

Information on the Economic – Social Environment as Didactic Material for Bachelor's or Master's Thesis

Teodoras Tamošiūnas

Introduction

Problem and relevance of the research. The relation between theory and practice is a relevant problem of scientific social research in Lithuanian universities. The number of publications in scientific literature and the Internet is increasing. Collections of researchers' theses are rapidly expanding; their electronic storage is easily accessible. This makes it possible to more easily model theoretical theses of students more easily. On the other hand, theoretical theses of students are usually of paper type and have doubtful scientific value. Therefore the importance of collecting empirical information from the environment and scientific analysis is increasingly more accentuated to students. It is required to process empirical information by high level scientific methods, summarize it down to theoretical conclusions, and relate it to respective theoretical models and form a common conception of theory and practice.

The aim of the research is to investigate how particular information from the environment serves as didactic material for students of Šiauliai University Faculty of Social Sciences in learning to carry out scientific analysis and theoretical generalization of data in their theses.

Subject of the research is the thesis of students of Masters of Management defended in 2004 at Šiauliai University; examples of analysis of empirical data in this thesis.

The environment of the research in the Faculty of Social Sciences. Šiauliai University, Faculty of Social Sciences, is attended by approximately 3600 students undertaking bachelor's and master's degree study programmes in Economics and Management.

In the faculty, the cluster idea is being implemented: it is being sought that studies, science, and economic-social environment go hand in hand. The lecturers of this faculty have prepared strategic plans of Šiauliai County and Šiauliai, and the majority of them are publishing scientific articles about the economic and social situation in Šiauliai region, as well as in Lithuania. Consequently, it is obvious that students are also being engaged in regional research.

Studies are completed by writing a final Bachelor's or Master's work. In these works, an analysis of research results must make up the larger part of the work. The theoretical part of the work constitutes only 30 – 40 percent of all the work and has a tendency to decline. It is necessary that research data be collected from a real environment, concrete enterprises and institutions, or from the town, as well as, from the region. It is also important that research data reflect essential information about

the problem under investigation. Empirical data is being processed by statistical computer methods, and the analysis of secondary data is being carried out. Conclusions, corresponding to reality, as well as, applied recommendations are also of great importance. Novelty and practical relevance must be characteristic of research results.

Regional activity is being grounded on the idea of development: economics, society, and the environment develop together with the principal of a balanced development. In Bachelor's and Master's works of students, the following spheres of regional activity are being analysed: in economics – industry and small and medium enterprises, energetic, agriculture, transport, housing construction, and tourism; in society – employment, the standard and quality of life, health services, education and science, and culture; in the environment – the quality of air, water, and soil, the variety of landscape and biodiversity, natural resources, and waste disposal. Lithuanian regional policy, as well as, the irregularity of regional development is being discussed, and the comparative analysis of the main economic and social indexes of arba of ten Lithuanian counties is being carried out.

The main sources – Internet databases, Department of Statistics of the Republic of Lithuania, and the municipalities of towns and regions. Many students collect data at concrete enterprises and institutions, and investigate real economic and social problems during their practice.

Consequently, concrete social and economic information of the regions together with theoretical publications are of service to students. They serve as didactic material not only for the extraction of information but also for its processing and mastery as well as for the solution of concrete regional problems. Reading a live book of regional activity, students are accustomed to applying theoretical methods to solving practical problems, and to incorporate science, studies and economic-social environment into a single cluster.

Methods of the research. The students, in their theses, are motivated to investigate basic managerial or economical problems in their theses from their closest environment: current or future job. Thus the tasks correspond with *L. Vygotsky's Theory, Zone of Proximal Development*, which suggests that it is significant for a student to analyze a relevant sphere in his studies. Otherwise, new knowledge and skills look incoherent to the student and not encouraging to be mastered.

According to the methods of *Grounded theory* priority is given to the analysis of empirical data: firstly empirical data is collected and analyzed and generalized into theory describing the solution of the analyzed problem. Only then the student looks for classical scientific theory and results of investigations of other authors. In the end, first and other theories are generalized into a final theory, suitable for solving the chosen problem. Thus the students are accustomed to finding the theory suitable for solving their problem independently and applying it efficiently instead of formally assimilating the indicated theory.

The widely applied method is *case study* – a particular practical case is analyzed, results of the investigation and student's work environment are generalized into a theory, applicable to all similar cases.

In investigating the work environment of the student a *conception of specialist-researcher* is implemented – educating a specialist, who would be able to carry out scientific research in his working environment professionally.

The analysis of student research: case study

The basics of student research

The Master's degree student Edita Minkuvienė investigated the subject "The Indicators of Gytariai Secondary School Teachers' Qualification in the Context of the Restructure of the Lithuanian and Šiauliai Region Educational System". Being the deputy principal of this school she was solving the most relevant question for the School: what type of school to choose – gymnasium or general school? Many scientific research questions were raised: what criteria to follow when choosing the type of school, how to select the key criteria, how to measure conformity to the chosen criteria and how to justify that the solution is optimal?

Relevancy of the student research. In the second stage of Lithuanian education reform on 1998 the Ministry of Education and Science ratified the harmonization of the educational system as one of the top priorities. Since 1999 optimization of a network of general education schools has been taking place in Lithuania. 12-year secondary schools have been reformed to general schools for 1 – 10 forms and gymnasiums for 9 – 12 forms. However, full diagnostics of institutional status of the school, which would help the school to decide to change the status, has not yet been created.

General scientific problem. The investigations are intended to answer two main questions of school status prognosis: 1) what criteria should be followed when choosing the status of the school? 2) by what empirical indicators and how should meeting of these criteria be measured?

Aim of the student research – to investigate the indicators of Gytariai secondary school teachers' qualifications in the context of restructuring the Lithuanian and Šiauliai region's education system.

Object of the research – the indicators of Lithuania secondary school teachers' qualification.

Methods of the research – an analysis of the documents.

Methodology of the research – the restructuring policy of the Lithuanian education system.

The theoretical basics of student research

In the theoretical part of the Master's thesis the student has analyzed the theoretical basis of the reorganization of school and theories of management of strategic change.

Conception of process of reorganizing network of schools and institutional status

M. Wallace and K. Pocklington (2002, p. 3) claim that reorganization of the network of schools is only one manifestation of many changes. According to R. Stacey (1996, p. 37) change is an uncontrollable, complicated and in most cases "unfamiliar" process. M. Fullan using P. Pascale's and R. Stacey's conception of change, defines the change as the entirety of "forces of unknown attraction", which creates systemic images out of chaotic states. In the process of "force of unknown attraction" the most important is the aim as searching and purifying the sense systemizes complicated phenomena. "Forces of unknown attraction" do not imply a direction of the process, but highlight the process (Fullan, 2001, p. 35).

The provided definitions of the process of change reveal one of the features of change – complexity. P. Senge when describing complexity of change has distinguished two notions:

Detailed complexity – system of all variables that can influence the issue.

Dynamic complexity – space of change, defined as entirety of causes and consequences, distant in time and with dynamically interrupting unpredicted factors. If "dynamic complexity" of changes dominates, direct intervention usually does not give the expected result (Senge, 1990, p. 365).

M. Wallace and K. Pocklington (*op.cit.*, p. 39 – 41) when analyzing reorganization of the network of schools have distinguished five factors influencing complexity of change: large volume, activity disassembling, systemization, differentiated impact and dependence on the circumstances.

Process of reorganization from the point of view of strategic theories of change control

Balance of opposite forces is necessary for the reorganization of the network of schools. E.F. Huse and T.G. Cummings (1985, p. 73) have supplemented K. Lewin's theory of "field of force" by the model of interaction of these forces.

Providing the model of "field of force" theory, K. Lewin has classified the sources of opposition to change into three groups: culture of organization, personal interests and individual understanding of the aims and strategies of the organization (Stoner *et al.*, 1995, p. 408 – 409).

E. Schein has called the second stage a transformation through change of cognition. In this stage the way of seeing, evaluating and feeling the reality and reaction to new status of organization is formed. Organization members must identify themselves in the new situation and get adequate information from the environment. The third

stage “freezes”, stabilizes the achieved state for evaluation of efficiency of performed actions (Schein, 1987, p. 128). R.L. Daft (1995, p. 416) has claimed that the primary stage of change of institutional status must be the setting of need to change the status of the organization.

The context of the restructure of the Lithuanian and Šiauliai city educational system

The research of the student consisted of three parts: 1. Theoretical basis of the research; 2. Analysis of the environment situation (country and city); 3. Analysis of school situation and strategy of activity. When analyzing the situation of the environment of the school the student focused on the analysis of reorganization of network of schools in the country and in the city.

The restructure of the Lithuanian educational system

In 1998, during the second stage of the Lithuanian educational system's reform, the Board of Education confirmed the harmonization of the educational system, as one of the most important priorities. It showed the necessity for the formation of a permanent educational system in Lithuania, which conditioned the development and improvement of the educational institutional network.

The restructure of the Šiauliai city educational system

The reform of the general education school network was started in Šiauliai in 2000, according to the act entitled “The establishment of the profiled education into the general education institutions third level” which states that profiled classes shall be formed in general education schools, that fulfill the requirements of the Secretary of State for Education. This document caused some changes in the general education school structure. Within the Šiauliai school network appeared some profiled schools, which planned in the future to become either gymnasium or basic school (after accreditation), and secondary schools without profiled teaching at once reorganized into basic ones.

Teacher's qualification – the criteria of institutional structure. The importance of qualification for the diagnostics of school type

In the Master's thesis the student has analyzed the influence of three criteria on choosing the type of school: the teachers' qualification, the number of students and the educational environment. However, due to the lack of space this article is limited to the analysis of the teacher's qualification.

In the context of reorganization of the general education school network, while diagnosing the institutional status one of the priorities is the qualification of the pedagogical staff. This is related to the organization of teachers' training, the in-service training, and the preparation of a new pedagogue competence evaluation system. The indicator for a qualified teacher was determined, as the qualification category obtained by the attestation. Thus, this indicator can be essential in meeting

the changes in the educational institution (either gymnasium or basic school) and planning its development strategies.

Teacher's qualification characteristics in the general education schools of Lithuanian

The Lithuanian Municipality Educational Digest statistical data of 2002-2003 and 2003-2004 year were chosen for the analysis of general education schoolteachers' qualification indicator.

General education schoolteachers' distribution according to their qualification categories in 2004-2005 is shown in figure 1.

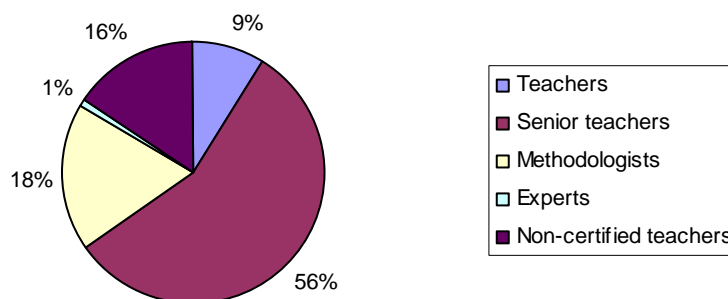


Figure 1. Distribution of general education school teachers, according to their qualification categories at the beginning of 2004-2005 (%) (the data source: Lithuanian Municipality Educational Digest of 2003-2004)

It can be noticed from this chart that the majority of Lithuanian general school teachers' have senior teacher's qualification category i.e. 56 % (having more than 4-year pedagogue's experience) are qualified specialists. Almost one-fifth (18 %) of teachers possess a methodologist's qualification category.

While diagnosing the suitability of a secondary school for the status of either basic school or gymnasium, from the teachers' occupational and subject competence perspective, the number of pedagogues, possessing high qualification categories (methodologist and expert teachers) is important. From the research of statistical data taken from the Lithuanian municipality educational digest of 2003-2004 it is evident that the number of high quality teachers (methodologist and expert teachers) varies in different general education schools (figure 2).

The data shows, that the number of high quality teachers (methodologists and experts) in different general education schools (kindergarten, primary, basic, secondary school and gymnasium) differs from 13 % to 18 %. From the data of the picture 2 it can be seen, that only in a few municipalities the number of high qualified teachers in general education schools is either as low as 3-8 % or as big as 28-33 %.

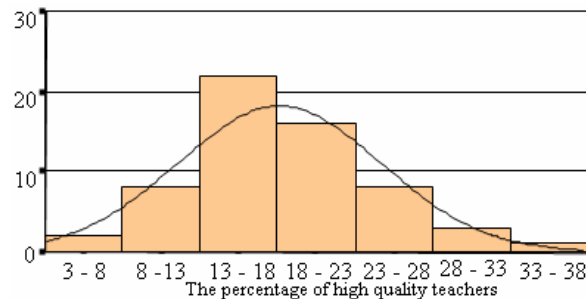


Figure 2. Distribution of Lithuanian municipalities according to the number of high quality teachers (methodologists and experts) (the data source: Lithuanian Municipality Educational Digest of 2003-2004)

The characteristics of teacher's qualifications in Šiauliai municipality's general education schools

In order to evaluate the qualifications of Šiauliai general education school teachers the information was taken from the digest of Šiauliai municipality statistical data for 2002-2003 and 2003-2004.

The comparison between the qualifications of Šiauliai city and State teachers showed that the results were quite similar. The concentration of teachers (possessing different qualification categories) in different types of Šiauliai city general education schools is shown in the table 1.

Table 1. The distribution of teachers possessing different qualification categories in different types of Šiauliai city general education schools at the beginning of 2004-2005 (%)

Qualification category The type of school	Teacher		Senior teacher		Methodologist		Expert		Non-certified teacher	
	In sum:	%	In sum:	%	In sum:	%	In sum:	%	In sum:	%
Kindergarten	4	13,3	16	53,3	2	6,7	0	0	8	26,7
Primary school	15	12,1	78	62,9	26	21,0	0	0	5	4,0
Basic school	47	8,2	323	56,1	105	18,2	6	1,0	95	16,5
Secondary school	16	1,7	490	51,4	272	28,5	13	1,4	162	17,0
Gymnasium	3	1,8	48	28,9	69	41,6	8	4,8	38	22,9

Šiauliai municipality according to the number of methodologists and experts in all types of its general education schools (kindergartens, primary, basic, secondary schools and gymnasiums) belong to the type of municipalities having quite a high rate of methodologists and experts.

Characteristics of teachers' qualification in Šiauliai Gytariai secondary school

Analyzing Šiauliai Gytariai secondary school's possibilities from its teachers' qualifications point of view (in the context of optimized general education school network) scales of five scores, in which zero point is understood as an unimportant indicator, are proposed. The meaningful indicators are 1 and 2 scale meanings, which are divided in the scale into two groups. 1 and 2 score meanings are calculated according to the numbers of all categories of teachers in State's basic schools and gymnasiums.

The evaluation of Šiauliai Gytariai secondary school teachers' qualifications is given in the State's basic schools' and gymnasiums' senior teachers' scale (refer to picture 3).

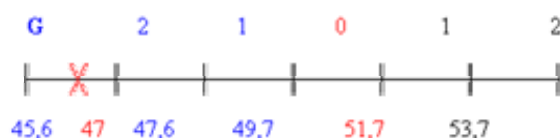


Figure 3. The evaluation of Šiauliai Gytariai secondary school teachers' qualifications in the State's basic schools and gymnasiums senior teachers' scale

It is seen from the scale that the institutional senior teacher's qualification category's meaning is close to the State's gymnasiums' senior teacher's qualification category's meaning. This meaningful indicator is bigger than two scores in the gymnasiums' indicator scale, thus it can be partially viewed as meaningful for Šiauliai Gytariai secondary school when choosing the status of a gymnasium.

When the school is choosing the status of a gymnasium the number of experts looking from statistical perspective is especially meaningful. In the scale, the institutional level is fixed outside the scale of gymnasium indicators.

Conclusions from the student research

Having carried out research on the qualitative composition of Gytariai secondary school teachers, we may state that:

1. The proportion of experts differs widely from the results of the country and region (the experts at school constitute 5%, while in the country and region – 1%).
2. More than a fifth (23%) of school teachers are not certified.
3. The dominant of the qualifying category of senior teacher prevails (47% of all school teachers).
4. The statistical value of supervisors belongs to the corresponding interval of the region (20 – 30% interval).
5. According to the proportion of high qualification teachers the school is classified as a national gymnasium where the proportion of supervisors and

- experts is twice the proportion of supervisors and experts at secondary schools of the country.
6. The indicators of the statistical value of the school's senior teacher, teacher, supervisor and expert qualifying categories fall into the scale of the corresponding categories of the gymnasiums of the country.
 7. The value of the teachers without assessment is unrelated to the diagnostics of institutional status.
 8. We have found the basis for the following propositions:
 - At Lithuanian comprehensive schools the number of teachers with assessment is growing; pedagogues with senior teacher qualification prevail at 56%; the number of high qualification teachers markedly differs at comprehensive schools of the country (from 3% to 38%); there are more teachers with higher qualification at gymnasiums than at secondary schools.
 - According to the proportion of high qualification teachers gymnasiums of the town fall into the group of gymnasiums of the country, where supervisors and experts constitute 43 – 48%; the proportion of high qualification teachers at secondary schools is twice the proportion of high qualification teachers at lower secondary schools; the proportion of supervisors and experts at gymnasiums is twice the proportion of supervisors and experts at secondary schools.
 - The qualification of teachers enables Gytariai secondary school to choose the type of gymnasium.

Conclusions

1. In the investigated Master's thesis a wide analysis of country, city and school documents has been carried out, statistical methods of computer quantitative analysis have been applied and qualitative interpretation of statistical data has been carried out.
2. In the thesis analysis of empirical data dominates theoretical part, which amounts to about 20 percent.
3. The theory analyzed in the thesis indicates that restructuring of network of schools in the country is an integral part of the theory of management of strategic change.
4. The Master's thesis meets the requirements of research methods: the student has carried out the research of the main problem in her working place and formed the basis for the solution of this problem with research results and generalizations. Thus the student has proved that she met the qualification of postgraduate level specialist – researcher of management.
5. This article was prepared based on the *case study* method: several aspects of one Master's thesis were analyzed. The aim of the article was achieved – it was shown that information from the environment serves as didactic material for students' theses.

References

The digests and reports of educational activities of Lithuanian municipalities and the legislative basis of the restructuring of education system constitute the Lithuanian *reference list*.

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