

## AN INNOVATIVE APPROACH IN THE EVALUATION OF SERVICE QUALITY IN A PEDAGOGICAL TRAINING PROGRAM

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### Abstract

Quality is a term that is commonly considered to indicate a high level of customer satisfaction relative to factors that characterize a specific service. The most effective way to measure quality is to determine whether or not customers are satisfied. In the educational area, the constant search for improvements in the quality of educational services has led the scientific community to implement specialized measurement approaches in order to meet the quality expectations of trainees. The current research combines the evaluation model CIPP with the EppaikQual scale to measure the quality of the educational services of a Greek pedagogical training program. In this way, a management-oriented evaluation model is combined with a satisfaction measurement scale for the purpose of evaluating the program's quality from the trainees' perspectives. The research questions seek to determine the degree of trainee satisfaction based on the four levels of the evaluation and to define the level of the program's quality. A total of 489 trainee prospective teachers for the 2019–2020 academic period participated in the survey. The method of sampling without probabilities was adopted. After the completion of the program, participants were electronically provided with the measurement scale. The reliability and validity of the research tool were tested using confirmatory factor analysis. Data were analyzed by calculating the mean scores and the percentage frequencies of their agreement–disagreement in each index of the four levels of the evaluation. The survey results show that trainees are in general satisfied with the provided educational services. Their degree of satisfaction is higher for the learning outcomes and lower for the program inputs. In conclusion, it can be inferred that the participants in the training program appear to be satisfied, but they propose specific areas in which structural interventions are required in order to upgrade the level of quality of the educational services. The information gathered can contribute to sound administrative decisions with a view to improving and sustaining the training program.

**Keywords:** Program evaluation, CIPP, EppaikQual, service quality, pedagogical training, trainee satisfaction.

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### 1. Introduction

Service quality is interpreted by means of the measurement of the degree of satisfaction of service recipients (Cronin & Taylor, 1992; Oliver, 1993). In the educational context, trainees are considered to be the most important stakeholders in an educational institution (Gremier & McCollough, 2002) because they are the direct recipients of its educational services and, in this sense, act as its "clients" (Green, 1994; Navarro et al., 2005). Student satisfaction is defined by Oliver and DeSarbo as "the favorability of a student's subjective evaluation of the various outcomes and experiences associated with education" (Elliott & Shin, 2002, p.198). In this effort, specific scales of measurement are used to assess student perceptions of the educational services they receive. To meet quality standards, educational institutions ought to adopt an evaluation system that will monitor and measure the performance of the services provided. The evaluation process of an educational program is a systematic and deliberate collection of information in order to determine what contributes to its success and what actions should be taken following the results of the evaluation process. Evaluation models that fall into the systemic evaluation approach more effectively serve the aims of training program evaluation (Philips, 1991). The Stufflebeam model (CIPP; 1971) appears to be more suitable for training programs provided by organizations outside the work context. The annual pedagogical training program of the School of Pedagogical and Technological Education (ASPETE) in Greece is also such an example. The CIPP model is based on the theory of complexity and therefore considers the educational program as an open system with emerging dynamic interactions between its parts and the environment (Gandomkar, 2018). The evaluation of a program is determined by means of four different types of evaluation, namely Context, Input, Process, and Product (CIPP). In the American school of thought, we find two perspectives on the

effective measurement of service quality. The first perspective supports the measurement of the quality of services by comparing their perceptual performance with consumer expectations (Parasuraman et al., 1988), while the second accepts as more effective the measurement of service quality through only its perceptual performance (Cronin & Taylor, 1992). The inclusion or exclusion of customer expectations as a determining factor in the measurement of quality has led the scientific community to two distinct examples: the disconfirmation paradigm and the perception paradigm. In the first example, the ServQual methodology of Parasuraman et al. (1988) is adopted, while in the second one, the ServPref methodology by Cronin and Taylor (1992) is used. The quality of services depends to a large extent on the service sector that is being evaluated and the main stakeholders on which the evaluation focuses (Surman & Tóth, 2019). Therefore, the quality dimensions of the measurement scales adopted in the aforesaid models differ among service industries and need to be modified to suit each specific industry in which they are applied. The EppaikQual scale (Athanasiadis et al., in press) is a measurement scale that has been designed and validated according to the perception paradigm for the measurement of the quality of educational services in a pedagogical training program in Greece. The quality of educational services is evaluated based on six quality dimensions which are interpreted by 34 indicators focused not only on academic issues but also on general quality aspects of the educational framework in which pedagogical training is provided.

## 2. Conceptual framework

For the evaluation of the annual pedagogical training program of ASPETE, we combined the CIPP model and the EppaikQual scale. In particular, we correlated the evaluation axes of the EppaikQual scale with the four levels of evaluation of the CIPP model. The correlation was made on the basis of a literature review and on the conceptual background of both the evaluation model and the measurement scale, thereby forming the corresponding conceptual framework that guides the present study. As stated by Parasuraman et al. (1988) and Bitner (1990), the program's perceived quality is interpreted via student satisfaction considering customer satisfaction as an antecedent to service quality.

Figure 1. Conceptual Framework.



## 3. Methodology

Prior to the data collection process, the necessary actions were taken to ensure the receipt of the required permission to carry out the evaluation. In addition, the trainee teachers were informed about the optional and non-binding nature of their participation. During the collection of the data, the anonymity of the subjects was ensured. The questionnaire was sent by e-mail at the end of the training program. The stakeholders of this evaluation study are the board of directors of the training program and the coordinators of the twelve departments in which the training program was implemented. In addition, researchers in the field of the evaluation of educational programs are also considered as a group of interest. The purpose of the evaluation is to provide information to program administration regarding its effectiveness based on the perceptions of the trainee candidate teachers. This study is a quantitative, external, and final evaluation, and through its outcomes, managerial staff can lead the development of a further formulation of interventions. The survey population includes all the trainee prospective teachers. The method of sampling without probabilities was adopted. The sample size (N=488) meets the requirements of the minimum total number of participants for the statistical analyses that will be used as it is greater than 100 observations and satisfies the 5:1 relationship between the participants and the variables to be analyzed (Hair et al., 2010).

## 4. Research questions

The following questions were raised by the researchers:

- To what degree are the trainees satisfied based on the Context level of the evaluation?
- To what degree are the trainees satisfied based on the Input level of the evaluation?
- To what degree are the trainees satisfied based on the Process level of the evaluation?
- To what degree are the trainees satisfied based on the Product level of the evaluation?
- What is the level of the quality of the pedagogical training program based on the student's degree of satisfaction?

### 5. Evaluation tool

Based on the above conceptual framework, a scale was formed to measure the quality of services in the pedagogical training program. The scale included 34 evaluation indicators in which participants were asked to declare their degree of agreement or disagreement by means of a seven-point Likert scale (1 is for strongly disagree and 7 is for fully agree).

Table 1. Trainees' satisfaction results by evaluation level.

C.I.P.P. Level	CIPP Evaluation Axes (Hasan et al.,2015; Neyazi et al.,2016)	EppaikQual Quality dimensions (Athanasiadis et al., in press)	EppaikQual Evaluation Axes (Athanasiadis et al., in press)	Indicators (N)
1. Context	Mission, Objectives	Curriculum	Mission, Objectives, Curriculum Content and Structure	6
2. Inputs	Human Resources, Laboratories & equipment	Educational & Administrative Staff Facilities & Infrastructure	Reliability, Behavior, Availability, Competence, Communication skills, Infrastructure	17
3. Process	Educational techniques, Teaching methods, Evaluation methods	Teaching organization, Curriculum	Teaching design, Teaching implementation, Evaluation methods	6
4. Product	Level of acquired knowledge and skills	Learning Outcomes	Acquired knowledge and skills, Teaching Practical experiences, Personal Development	5

### 6. Validity and reliability of the evaluation tool

The reliability of the internal consistency was assessed through Cronbach's alpha, which received values greater than a >0.7(Cronbach, 1951). The internal reliability of the measurement tool was also evaluated through the degree of the correlation of each variable with the total sum of all the variables in the measurement scale. The structural validity of the model was investigated through confirmatory factor analysis with the IBM Amos 23.0 package software. The combined measurement model adopted in this empirical study shows good fit to the data, as the set of goodness of fit indicators are within the field of acceptable values based on the literature. Results from a four-factor confirmatory analysis were RMSEA =.052, GFI=0.877, CFI=0.963, IFI= 0.063, PGFI= 0.713.

### 7. Results

In order to answer the research questions, the mean scores were calculated for the degree of agreement–disagreement by the trainee teachers with respect to each of the four levels of evaluation under the proposed methodology.

Table 2. Trainees' satisfaction results by evaluation level.

Evaluation indicators	Degree of Agreement-Disagreement (%)							M	S.d
	Absolutely Disagree	Little Disagree	Disagree	Neutral	Agree a little	Agree	Absolutely agree		
<b>Context Evaluation</b>									
Programs' Aims & Objectives	1,64	2,66	4,30	9,22	20,70	33,40	28,07	5,572	1,379
Curriculum Structure	1,84	3,07	5,94	11,27	20,90	31,35	25,61	5,428	1,443
Curriculum Contents	2,66	3,28	7,79	12,09	22,13	27,66	24,39	5,283	1,527
Structure of Teaching Practice Sessions	3,28	3,48	9,22	12,30	16,39	28,69	26,64	5,277	1,616
Implementation of Teaching Practice Sessions	2,66	3,07	9,22	13,32	17,21	30,33	24,18	5,270	1,552

Academic Workload	2,87	4,30	8,81	12,70	20,90	27,66	22,75	5,184	1,576
<b>Input Evaluation</b>									
Teachers' Cooperation	1,43	2,25	3,89	6,56	12,30	25,20	48,36	5,951	1,393
Teachers' Competence	0,82	2,25	3,48	5,74	14,96	29,30	43,44	5,934	1,301
Teachers' Updated Knowledge	1,20	2,00	2,70	8,80	15,00	35,90	34,40	5,795	1,297
Accessibility	3,48	2,25	2,66	7,79	12,70	29,51	41,60	5,789	1,512
Teachers' Availability	1,60	1,80	3,90	7,60	17,40	29,50	38,10	5,783	1,368
Teachers' Behavior	1,20	2,90	7,00	8,00	19,70	34,20	27,00	5,738	1,567
Staffs' Competence	3,07	4,92	2,66	7,58	14,75	24,80	42,21	5,693	1,606
Cleanliness	2,46	4,10	6,15	8,61	13,32	22,75	42,62	5,650	1,616
Teachers' Communication skills	0,40	2,90	3,90	12,50	19,30	35,20	25,80	5,564	1,294
Physical Aspects of the Classrooms (Heating–Cooling)	3,48	3,07	6,35	9,84	14,96	22,95	39,34	5,559	1,638
Teachers' Pedagogical Competence in Adult Education	2,25	2,66	5,53	7,99	21,31	29,71	30,53	5,547	1,458
Staffs' Behavior	2,66	3,89	3,89	7,38	14,75	23,57	43,85	5,529	1,401
Level of Bureaucracy	4,51	4,71	4,92	8,81	13,73	25,00	38,32	5,508	1,721
Physical Aspects of the Classrooms (Capacity)	4,71	3,07	8,20	9,63	15,78	24,80	33,81	5,383	1,707
Teachers' Reliability	2,90	4,10	8,00	8,80	19,70	27,50	29,10	5,371	1,594
Organizations' External Image	4,71	3,48	7,17	14,75	18,85	22,75	28,28	5,209	1,680
<b>Process Evaluation</b>									
Interaction Between Teacher and Trainees	1,64	2,66	4,30	8,20	18,24	33,40	31,56	5,651	1,389
Educational Techniques	2,05	3,89	3,07	10,66	18,44	29,92	31,97	5,571	1,470
Exploratory Learning	1,23	3,28	4,30	8,81	21,11	34,43	26,84	5,559	1,364
Co-configuration of Course Contents	1,23	3,69	5,94	12,30	24,59	31,76	20,49	5,325	1,387
Evaluation Methods	2,87	4,71	8,81	9,84	20,49	28,48	24,80	5,250	1,597
Evaluation Types	2,30	4,70	7,40	14,30	19,70	26,40	25,20	5,245	1,562
<b>Product Evaluation</b>									
Teaching Knowledge	0,82	1,43	3,28	6,97	19,67	31,97	35,86	5,826	1,239
Horizontal Skills	1,02	2,46	3,69	6,97	19,26	27,05	39,55	5,803	1,347
Teaching Skills	1,02	2,66	4,30	9,22	17,42	30,12	35,25	5,707	1,372
Pedagogical Knowledge	1,23	2,25	3,89	8,20	20,49	31,35	32,58	5,689	1,336
Teachers' Practical Experiences	2,46	2,05	3,48	10,45	21,72	27,66	32,17	5,586	1,430

## 8. Conclusions

The evaluation results indicate that the degree of satisfaction of the trainee candidate teachers is in the high satisfaction area, which corresponds to a range from 5.0 to 5.9 average degrees of satisfaction on the seven-point Likert scale which was adopted. This means that on average, the participants in the training program were satisfied, and the quality of the educational services of the pedagogical training program were considered to be high. However, student perceptions deviate significantly from the ideal level of quality which corresponds to a range from 6.8 to 7.0 degrees of satisfaction. From this perspective, we assess that the quality of education related to all of the indicators in the evaluation levels can be improved. Particularly, in the Context level, the highest deviation was found in the indicator of academic workload. This indicator is linked to curriculum requirements and especially to performance of duties on tight deadlines. At the level of Inputs, the values ranged between 4.73 and 5.95. These values indicate marginally high trainee satisfaction, and therefore, it is estimated that all evaluation axes in this level can be improved. The level of Process evaluation holds second place in the ranking of the overall satisfaction of the trainee candidate teachers as compared to the other levels. Effective management of the educational process of a training program significantly contributes to the achievement of predetermined learning outcomes (Mlambo, 2011; Schwerdt & Wuppermann, 2008), and we can conclude from this perspective that the satisfaction of the participants in this field acts as a sign of the effective achievement of the program's objectives. Confirming this, the Product evaluation level received the highest value on the satisfaction index of the trainee candidate teachers.

In the current study, we attempted to evaluate a pedagogical training program in Greece by combining the CIPP model and the EppaikQual scale. In this way, a management-oriented evaluation model is combined with a measurement scale for the purpose of evaluating the quality of the educational program from the trainees' perspective based on their satisfaction levels (Parasuraman et al., 1988; Cronin et al., 2000). The information gathered can contribute to sound administrative decisions with a view to improving and sustaining the training program.

### *Acknowledgements*

The authors acknowledge financial support for the dissemination of this work from the Special Account for Research of ASPETE through the funding program "Strengthening ASPETE's research".

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