of them in the field of higher education, in which we are concentrated on.ZafiropoulosandVrana (2008)used a custom version of the Servqual tool to outline the quality of the educational services in the Technological Institution of Serres in Greece. The dimension of "Assurance" was the one that presented the greatest deviations between the expectations and the perceptions of the students. Furthermore, Akhlaghi,Aminian and Akhlaghi(2012)in their study conducted in a technical college in Iran deduced that the most significant divergence between expectations and perceptions of students concerned the dimension of "Responsiveness", in the same conclusion reached Dursun,Oskayba and Gökmen(2013) in a sample of 436 students from various universities in Turkey. In their work Kogovsekand Kogovsek(2013)inferred that students’ satisfaction appears to be influenced mainly by the pedagogical dimension of the academic staff which is enclosed in the dimension of "Responsiveness".Alhabeeb(2015), in his research in a sample of 199 students from the pedagogical department of the University King Saud, conjectured that the most important dimension of quality was "Assurance", while "Reliability" had the highest deviation.Finally,Datta and Vardhan(2017), implemented the Servqual methodology at seven national and international Business Schools in the United Arab Emirates.

The highest gap scores emerged in the dimensions of “Assurance” and “Responsiveness”. In conclusion, the dimensions of “Responsiveness”, “Reliability” and “Assurance” are those that showed the highest differences between the expectations and perceptions of students in the various educational institutions. These dimensions were evaluated by the trainees as the most important ones. According to Mwiya, et.al.(2017) these dimensions interpreted as follows: “Assurance” implies the kindness, friendliness and ability of the teaching staff to clearly explain the aspects of the service provided while “Reliability” interprets as the ability of the educational institution to provide the service timely without errors. In addition, “Responsiveness” refers to the willingness of the staff of the educational institution to help students and understand their real needs. Therefore, these dimensions are linked to the human resources of the educational institutions.

#### 4. Research methodology

The research was based on the following hypothesis: the five Servqual dimensions measure educational service quality of the ASPETE’s annual pedagogical training program (EPPAIK) at the Kozani branch in the prefecture of western Macedonia. This quality leads to the trainees’ degree of satisfaction (Figure 1).



**Figure1. Basic research hypothesis**

The main research questions are: 1. *Is there a difference between trainees expected and perceived service quality in EPPAIK at Kozani Aspete branch?* 2. *Which dimension of Servqual tool is most important for trainee teachers?* 3. *What is the overall satisfaction of the candidate teachers from the services provided by ASPETE branch in Kozani?*

The importance of the study comes from the focused interest in the quality of education and studying the level of educational quality training services for candidate teachers as a starting point with the goal to reach high efficiency. Theoretically, this study is considered as one of the few studies that research the quality standards offered by a public training institution in Greece using the method of gap between the expected performance and the actual performance. This approach is considered new in the comprehensive quality management and assessment of services in teachers training programs. From the application point of view, the results of this study may lead to discover the actual quality of the offered services, and reconsider some of the variables and elements of the services which are shown in the results.

#### 4.1. Participants

The interest of this work is the prefecture of Kozani in Western Macedonia, Greece. The choice of the specific region argue in the context of the sampling without probability, based on which as participants in a research approach are a part of the target population, in which there is direct and easy access of the researcher (Cohen, Manion & Morrison, 2002) and also because of the pilot nature of the research (Teijlingen & Hundley, 2001). In the survey a total of 101 candidate teachers participated (63.12% of all trainee teachers in the specific branch) and 5% of all candidate teachers involved in the ASPETE training program for the educational period 2016-17 throughout Greece, confirming the condition that in social surveys a sample of 5% is considered to be significantly reliable in terms of size (Bryman, 2015; Creswell, 2011).

The questionnaire consisted of 44 affirmative statements (22 for expectations and 22 for perceptions). The responses to the statements are measured by a likert type scale (anchored at points 1 to 7 according to the validated instruments). The wording of the statements was followed by the basic Servqual model, while minor adjustments were made mainly with regard to the wording of the questions.

To investigate the degree of importance of each dimension of the tool, participants were asked to allocate a total of 100 points between the five dimensions of quality, based on their personal preferences.

**4.2. Reliability and validity of Servqual tool**

Reliability was assessed by Cronbach a, which was very high for both the overall tool (Cronbach a= .886) and for each of its individual dimensions (Expectations, Cronbach a= .821 – Perceptions, Cronbach a= .933). The coefficient is considered satisfactory when its value equals or is greater than 0.70(Cronbach, 1951;Hair, et.al.,2006).Regarding structural validity, we conducted factor analysis to confirm the five dimensions of the quality of the training services in ASPETE branch in Kozani. From the factor analysis five variables have emerged with eigenvalues greater than 1, which explain the 71.52% of total variance. All loadings of the declarations were very high and therefore were included in the configuration of the basic dimensions of the quality model as according to the Stevens(2002), a factor is considered reliable when it has 4 or more variables with loads over 0.6 for n number of observations. In addition, a strong positive and statistically significant correlation was observed between the five dimensions. Finally, according to the content validity, we assumed that as the statements that we used in our research tool derive from the basic tool which validity has been confirmed, we conclude that our tool also satisfies this specific condition.

**4.3. Design of research and data collection**

Candidate teachers participated in the ASPETE annual pedagogical training program were invited to complete a questionnaire in the first semester of their training, stating their expectations from the training services. In the second stage, and in particular in the second semester of training, the same teachers replied to a second questionnaire which recorded their perceptions from the received educational services. In order to ensure the identification of the first and second questionnaire with the same participant, each candidate teacher had a unique number which was linked to his/her classroom. A total of 222 questionnaires were collected (116 questionnaires in the first phase and 106 perception questionnaires in the second). Of the 222 questionnaires a number of 20 were excluded because they did not satisfy the condition of matching the same participant between the questionnaire of expectations and the equivalent of perceptions.

**5. Results**

**5.1. Gaps analysis**

In an effort to investigate the existence of a difference between teachers’ expectations and their perceptions from their experience in ASPETE’s branch, a t-test analysis for dependent samples was carried out. Null hypothesis was rejected in 19 paired samples of the model and was confirmed in 3 of them. Therefore, the majority of candidate teachers show statistically significant differences between their expectations and perceptions.

From gap analysis (Gap Score = Expectations – Perceptions), without incorporating the weighted factor for each dimension, revealed that “Assurance” (-0.918) was the dimension with the highest negative score between the expectation and perception of teachers (Table 2).

<i>Servqual</i> Dimensions	Expectations		Perceptions		Gap Score	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
<i>Tangibility</i>	5.502	1.528	5.349	1.336	-0.153	1.420
<i>Reliability</i>	6.230	0.808	5.667	1.152	-0.562	1.040
<i>Responsiveness</i>	6.384	0.691	5.614	1.321	-0.769	1.241
<i>Assurance</i>	6.446	0.686	5.527	1.255	-0.918	1.075
<i>Empathy</i>	5.838	1.168	5.129	1.546	-0.709	1.339
<b>Total avg</b>	<b>6.080</b>		<b>5.457</b>		<b>-0.622</b>	

**Table 2.: Gaps analysis without weighted coefficients.**

Differences between candidate teachers’ expectations and perceptions are statistically significant in all dimensions, except from the dimension of “Tangibility” (t=-1,086,df=100,p<0.05). In addition, candidate teachers of ASPETE branch in Kozani assessed that “Assurance” is the most divergent dimension from the subjectively ideal situation for an educational institution such as ASPETE, ranking it as the first among the problematic quality fields.

## 5.2. Importance weight Servqualdimensions

The importance weights that were given by trainee teachers to service quality dimensions are aggregated in table 3. “Reliability” was the most important dimension followed by “Responsiveness” and “Assurance”. Findings are in agreement with the Zeithaml and Bitner (2000), who observed that the dimension of “Reliability” is the most important dimension of service quality in many service sectors. However, Bergman and Klefsjo (2003), argue that the importance of the individual dimensions depends on the type of service provided. It was found, from gap analysis, that the highest deviations between educational services quality dimensions after including importance weights were “Assurance” (-0.18), followed in order by “Responsiveness” (-0.16) and “Reliability” (-0.14).

ServqualDimensions	GapScore	WeightedFactor	WeightedGapScore	Ranking
	Average			
Assurance	-0.938	19.62%	-0.18	1
Responsiveness	-0.770	20.56%	-0.16	2
Reliability	-0.562	24.71%	-0.14	3
Empathy	-0.709	16.41%	-0.12	4
Tangibility	-0.153	18.71%	-0.03	5

**Table 3: Weighted Factor and weighted gap scores**

## 5.3. Total teachers’ satisfaction

Total Servqual score of service quality offered at the ‘Eppaik’ training program of ASPETE branch in Kozani including importance weights for each dimension is calculated as follows:

**Eppaik Qual (Eppaik + Quality) Score** = (Reliability\*Importance of Reliability + Empathy\*Importance of Empathy + Assurance\*Importance of Assurance + Tangibility\*Importance of Tangibility + Responsiveness\*Importance of Responsiveness) / Number of Dimensions. Thus, **EppaikQual** =  $[(-0.562*24.71\%)+(-0.709*16.41\%)+(-0.938*19.62\%)+(0.153*18.71\%)+(-0.770*20.56\%)]/5 = -0.12$

## 6. Discussion

T-test results divulge that candidate teachers’ preferences were statistically significant differentiated to their expectations regarding the quality of the services provided to them during their pedagogical training. The results are in line with the findings of previous research in the field of higher education, whereby there is always a gap between the expectations and perceptions of the customers’ service.

The reason according to the Sahney, Banwet and Karunes (2004) is that institutions, although they endeavor to meet the changes occurring in the broader environment in which they operate and the needs of their customers, this is not always feasible due to the lack of a customer centered approach. In this case, customers’ expectations are not taken into account as the essential quality standards of the provided services (Nadiet.al., 2016).

Gap analysis has identified the quality fields with the highest divergence between candidate teachers’ experiences and the expectations they initially had for the educational services in the ASPETE branch. These fields require administrative intervention in order to unveil the reasons for the existence of the observed deviations. High deviations (>0.75) were identified at 30% in the dimensions of “Assurance”, “Responsiveness” and “Empathy”. Participants evaluated higher (negative) the “Responsiveness” and “Assurance” dimensions in which they consider to be particularly important (20.56% and 19.62% respectively) for total service provided. According to Donlagic and Fazlic (2015), “Assurance” and “Reliability” are related to the quality of academic staff in terms of their knowledge and skills and their ability to provide reliable educational services, while the “Responsiveness” dimension is linked to the administrative staff and its sensitivity to the students, the provision of direct services and the response to the needs of the trainees. “Responsiveness” is one of the key components of quality as it performs as a source of satisfaction, while the lack of it leads to resentment (Johnston, 1995). In this regard, problematic areas in the quality of the services in Kozani branch are identified in human resource management issues. It should be noted that staff recruitment in this specific branch is made by the central administration of the ASPETE, following a public call, while the personnel (academic and administrative staff) are employed by fixed term work contracts. This may justify the above divergence as flexible labour relations lead to a lack of commitment by workers with an organization (Keimet.al, 2014), with the consequent provision of lower quality services (Weiherl & Frost, 2016).

Quality fields in which the expectations of the trainee teachers are converging with their respective perceptions, sketching at the same time positive quality fields, in which the management of ASPETE can rely on in order to promote the specific program, are the dimension of “Tangibility”, which indicates that candidate teachers were satisfied from physical facilities, equipment, and the appearance of personnel involved in the educational process. Furthermore 64% of teachers’ expectations had an average of more than 6 points in a seven-pointlikert scale, which means that trainees in the ASPETE branch are looking for high quality services standards. Expectations of teachers appear high mainly in the dimensions of “Responsiveness” and “Assurance” as 90% of the statements belonging to these dimensions had an average greater than 6.2. Combining this observation with the degree of importance attributed by the candidate teachers to these dimensions, we conclude that the latter are key components of quality in which administration should focus. On the contrary, the lowest average in teachers’ perceptions had an average of 4.6 points, indicating that there aren’t quality fields with notable problems. In addition, the average of the expectations of the trainee teachers amounted to 6.08, while their respective perceptions to 5.45, these indicators confirm the relative satisfaction of teachers from the quality of the services of the training program. As an average of 5.45 is greater than 4, which is the average in a seven-pointlikert scale. This is confirmed by the overall perceived quality of services in the EPPAIK of the ASPETE branch in Kozani, which was calculated in **EppaikQual=-0.12**. This indicator is not assessed as being particularly problematic as it approaches zero, which implies an increased service quality (Zeithaml, Parasuraman&Berry, 1990).

## **7. Conclusion**

The paper attempts to use Servqualtool in the field of candidate teachers’ pedagogical training in Greece, to evaluate the quality of the services provided. Although there is no similar research in this field, the contribution of the present research may also encourage other researchers to use the specific methodology to measure the level of quality of services in a public training institution. The results of this work provide the ASPETE management with useful information. Based on the findings, priority should be given to service improvement in the identified areas and in particular to:

- Review and assessment of whether the dimension with the almost zero gap (Tangibility) absorbs high resources. In such a case, it is proposed to rearrange the resources into the dimensions with high negative ratings.
- It is evident that the dimensions of “Assurance” and “Responsiveness” should be reinforcement. These dimensions had the highest expectations and the greatest negative gaps, so it can be inferred that management ought to make a significant effort to reduce the gap between learners’ expectations and perceptions. It is suggested that administration should pay attention in a more efficient distribution of resources and strategies adopted at human resources level, as it was mentioned earlier these dimensions concern the human capital of the educational institution. Actions such as the adoption of specific productivity incentives, as well as more effective evaluation during the recruitment of the part time academic and administrative staff (e.g. personal interview) could be adopted by the administration of ASPETE.
- Adoption of a total quality management system that will support all implemented processes within the institution.

In conclusion, we should refer to the limitations of this study. A restriction concerns to non-differentiation in the quality statements of the tool between academic and administrative staff and a second restriction is linked to the generalization of the results. As the present research focused on one of the twelve branches of ASPETE, in order to expand the results, the model should be applied in ASPETE branches.

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