Reflecting on the higher education effectiveness improving research methodology in China and Czechia

Reflexe metodologie výzkumu zlepšování efektivity vyučování ve vysokém školství v Číně a Česku

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Abstract: It is very common for liberal arts researchers in China conducting research methodology to infer a new opinion or finding by analysing and comparing theories to theories, or concepts to concepts. This essay will commence with the literature review and findings of the previous research, followed by the introduction of the methodology that was utilised in *The Research of Improving the Effectiveness of Class Teaching in Higher Education in China.* Also in the Czech Republic it is common to discuss and do research with using various methodological approaches. This paper reflects two special methodologies of research of higher education effectiveness. Both methodologies are compared in the conclusion of this paper.

Keywords: research, methodology, strategies, higher eduation, effectiveness

Abstrakt: Pro výzkumníky v Číně je obvykle cílem výzkumné metodologie ve svobodných uměních (humanitních vědách) ovlivnění vzniku nového názoru nebo nová analýza výsledku porovnání teorií či interpretace pojmů. Tato stať krátce uvádí do metodologie zpracované v díle *Research of Improving the Effectiveness of Class Teaching in Higher Education in China.* Rovněž v České republice je obvyklé diskutovat a provádět výzkum rozličnými metodami. Tento příspěvek reflektuje užití dvou speciálně připravených metodologických postupů pro zjištění efektivity vysokoškolského vzdělávání včetně jejich závěrečného stručného srovnání.

Klíčová slova: výzkum, metodologie, strategie, vysokoškolské vzdělávání, efektivita

1 Introduction

This paper deals with two different research strategies used to discover the quality and effectiveness of higher education: one made in the China at Sichuan Normal University and one made in the Czech Republic at Palacky University. The researches had different purposes and also different results but they both show the endeavour to discover the causes of frequent insufficiency of educational process.

2 China

2.1 Literature Review and Findings of Previous Research

In 2007 the National Bureau of Statistics of China issued a sampling survey, in which the sampling fraction was 0,900% and the sample surveyed was of people above 6 years of age. This survey indicated that out of the number of people sampled, 1,116,037, the number of graduates was 73,184. This means only about 6.5% of Chinese people received higher education (National Bureau, 2007).

According to my previous research, it became evident that one of the major reasons that graduate students are having difficulties in finding employment, relates to their education in universities, because they lack the competencies that the human resource market requires. That is, most companies demand students with practical skills and creative ideas. On the other hand, although China has changed elite education into mass education, the teaching ideas and styles in universities still focus on transmitting knowledge rather than developing students' abilities.

2.2 Methodology Applied in the Empirical Research

Based on my previous study and learning experiences abroad, I believe that developing students' competencies is more important than transmitting knowledge. Training students' competence will directly help students to match the needs of employers. Therefore, *the Research of Improving the Effectiveness of Class Teaching in Higher Education in China* is focused on the cultivating students' ability.

2.3 Empirical research description

The empirical research has been practiced for two years and introduced some interactive teaching styles that suited the new teaching ideals, into the experimental classes, especially Presentation Teaching Methods (PTM) and group classroom discussion. Each semester, two classes totalling around one hundred students were selected as subject-participants. One class' subject-participants were the sample group and they were taught using the interactive teaching style, while the other group was taught using a traditional transmission teaching style. This experiment took one semester.

2.4 Empirical Research Sample

The Empirical Research Samples were conducted using graduate students in year two and year three from the faculty of Sichuan Normal University. The Empirical Research was

implemented in three classes totalling 158 students. The courses are *Leadership psychology* and *Organisational Behaviour in Education*.

2.5 Methodology and Methods in Research

A methodology is why and how to obtain knowledge from research with questions asked in the most appropriate way (Clough & Nutbrown, 2002, p. 22). "Methods are the specific research techniques that are used in order to collect and then analyse data." (Sikes, 2004, p. 16). Survey, interview and case study methods were used.

My empirical research is similar to a case study. It is 'an exploration of a 'bounded system' or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context" (Creswell, 1998, p. 61). "It concentrates on experiential knowledge" (Stake, 2005, p. 444). An empirical research is reviewed as a methodology. It includes questionnaires, observation, document checking and other methods. In my research, I used questions to encourage my students to think and read critically, present their own opinions, observing their performance in discussion and teamwork, checking their homework and implementing a practical interview at the end of the semester to find evidence of improvement. Finally, the data and information were analysed by contrast and historical comparison.

2.6 Data collecting and analysing

The experiment involved three classes over a period of two years. At the end of the semester, *The Survey of Sample Students* indicated that various kinds of competencies, such as summarising issues in the classroom, presenting skills, critical thinking, critical reading and analysing problems, questioning and debating in the classroom had improved. It also showed the experimental group students liked the interactive teaching style, of which 86.05% liked small group discussion and 81.40% liked group Presentation. Comparing the results with traditional transmission teaching styles, 91.7% of experimental group students chose Presentation teaching methods.

 I compared the difference in competence between the two classes in finding, analysing and solving problems by interviews and surveys (contrast comparison). The results for the survey we conducted at the beginning of the semester indicated that the answers between experimental group students and contrast group students were similar. However, at the end of the semester, the answers to survey questions between experimental group students and contrast group students were very different (see form 1). It showed the experimental group students' competencies of critical thinking, critical reading and analysing problems mainly had a marked improvement while the contrast group students had improved less. For instance,

in the experimental class, 26.5% of students had marked improvement, 35.4% had some improvement in Challenge Authority while totally, only 10% of contrast group students had marked and some improvement. 75.2% and 68.3% of the experimental group students had improved a lot in Critical Reading and Critical Thinking compared with 4% of the contrast group students. The big differences in Finding Problems and Producing Solutions are evident, in which totally 83.4% and 86.6% of the experimental group students improved compared with 8% and 12% of the contrast group students. From the final essay of the semester we found the same results too.

Table 1

Students Answers of Questioning Survey

Contents	Survey Groups	Marked improve-ment	Some improve-ment	A little improve-ment	Less improve-ment	No improve-ment
Challenge authority	A	26.5%	35.4%	23.4&	7.5%	6.9%
	B	4%	6%	4%	38%	48%
Critical reading	A	52.5%	22.7%	15.8%	8.8%	0
	B	0	4%	0	10%	86%
Critical thinking	A	42.4%	25.9%	16.6%	15.1%	0
	B	0	4%	8%	8%	80%
Finding problems	A	55.6%	27.8%	10.1%	3.7%	0
	B	4%	4%	6%	12%	74%
Analysing problems	A	56.3%	27.2%	14%	2.5%	0
	B	14%	24%	44%	18%	0
Producing solutions	A	58.2%	28.4%	12.6%	0.6%	0
	B	4%	8%	16%	56%	16%

Note: A: 158 experimental group students answer (introduced interactive teaching styles)

B: 150 Contrast group students' answer (without introduced interactive teaching styles)

I also compared the improvement in competence between groups, before and after implementing the new teaching styles, by surveys (historical comparison). After one semester, if we consider marked and some improvement, more than 80% of the sample students showed improvement in Conducting Solutions, Finding problems, Analysing problems, followed by Critical Reading with 75.2%, then Critical Thinking with 68.3%, and finally, Challenge Authority with 61.9%.

3 The Czech Republic

3.1 The research motivation

The research realized at Sts. Cyril and Methodius Faculty of Theology was based on the aspirations of teachers of social pedagogy study programme to learn more about the meanings of their students about the quality of study, and especially about the quality of connections between studied areas and work practice. The research results help the academic staff to improve communication with students and enhance the study programme plan. The complete

results of the research are used for the study programme analysis and improvement but particular results were published at international conference Social pedagogy in the context of the global crisis (2011) and are in print (Pospíšilová, Pospíšil, & Potměšilová, 2011).

3.2 Research methods

The research was designed in quantitative paradigma (Creswell, 2005). The data were collected using the special questionnaire from students of present and combined (distance) study form. The questions were focused on pre-study expectations, the changes of them, the extent of fulfilment of expected skills and knowledge and above all on SWOT analysis of the studied programme (from subjective point of view). The questions were designed mostly as the scales (range from 1 till 10) and also subjective importance on the same scale was added to each of the propositions in the SWOT analysis.

3.3 Respondents

In our research all students of social pedagogy programme were questionned. From total 231 persons we received 144 filled questionnaires across the three study classes and both present and combined (distance) form of study. The data from questionnaires were analyzed by frequence analysis and meaning analysis. The result of each question was represented by mean and variability.

3.4 Research results

The research brought many interesting findings about students opinions concerning quality and utility of realiazed study programme and also revealed students hidden apprehensions. The quality of study has been ranked relatively high (mean 7,04) and stable (variance 2,54). The lowest mean, which exceeded expectations, has been discovered by the variable expressing the relationship and connection between theory and practice. The mean was only 6,22. The variance of this variable was the highest of all the question battery (5,25), as well.

The question which focused the students opinions about quality of preparation for practice we obtained mean 6,51 with variance 3,70. The SWOT analysis showed the strenghts (accommodating attitude of teachers and the erudition of teachers), weakenesses (acessibility of not common study resources) and oportunities, in which the extension of stages and practices has been firstly mentioned.

4 Conclusion

From the reflective point of view both Chinese and Czech researches represent adequate methodological approaches for discovering and proving quality of education. The Chinese research shows inspiratory combination of quantitative and qualitative research methods and confirmed the theory that interactive educational methods improve the effectivenes of the education. However, the Czech research results allow to cross over the communication barrier

between the teachers and students, and help to understand students expectations and their change due the study. If we consider the different purposes of both researches we have to conclude the reseach results are in compliance with used methodology. From this point of view the differences between methodologies are not the product of mistakes but the product of different look at the problematics of educational effectiveness.

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