INCREASING THE LEVEL OF MODERN EDUCATION IN THE SCHOOL ENVIRONMENT

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Abstract

We live in the world of information and communication technologies, which are used perhaps in all sectors including education. Modern education is an increasingly resonant theme in every society. The article presents the results of the analysis of the use of ICT in the education process at selected secondary school in Žilina. The main objective of this article is to increase the level of modern education in schools. In order to achieve this goal, we chose a quantitative method that helped us to identify the current state of this issue, the perception of modern education by students and teachers, as well as the gaps in modern education at that secondary school. Based on the current state of modern education, we conducted primary marketing research with the sample consists of students and teachers of selected secondary school. The data that form the basis of the analysis are obtained using an electronic questionnaire. The results of the research are then evaluated and analyzed to reveal the behavior of students and teachers in relation to ICT, the differences between students and teachers and the barriers that arise between them and technology. This approach has proved to be a powerful tool in analyzing the state of education at school and as a tool for increasing the level of modern education. The research results point to the need for continued attention to this issue in the pursuit of further development.

Keywords: analysis, education process, ICT, marketing research, survey

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1 Introduction

Modern education (Kremeňová & Fabuš, 2017) is an increasingly resonant theme in every society. Governments in many countries are making a lot of effort in developing strategies, studies, programs, projects, analyzes, surveys to help improve the country’s education process. It is a necessary response to still more rapidly evolving information society and knowledge-based economy. Science, technology, new technologies are evolving. The education process (Tothová & Fabuš & Book Group Authors, 2015) has to keep the same pace in the order to promote development in other spheres of society.

The article presents the results of the analysis of the use of ICT in the education process at selected secondary school in Žilina. Based on the current state of modern education, we have conducted primary marketing research (Fojcíkova, 2017), which we can understand as sequential steps that are logically arranged and defined within the two main phases - the preparatory and the implementation phases. The results of this two phases are the subject of our article.

2 Data and methodology

2.1 Preparatory phase in the marketing research process

Marketing preparation itself precedes the preparatory phase, which consists of defining and elaborating the following parts.

2.1.1 Research problem, goals and assumptions determination

The marketing research process begins with a research problem formulation, which is the most complex step. In our article, we determined the main problem of marketing research - increasing the level of modern education at secondary school in Žilina. Based on individual responses of school students and teachers, we want to find out the state of education - level, attitudes and gaps of modern education.

Following the identified problem and using the theoretical backgrounds of the issue, we have defined three basic objectives of primary marketing research that can be achieved:(Soltes & Stofkova & Kutaj, 2016)

- identify the modern facilities of the school using modern didactic techniques,
- reveal the attitude of teachers and students to modern education,
- identify the level of use of information and communication technologies in the education process with the application of modern teaching methods.
Our objectives will serve as a basis for creating research assumptions that will be verified by the detailed analysis of the data obtained. The approximate determination of individual percentages in the following research assumptions is supported by the results of similar surveys conducted in the area of digital literacy or equipment of schools in Slovakia and abroad.

The working research assumptions of modern education based on interviews with experts were determined as follows:

P1: A maximum of 49% of respondents use the Internet everyday.

P2: At least 55% of respondents prefer modern education using modern methods and ICT compare to traditional teaching.

P3: A maximum of 52% of respondents gain new knowledge and skills on the Internet.

P4: More than 65% of respondents will think there is a need to innovate education process at a selected school.

2.1.2 Indicative analysis of the situation

In order to confirm the correctness of the assumptions and to decide whether it is really necessary to conduct the primary marketing research - we used an indicative analysis of the situation, which consists of the following steps:

- Description of the research problem - as has been pointed out in this article, the main problem of our marketing research is the increase of modern education at secondary school.

- Searching and analyzing of secondary data - from the secondary data obtained on the Internet, which we mention in the second chapter, we found that surveys in the area of modern education are realized not only in Slovakia but also globally.

- The final evaluation of the analysis - based on a detailed analysis of the secondary data, we find that there has not been conducted such a survey at this school.

- Determination of the information gap towards achieving the goals of the research - after the overall evaluation, we conclude that the available information will not help us to achieve the goals, nor solve the research problem. Therefore we need to consider the information gap as insufficient information, so it is also necessary to look at the fifth step of the situational analysis.

- Decision to conduct primary research - this is the ultimate step of the analysis that, on the basis of previous facts, decides to conduct primary marketing research at a secondary school.
2.1.3 Research plan

The last but important step of the preparatory phase process is to develop a research plan.

In following table are listed the characteristics of each specificity.

Table 1 Research plan

<table>
<thead>
<tr>
<th>Type of research, type and sources of data</th>
<th>research: quantitative data: primary source: respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of data collection</td>
<td>Questioning</td>
</tr>
<tr>
<td>Data collection technique</td>
<td>questioning: electronical place of questioning: secondary school in Žilina</td>
</tr>
<tr>
<td>Size of research sample</td>
<td>Target file: 111 respondents The calculation is in diploma thesis (Fojcikova, 2017)</td>
</tr>
<tr>
<td>Data analysis method</td>
<td>MS Office (Excel) – percentages graphical form</td>
</tr>
<tr>
<td>Role of researchers</td>
<td>processing of obtained data</td>
</tr>
<tr>
<td>Schedule</td>
<td>duration of the survey 06.02.2017 – 14.02.2017</td>
</tr>
<tr>
<td>Method of reaseach testing</td>
<td>questionnaire on a sample of 5 respondents</td>
</tr>
</tbody>
</table>

Source: Author.

The target group of the primary marketing research of diploma thesis are students and teachers who attend the selected secondary school in Žilina. We have obtained information about numbers from the internal school database listed in table 2.

Table 2 Target group of primary marketing research

<table>
<thead>
<tr>
<th>Target group</th>
<th>Class</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>1. 84</td>
<td>2. 115</td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author.

As the basic method of collecting primary data, we decided to use the electronic survey consists of structured questions in the exact order that the respondent should answer.
2.2 Implementation phase of marketing research

This phase includes data collection and its processing.

2.2.1 Data collection

The collection of required data took place at the Zilina secondary school. We approached more than 111 respondents which is the minimum size of the research sample. We received 158 responses, each responding to our target group. 146 students and 12 pedagogues were involved in our marketing research.

2.2.2 Processing and analyzing data

To simplify the data processing we obtained from an educational institution, we used the statistical computing environment - specifically the Microsoft Excel spreadsheet. We have transformed the data to tables and processed it into graphs. These allow us to better express and examine the relationships between the variables and make a simple comparison.

3 Results and discussion

For questions characterizing the respondent - identification questions - we used pie charts. Evaluating the results of the research from the viewpoint of students in individual years, we have only mentioned some issues, given the scope of the article.

Question 1 - Gender

82% of female respondents and only 18% of male participated in marketing research dedicated to modern education at secondary school in Žilina.

Question 2 – Status

Out of the 158 respondents, 92% were students of secondary school. The remaining 8% were respondents who identified the teacher's answer.

Question 3 – Class

The largest proportion of respondents was fourth-class students (38%). The second largest group was students attending the first year (24%), the smallest proportion are students of the third grade (16%).

Question 4 – How often do you use the Internet in the education process?

Figure 1 illustrates the frequency of internet use in the education process from the point of view of students and teachers.
Research has shown that frequency of internet usage in education is different. While teachers are often referred to choice daily (57%), 44.95 students answered that they use internet for education just few times per week. There are also answers as few times per month what we may find as disturbing.

**Question 5** – How long do you spend time on the Internet (daily)?

Spending time on the Internet is one of the indicators that tells us how our target group uses leisure time not only at school but also outside. The answers of everyday users are shown in the following figure.

**Figure 2** *Frequency of daily use of the Internet*

By research, we have shown that the percentage number of respondents gradually increased with the increasing frequency of internet usage and differences between students and teachers being significant. Up to 37.97% of respondents (students)
spend more than 5 hours a day on the Internet. The same number of teacher (1,90%) were recorded for time spent on the Internet less than an hour a day and 1-2 hours.

**Question 6 – Assess the school's information and communication facilities**

However, this indicator is largely influenced by the size of the school and its financial means. The following figure illustrates the overall attitude of respondents to the school's facilities with modern information and communication technologies.

Figure 3 **Level of school facilities**

![Figure 3](image)

**Source:** Author.

Figure 3 illustrates the fact that the school is predominantly equipped with good ICT facilities. Result of answer about computer facilities is good, which was marked by up to 84 respondents (53,16%). The high number of answers - 53 was also recorded in the very good option, which represents 33,54%.

**Question 7 – Preferred type of education**

Figure 4 confirms that students prefer modern ICT-based teaching instead of traditional teaching, which has also been shown in some of the previous figures. Most students (74,68%) prefer modern education, but research has also revealed those who prefer traditional education (17,72%). In the order to better indentify the preferred type of education, we focused on processing the results of students studying in individual years.
The Figure 4 confirmed the fact that students of all classes are dominated by modern education before the traditional teaching. We have recorded several times higher numbers of respondents in all years except for the fourth, where up to 12.33% of respondents (students) prefer traditional education to modern ones. The lowest number of respondents in traditional education is in the third year, only 1.37% of respondents indicated this option.

Research has shown that a modern type of education with the application of ICT has a positive impact on the better memorability of the information amount from the lectured subject. Overall, 75.34% of students have that option.

**Question 8 – What teaching methods are most commonly applied in the education process?**

In order to increase the level of modern education it is necessary to apply modern teaching methods to the education process. The extent to which they are used at school is illustrated by the following Figure 5. In order to correctly formulate the question, we were based on theoretical knowledge, with each option being more detailed.
Figure 5 Methods used in education process

Source: Author.

Figure 5 illustrates the use of traditional and modern methods in the teaching process. The most commonly used method is the information-receptive method, which was identified by 124 students. We consider this method to be a traditional one. The second highest number of responses is recorded for answer discussion (70 respondents) and group work (59 respondents). A slightly lower number of responses are once again connected with traditional methods, such as problematic interpretation (46 respondents) and reproductive method (43 respondents).

Question 9 – How do you acquire new knowledge and skills in ICT?

The multiple choice question, which was presented only to teachers, helped us to discover how and through which they improve their skills and knowledge of ICT educators. About this fact, Figure 6 shows.

Figure 6 Possibilities of Expanding Knowledge and Skills in ICT

Source: Author.

In the statements of the teachers we see that they most often improve their knowledge and skills in ICT in a self-study environment. For the second highest number
of answers we can mark the training provided by the secondary school to increase the qualifications of our employees. A relatively high number of responses have also been recorded as cooperation with colleagues, and this type of knowledge enhancement is common in the workplace.

Question 10 – What do you think is the biggest problem at your school in modern education?

By research we have shown that the most problematic problem of modern education is the insufficient use of modern didactic techniques. Up to 27,22% of the respondents acceded to this option. There were also more problems with traditional teaching with insufficient application of modern teaching methods (20,89%) or insufficient skills of teachers and equipment of the ICT school. The smallest number of respondents experienced the difficulty of creating multimedia learning materials - only 5,06% of respondents identified this option.

The confirmation of these findings is also illustrated by the following picture, in which we highlighted the views of students and teachers on the subject.

**Figure 7 School issues in the area of modern education**

Source: Author.

The student’s greatest problem is the insufficient use of modern didactic techniques - up to 25,95% of students joined this option. The same percentage of students (19,62%) was noted in the possibilities of lack of equipment of the ICT school and insufficient skills of teachers in work with modern didactic technique. There were problems with the lack of leadership to innovate the learning process (6,33%) and the difficulty of creating multimedia learning materials, which was marked by at least students. Teachers consider the most common problem to be the traditional teaching - this option was marked by 3,16% of teachers.
Question 11 – In your opinion, there is the need to innovate the learning process - make more use of ICT and modern teaching methods?

Figure 8 tells us about the attitude of respondents in the secondary school to the need to innovate the learning process - to modernize it.

Figure 8 The need to innovate the learning process

Through research, we have demonstrated the need to innovate the learning process and make more use of modern teaching methods and information and communication technologies. This opinion has 66.72% of students and 12 teachers (7.59%). Only 5.70% of students has a negative option. As it is about teenagers, it is not surprising that 18.99% of them are not interested in the issue.

Results of primary marketing research

Based on the processing and evaluation of primary research results, we can verify the correctness of the assumptions that were defined in the preparatory phase of marketing research:

P1: A maximum of 49% of respondents use the Internet everyday. The research assumption was confirmed, as only 25.95% of respondents said they came into contact with the Internet everyday. This option was marked by 20.25% of students and by 5.70% of teachers.

P2: At least 55% of respondents prefer modern education using modern methods and ICT before traditional teaching. The research assumption was confirmed, as up to 74.68% of students and 7.59% of pedagogues prefer the modern type of education, which is 82.28% overall.

P3: A maximum of 52% of respondents gain new knowledge and skills on the Internet. The research assumption has not been confirmed, as 53.16% of students and 5.70% of teachers have been told to acquire new knowledge in the online environment, for example, through online courses or social networking services.
Overall, 58.86% of the respondents acceded to this option. We can verify the research assumption from the point of view of teacher who acquire and improve their knowledge on their own on the Internet.

P4: More than 65% of respondents think that it is necessary to innovate the education process at secondary school. The research assumption has been confirmed, as up to 75.32% of respondents (67.72% of students and 7.59% of teachers) believe that ICT needs to be used more and thus to modernize the learning process.

4 Conclusion

We can say based on the primary marketing research we have revealed not only the current level of modern education of the educational institution but also its gaps which the school should focus in order to proudly honor the modern, innovative, 21st century school.

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References