ESTIMATE AND ANALYSIS OF VOCATIONAL TRAINING SCHOOL (IEK) STUDENTS' SATISFACTION REGARDING THE QUALITY OF STUDIES PROVIDED BY THESE SCHOOLS

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Abstract: *Measuring students' satisfaction renders great service to the post-secondary educational institutions, since it offers the possibility to detect the strengths and weaknesses of these institutions and determine the areas that should be improved. Students' satisfaction goes beyond teachers' evaluation, which is a short sighted perspective, and includes wider concepts of students' learning experience. In this context, knowing the degree of satisfaction is not enough. What is rather important is to comprehend the factors contributing to this satisfaction. The present survey aims at revealing the causes leading to IEK students' satisfaction or obstructing it. The research was carried out at IEK of West Macedonia, Greece and the research tool used was SEVQUAL. Moreover, Analyse des Correspondences was used for data analysis. Results relating to students' satisfaction and quality of studies were not encouraging. Finally, problems affecting the quality of studies came forward.*

Key words*: Vocational Training, School students, Satisfaction.*

JEL Classification Codes: A14, A22, P36.

1. FRAMEWORK

The measurement of student satisfaction is of major importance in post-secondary education institutions as it helps to identify the strengths and weaknesses of these organizations and discover areas for improvement. As Sultan and Wong (2010) characteristically mention research pertaining to students' satisfaction and the quality of educational services is relatively limited.

However, surveys were conducted, which connect assurance and reliability with students' satisfaction. Specifically, All-Allak and Bakhet (2011) report that the relation, between assurance and reliability parameters on the one hand and satisfaction on the other, is positive and statistically significant. These conclusions agree with the research findings of Ham and Hayduk (2003).

Hishamuddin et al., (2008) mention that the relation of the following five quality parameters, namely tangibility, responsiveness, reliability, assurance and empathy, with students' satisfaction is strong. In greater detail, Hishamuddin et al., (2008) claim that the strongest relation of the above mentioned five quality parameters with students' satisfaction appears between the empathy parameter and satisfaction.

Along the same lines findings by Bigne et al. (2003) confirmed that all five quality factors have a significant correlation with students' satisfaction. To further elaborate Bigne et al., (2003) mention the reliability and satisfaction correlation as the most significant one. The result is consistent with the findings by Ham and Hayduk (2003) and Bigne et al. (2003) that Ahmed et al., (2010) maintained that the correlations between satisfaction and tangible, satisfaction and responsiveness, satisfaction and empathy are statistically important. Furthermore Ahmed et al., (2010) claimed that correlations between tangible and motivation, responsiveness and motivation and assurance and motivation are equally statistically significant.

Leninkumar (2014) demonstrated that there is a strong positive correlation students' perceived service quality and satisfaction. According to Leninkumar (2014) all five quality factors, namely tangibility, responsiveness, reliability, assurance and empathy strongly affect students; satisfaction and the relation between empathy and responsiveness with satisfaction is the most significant of all.

Thus, the present research aims at charter the relation of tangibility, responsiveness, reliability, assurance and empathy quality factors with IEK Greek students' satisfaction, using the Parasuraman model SEVQUAL, (Parasuraman, Berry and Zeitham, 1988).

2. THE PURPOSE OF THE STUDY

The present survey aims at revealing the causes leading to IEK students' satisfaction or obstructing it.

3. THE INSTRUMENT

The instrument, which intended to measure IEK students' satisfaction regarding their studies quality, is SEVQUAL (Parasuraman, Berry and Zeitham, 1988; 1990). This tool consisted of 25 items referring to five different attitude subscales, as follows: (a) Tangibility- respondents' positive or negative attitudes towards organization facilities and equipment, environment and brochures about services (Tan1, Tan 2, Tan3, Tan 4, Tan5), (e.g. Tan1: Up-to-date and well-maintained facilities and equipment); (b) Reliability- respondents' positive or negative attitudes towards Services, timing, Consistency of charges, staff professionalism and competence (Rel1, Rel2, Rel3, Rel4, Rel5, Rel6) (e.g. Rel1: Services should be provided at appointed time); (c) Responsiveness - respondents' positive or negative attitudes towards concerning Prompt services and staff Responsiveness Res1, Res2, Res3, Res4 (Res1: e.g. Students should be given prompt services);

(d) Assurance- respondents' positive or negative attitudes towards staff friendliness and courteousness, behavior and knowledge (Ass1, Ass2, Ass3, Ass4) (e.g. Ass1: Friendly and courteous teachers/staff); (e) Empathy - respondents' positive or negative attitudes toward service availability, students feedback, staff interest and empathy

(Emp1, Emp2, Emp3, Emp4) (e.g. Emp1: Obtain feedback from students); Accessibility - respondents' positive or negative attitudes toward parking facilities and availability and organization position. (Acc1, Acc2, Acc3) (e.g. Acc1: There are adequate parking facilities).

Each item of the instrument used a 7-point Likert scale that ranged from 1- Strongly Disagree to 7-Strongly Agree. The value of Cronbach's α coefficient for this instrument in this study's sample was 0.889.

4. SAMPLE

The research was carried out at IEK of West Macedonia, Greece. The sample consists of IEK students.

5. DATA ANALYSIS

The research data were analyzed via Factorial Analysis of Correspondences (Analyse Factorielle des Correspondences - AFC). By applying the Factorial Analysis of Correspondences, we achieve an almost global description of the situation aided by a lower number of new composite independent variables, the so-called factors (Papadimitriou, 2007). The factors, which take the form of axes, vertical in two, are the factorial axes and are created from the composition of groups of initial variables, resulting in an all the more revealing search of relationships among variables-items in our case. The interpretation of the findings of the Factorial Analysis of Correspondences takes place in the first factorial planes, namely those which are created by the factorial axes based on the rates of characteristic values λ_κ, where $k = 1,2,3,4$ for every axis, with values between 0 and 1. The results of Factorial Analysis of Correspondences, extracted with MAD software (Karapistolis, 2014), are interpreted via inertia, which every factorial axis (criterion 1) explains, and finally, via correlation (Cor) and contribution (Ctr). These indices allow us to immediately discern the most significant and determining variables or objects, contributing to the creation of factorial axes. Values $Cor \geq 200$ (criterion 2) and $Ctr \geq \dfrac{1000}{numbers, \, variables}$ (criterion 3) are considered satisfactory (Karapistolis, 2014).

6. RESULTS

Results of the Factorial Analysis of Correspondences (Analyse Factorielle des Correspondences – AFC): The analysis of the table of data via AFC gives initially table 1, which shows the characteristic values of Burt table, as well as the inertia percentages of each factorial axis. Table 1 allows us to distinguish the amount of the principal factorial axes, which are the most suitable in interpreting the results. The inertia percentage of each factorial axis offers the ability to know the percentage of importance each axis conveys (criterion 1). According to the rates accompanied by the histogram (Table 1) the percentage of importance of the first factorial axis is 35.77%, of the second it is 19.51%, of the third it is 8.21%, and of the fourth it is 5.76% and 4.56% is the percentage of the fifth factorial axis, 3.75% of the sixth, 3.31% of the seventh, 2.34% of the eighth, 2.09% of the ninth, 2.02% of the tenth, 1.86% of the eleventh, 1.46% of the twelfth. The totality of information provided to us by the first 12 factorial axes, amounts to 100%. In the following table, we can see the sum of information offered by the first five factorial axes.

Table 1: Inertia – Characteristic roots

Total Inertia 0,33194				
Factor	Inertia	%Inertia Percentage	Cumulative %Inertia Percentage	Histogram of characteristic roots
01	0,0737556	35,17	35,17	|**
02	0,0402242	19,51	55,28	|****************
03	0,0169240	8,21	63,49	|********

04	0,0118806	5,76	69,25	|*******
05	0,0094026	4,56	73,61	|****
06	0,0077389	3,75	77,56	|***
07	0,0068176	3,31	80,87	|***
08	0,0048315	2,34	83,21	|***
09	0,0043165	2,09	85,30	|***
10	0,0041600	2,02	87,32	|***
11	0,0038313	1,86	89,18	|**
12	0,0030004	1,46	90,63	|**

Based on the cumulative frequency, the first two factorial axes interpret 55.28% of the total variance of data (Table 1). This percentage is considered satisfactory for data interpretation. Then, from the table of results of the factorial correspondence analysis and according to the above mentioned selected criteria (inertia, correlation and contribution), we detect the variables contributing to the formation of the first two factorial axes.

The variables were deemed most significant for the extracted factorial axes according to the two criteria, correlation ($Cor \geq 200$, criterion 2) and contribution ($C\tau r \geq \dfrac{1000}{87} \approx 11.5 \approx 12$, criterion 3).

Interpretation of the first factorial axis e_1: More specifically, based on the answers of the test takers, and as it derived from the factorial analysis, the first axis – factor e1, with eigenvalue (inertia) 0.0737556 explaining, 35.77% of total variance is constructed from classes Rel53, Emp33, Res43, Re33, Ass43, Emp43, Ass33, Res13, Emp13, Rel33, Rel43, Rel23, Rel33, Res23, Tan 33, Ass23.

In fact, the first factorial axis e_1 is formed by those variable classes projecting examinees attitudes referring to Tangibility, Assurance Empathy and Accessibility (Diagram 1).

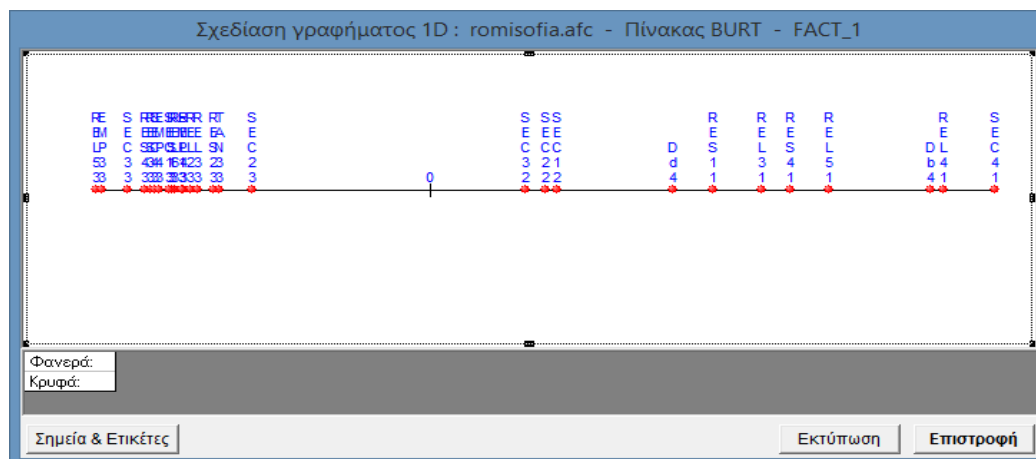**Diagram 1:** Factorial axis e_1

Moving further on the axis from left to right we note the gradation of the respondents' attitude. At the beginning, we observe the positive attitude. More especially respondents claimed that there is consistency of charges (Rel53) (Cor=619, Ctr=31), director/teachers/staff have student's best interest at heart (Emp33) (Cor=592, Ctr=24), students are treated with dignity and

respect (Ass3) (Cor=786, Ctr=46), waiting time is not more than one hour (Res43) (Cor=691, Ctr=31), attitude of Director/teachers /staff instill confidence in students (Re33) (Cor=719, Ctr=39), and they explain thoroughly educational condition to students (Ass43) (Cor=748, Ctr=37). In addition respondents believed that director/ teachers/staff understand the specific needs of students (Emp43) (Cor=442, Ctr=16), and students are treated with dignity and respect (Ass33) (Cor=807, Ctr=38), students are given prompt services (Res13) (Cor=414, Ctr=18). Still they stated that director/ teachers/staff obtain feedback from students (Emp13) (Cor=581, Ctr=24), and they are professional and competent (Rel33) (Cor=650, Ctr=29). Respondents claimed there is Error-free and fast retrieval of documents (Rel43) (Cor=715, Ctr=30) and they considered that services are carried out right the first time (Rel23) (Cor=386, Ctr=12). In addition, they argued that director/teachers /staff are both professional and competent (Rel33) (Cor=521, Ctr=21), and Responsive (Res23) (Cor=556, Ctr=20), furthermore director/teachers/staff are neat and professional in appearance (Tan 33) (Cor=388, Ctr=12) and finally director/teachers/staff possess a wide spectrum of knowledge (Ass23) (Cor=684, Ctr=22).

In the opposite extreme of the axis we detect neutral respondents of the fourth semester Dd4 (Cor=409, Ctr=16) aged 15-30 years old Db4 (Cor=462, Ctr=14) regarding whether students are treated with dignity and respect (Ass32) (Cor=554, Ctr=12), whether director/teachers/ staff possess a wide spectrum of knowledge (Ass22) (Cor=684, Ctr=15) and whether director/teachers/staff are friendly and courteous (Ass12) (Cor=807, Ctr=19).

In addition, respondents seem to be negative in relation to the question whether students should be given prompt services (Res11) (Cor=524, Ctr=18). They also claimed that director/teachers /staff are not professional and competent (Rel31) (Cor=520, Ctr=24) waiting time is more than one hour (Res41) (Cor=553, Ctr=29) there is no consistency of charges (Rel51) (Cor=444, Ctr=17), there is no error-free and fast retrieval of documents (Rel41) (Cor=439, Ctr=14) and finally educational conditions are not thoroughly explained to students (Ass41) (Cor=282, Ctr=17).

In greater detail, on the left of the first factorial axis we perceive the classes establishing positive attitude in respect of Vocational Training School (IEK) Greek students' satisfaction regarding the quality of their studies. On the other hand, on the right of the first factorial axis there are the classes determining either neutral or negative studies.

Interpretation of the second factorial axis e_2: The variables, which are more important for the second factorial axis are based on the criteria, inertia and contribution. In fact, based on the examinees responses, and as it stems from the factorial analysis, the second axis-factor e_2 with eigenvalue 0.0402242 explaining 19.51% of total variance is composed from classes Res32, Ass42, Ass32, Rel52, Rel32, Res13, Tan 21, Res41, Rel51, Rel41, Res31, Emp41, Emp11, Emp31, Ass41.
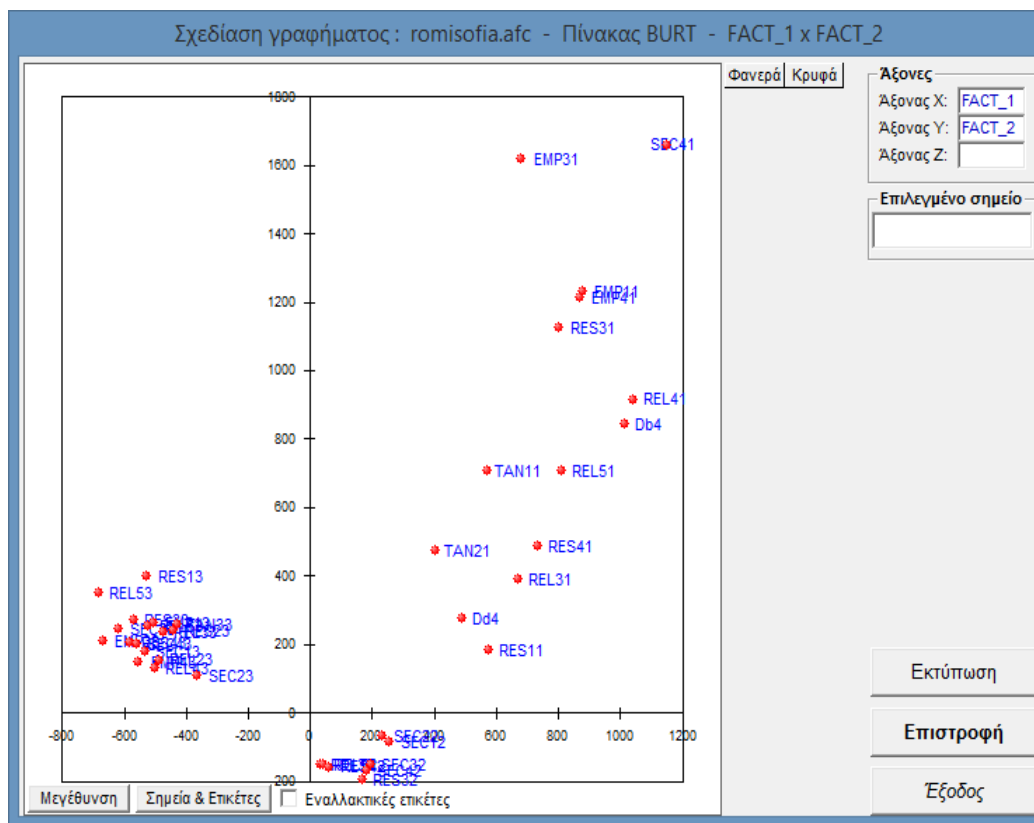
Diagram 2: Factorial axis e_2

Moving further on the axis from left to right we observe the gradation of the respondents' attitude. First we notice the neutral attitude regarding whether director/teachers /staff should instill confidence in students (Res32) (Cor=497, Ctr=21), whether educational conditions are explained thoroughly to students (Ass42) (Cor=388, Ctr=16) whether students are treated with dignity and respect (Ass32) (Cor=341, Ctr=13) whether there is consistency of charges (Rel52) (Cor=641, Ctr=14) and whether director/teachers /staff are professional and competent (Rel32) (Cor=461, Ctr=12). On the right of the second factorial axis the examinees aged 15-30 years old Db4 (Cor=316, Ctr=17), who although respondents claimed that students have prompt services (Res13) (Cor=237, Ctr=19), they support that there is no clean and comfortable environment with good directional signs (Tan 21) (Cor=278, Ctr=22), the waiting time is more than one hour (Res41) (Cor=240, Ctr=23), there is no consistency of charges (Rel51) (Cor=335, Ctr=24), there are not Up-to-date and well-maintained facilities and equipment (Tan 11) (Cor=336, Ctr=24), there is not an error-free and fast retrieval of documents (Rel41) (Cor=336, Ctr=20), director/teachers /staff attitude does not instill confidence in students (Res31) (Cor=437, Ctr=31), director/teachers/ staff do not understand the specific needs of students (Emp41) (Cor=545, Ctr=36) and they do not obtain feedback from students (Emp11) (Cor=468, Ctr=37), they do not have students' best interest at heart (Emp31) (Cor=663, Ctr=65) and finally educational conditions are not explained thoroughly to students (Ass41) (Cor=586, Ctr=68).

The first factorial plane $e_1 \times e_2$ (Diagram 3) interprets 55.28% of total inertia – information (Table 1), a particularly satisfactory percentage. The first factorial axis contrasts the extreme cases, while the second the middle ones.

In the first factorial axis on the right, in the first quadrant (e_1+, e_2+) we meet the classes Emp31, Sec41, Emp11, Emp41, Res31, Rel41, Db4, Tan11, Rel51, Tan21, Res41, Rel31, Db4, Res11 which define the negative attitude of the respondents.

Diagram 3: First factorial plane $e_1 \times e_2$

In the first factorial axis on the left, in the second quadrant $\left(e_1 +, e_2 -\right)$ we meet the classes Rel53, Rse13, Emp43, Res23, Res33, Emp33, Emp13, Ass33, Res43, Rel13, Rel23, Ass13, Ass43, Rel33, Rel43, Ass23, which define the positive attitude of the respondents.

In the first factorial axis on the right, in fourth quadrant $\left(e_1 -, e_2 -\right)$ we meet the classes Ass22, Ass12, Ass42, Ass32, Rel52, Rel32, Res32, Res42 which define the neutral attitude of the respondents.

7. CONCLUSIONS

The basic goal in this research was to examine causes leading to Vocational Training School (IEK) students' satisfaction or obstructing it. Having as basis the results of the research three basic groups of Vocational Training School (IEK) students' were distinguished. The first one consisted of the IEK students, who face negatively the courses, IEK's facilities, its quality and general administration policies. The second one consisted of students of the IEK, who face their studies neutrally and the third one positively.

Concretely, the first group of students is disposed negatively to satisfaction in relation to their studies, is disappointed by IEK' facilities and equipment and its environment, lack of staff professionalism and competence, absence of Error-free and fast retrieval of documents, big amount of waiting time, unprompted services, inability to behave to students with dignity and respect, absence of feedback from students, staff 's inability to have students' best interest at heart and understand their specific needs.

To further elaborate, the second group of students is disposed naturally as regards staff professionalism and competence in relation to their ability to instill confidence in students and to treat students with respect and give students thorough explanation about their achievement, teachers' wide spectrum of knowledge, consistency of charges and waiting time.

Finally, the third group is disposed positively to satisfaction in relation to their studies, and it found facilities and equipment Up-to-date and well-maintained and the whole environment clean and comfortable with good directional signs, staff having great professionalism and competence. Moreover, documents are founded to be Error-free and fast retrieval, charges consistent, services prompted, waiting time limited, staff professional and competent, staff's attitude capable of instilling confidence in students, students achievement thoroughly explained, students' specific needs understood and students' best interest is found to be staff/ teachers first priority.

Still a lot have to be done in the framework of continuous improvement, in relation to facilities and administration function. Lifelong learning education of teachers could contribute to a better turn of the atmosphere that exists in the classes of the teachers of Vocational Training education and to act out function as an assistant to the amelioration of the education of the adults' learners of our society.

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