

THE APPLICATION OF CRITICAL THINKING IN PEDAGOGICAL STUDENTS' ESSAYS ON SOCIOCULTURAL PROBLEMS

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Abstract: Critical sociological thinking is one of the most important abilities of a future teacher. Its role is to teach pupils to assess information logically in different socio-cultural contexts and to arrive at a decision showing sensitivity to a social problem. Does school prepare future teachers in these dimensions? The aim of the study was to analyse the level of composition of professional essays with a focus on critical sociological thinking, using the Jane Schaffer model. The subject of content analysis was 207 expert essays of students of teaching at three faculties of Prešov University in Prešov, within the compulsory socio-scientific subject *Socio-cultural Aspects of Education*. Analysis of research results showed that about 1/3 of the works did not contain elements of critical sociological thinking. The greatest shortcomings were found in the inability of students to demonstrate sensitivity in specifying a thesis arising from a social problem, which we consider to be key in relation to the character of the output. This deficiency is the result of non-critical acceptance of a quantity of information, the absence of systematic support for critical thinking in education, etc. The authors propose a change in the learning environment using selected strategies that can support the critical sociological thinking of future teachers.

Keywords: Critical sociological thinking, Jane Schaffer model, diagnostics of the level of critical thinking of future teachers.

1 Introduction

This study focuses on the issue of critical sociological thinking, which is a current issue due to the needs of today's democratic society. In the beginning, we will rely on the idea of Sekerak (2017, p. 179): *In order for democracy as such to exist at all, it is essential that a community of thoughtful adults and competent citizens is available ... The mass that decides may not behave with consideration and can, with the formal preservation of democratic procedures, take decisions that are toxic or even destructive for democracy, particularly liberal democracy.* The undergraduate training of future teachers should be aimed at enabling graduates to promote the competence of their pupils to take their own critical and responsible approach to all the challenges, demands and problems that life brings to society. The phenomena of contemporary society, such as the information explosion, multiculturalism, extremism, lifestyle, etc., have given the school a difficult task, namely how to educate a wise, educated, just, responsible, learning person who, with the integrity and maturity of his personality, can successfully manage the demands and fears of today's complicated and dynamically evolving world.

It is evident that it is not possible to respond to growing societal problems with the encyclopaedic model of education, which is still persistent in Slovak schools. In addition, the rapid flow of a large amount of information easily accessible through the media causes it to be uncritically accepted by the individual, dulls sensitivity to solving social problems, leads to apathy, inability to predict the consequences of our decisions, and so on.

Foreign literature offers some inspirational stimuli to awaken the student's perception of social problems while developing critical thinking. We consider one of the to be the method of writing essays according to Schaffer (1995). This product is not normally implemented in the undergraduate preparation of Slovak teacher study programs. For this reason, we applied the Schaffer model of preparing and writing professional essays into the programme *Socio-Cultural Aspects of Education* (a compulsory subject of the socio-scientific basis of the teaching programs of Prešov University in Prešov in the first year of the Master's study).

The aim of the study is to present the overall level of ability of future teachers to express themselves on selected societal problem through essays focusing on critical sociological

thinking. In the study, we rely on a number of world experts in the field and on the theory of Geertsen (2003), who considers sociological knowledge and sociological imagination as the basis of critical sociological thinking.

2 Theoretical definition

Although at present, philosophical, cognitive-psychological and pedagogical works provide a wide range of definitions of critical thinking, we have an inspirational definition from Ruisel (2008), according to which it is a synonym for quality or rational thinking involving the following components: motivation for the challenge that critical thinking brings; knowledge about critical thinking skills; training structures to facilitate transfer between connections and meta-knowledge monitoring. Paul and Elder (2006) consider critical thinking as an art to analyse and evaluate thinking with the intention of improvement. According to the authors a well-cultivated critical thinker:

- raises fundamental questions and problems, formulates them clearly and precisely;
- collects and evaluates effectively relevant information using abstract ideas to interpret them;
- comes to well-founded conclusions and solutions, testing them against relevant criteria and standards;
- thinks openly within alternative thinking systems, can distinguish between them and, where necessary, evaluate their assumptions, consequences and practicality;
- Effectively communicates with others when dealing with complex issues.

Critical thinking is, according to the authors, self-controlled, self-disciplined, self-monitored and self-correcting thinking (Paul, Elder, 2006; Ruisel, 2008; Balogová, Šoltésová, Kvašňáková, 2013; Zelina, 2017). It requires strict standards of excellence and thorough control of their use. It means effective communication, problem solving ability, and commitment to overcome egocentrism and sociocentrism. It follows from the above-mentioned considerations that critical thinking is not based on one isolated ability but rather on a set of personality, attitudinal and cognitive abilities that can be applied to the logical consideration of all the reasons for and against (Ruisel, 2005). One of the possible solutions to support critical thinking in the undergraduate training of future teachers is writing an essay based on the Schaffer model (1995). We consider this method to be one of the effective means to awaken the student's susceptibility to social problems. The origins of choosing a method to strengthen critical thinking were the findings of several foreign authors. e.g. Roybal (2012) argues that the essay writing method is considered to be both the most effective tool for developing critical thinking and it additionally enables the learner to penetrate the depth of the problem; it is not about superficial writing.

The strategy for writing professional essays based on the Schaffer model (1995) consists of the following steps:

1. Challenge.
2. How to write an effective paragraph – it is necessary to prepare colours:
 - a. blue to highlight the topic and the final judgement;
 - b. red for specific details;
 - c. green for comments.
3. Topical searching - This is the first sentence in the paragraph that shows the main idea. This is usually a slightly controversial statement; something to be proven. This thesis may also be short (e.g. 3 words).
4. Factual details - here you need to consider facts, quotes, examples. This is the evidence that supports our position.
5. Commentary on facts - requires analysis, interpretation, explanation, or overview.
6. Final judgment - this is an argument, an opinion.

From the practical point of view, Jane Schaffer offers a schema that has the exact order: *topic sentence* (TS), *concrete details* (CD), supporting evidence, comments and *commentary* (CM), and further comments and commentary (CM). If students can manage a basic paragraph (e.g., 4 sentences), they should add additional specific details and always use the ratio of *two comments per detail*. Later, students add a concluding sentence (CS). This structured writing helps the student to better organize their own thinking and build clearer lines of argument.

3 Method of research

The basic method of research was the content analysis of specialist essays focused on critical thinking within the module *socio-cultural aspects of education*. The criterion for the deliberate choice of this module was that it offered a lot of opportunities to discuss current issues in society and also offered stimuli to awake the student's perception of social problems (cultural differences, multicultural communication, educational and cultural aspects of family, schools, mass media etc.). The study module was taught in the winter semester of the academic year 2016/2017 in the first year of master's study. It was attended by 207 students of the Faculty of Humanities and Natural Sciences of Prešov University in Prešov in preparation for the teaching profession. Students were divided into 11 seminar groups led by one teacher. Each student had the same conditions in the course. The essay was part of one of the compulsory output with N = 207.

For the method of content analysis, we relied on the work of Kerlinger (1972), Seebauer (2003). The stages of content analysis of the essay:

- Deliberate choice of study module;
- The initial content analysis of 5 specialist essays for the purpose of selecting analytical categories – exact definition of categories, rules of coding (Seebauer, 2003);
- Content analysis of the essay; current content analysis checked by an independent researcher;
- Random selection of 5 analysed specialist essays with the correctness of analysis checked by an independent specialist.

The basic unit of analysis was the supra-sentence entity. Overall 17 analytical categories were analysed, which had a defined quantificational process:

- Adequacy of evaluation of analytical categories was based on the scale: yes – 2 points, partially – 1 point, no – 0 points;
- overall level – summary of partial points / overall number of points;
- subsequently, the percentage level of processing the professional essays was calculated as well as the overall level at which an arbitrary approach was used¹ (Stračar, 1977).

In interpretations, we offer partial results of research in accordance with the aims of the study. The content analysis took place from November 2016 to January 2017. We tested relations between the selected analytical categories using Spearman's Correlation Coefficient.

4 Results

Preparation for writing the specialist essay was not simple. The students were coming into contact with this type of output for the first time during their studies. During the whole semester

they applied, to teaching, different methods supporting critical reading, critical writing and critical argumentation. The results of the content analysis of the specialist essays in table one present the overall level of essay composition achieved.

Table 1: Overall level of composition of essays following the Jane Schaffer model

Level	Specialist Essays	
	Absolute number (n)	Relative number (%)
A	22	10.63
B	32	15.46
C	35	16.90
D	24	11.59
E	27	13.05
Fx	67	32.37
Total	207	100.00

The overall level of specialist essay composition is the result of the evaluation of 17 analytical categories, divided into the following parts: research on the topic, conceptual analysis, thesis, factual details, commentary on facts with evaluative opinion, final judgment, formal elements, stylization and grammar, ethics and citation technique. The average level of specialist essay composition is expressed as M = 2.65, which represents classification grade D (satisfactory). Table 1 shows that approximately 1/3 of the sample of students (n = 67; 32.37%) did not demonstrate the ability to think critically when addressing the particular socio-cultural problem. The biggest deficit in these essays was the lack of a thesis (see Table 2 - 28.99 %). Presenting a thesis, that is, the position on the chosen problem, was one of the most important conditions of the expert essay. We assert that if a student is unable to select a relevant claim from the quantity of information, we can assume that they will not be able to evaluate and select the facts and other information needed to confirm or refute the thesis. We understand the thesis as a statement that should include subject matter and belief; it should be arguable or questionable. According to Nemčok et al. (2014) and Režný (2015), its main feature is controversy. Table 1 also presents the following findings: classification grade E – 27 essays (13.05 %); D – 24 essays (11.59 %); C – 35 essays (16.90 %); B – 32 essays (15.46 %); A – 22 essays (10.63 %).

The ability to write a good essay is influenced by the knowledge of the subject and the ability to express sensitivity in specifying the thesis. The result of the adequacy of the formulation of the thesis is shown in Table 2.

Table 2: Adequacy of formulation of the thesis with the subject and

Adequacy of thesis formulation	Absolute number (n)	Relative number (%)
yes	46	22.22
partly	101	48.79
no	60	28.99
Total	207	100.00

In evaluating the analytical category of adequacy of thesis specification, we achieved the following results: adequately formulated theses – n = 46 (22.22 %), partially relevant theses – n = 101 (48.79 %) and inadequately formulated theses – n = 60 (28.99 %). This is largely related to the next analytical category. The choice of relevant information and facts to support the thesis is influenced by the student's knowledge of the problem and his ability to work with professional texts. Table 3 shows the result of the adequacy of processing the discussion of the given thesis.

Table 3: Adequacy of processing discussion on the thesis

Adequacy of thesis formulation	Absolute number (n)	Relative number (%)
yes	42	20.28

¹ The transformation key for converting the scores in the analysed categories was defined in advance and we used the classification scale (A – 90 % to 100 %; B – 89.99 % to 80 %; C – 79.99 % to 70 %; D – 69.99 % to 60 %, E – 59.99 % to 50 %; FX – 49.99 % and lower).

partly	105	50.72
no	59	29.00
Total	207	100.00

The ability to support the thesis using relevant information, facts and expert comment following the Jane Schaffer model was identified in 42 expert essays (20.28 %). In those, the students showed their ability to logically deduce and thoroughly understand the selected socio-cultural problem, re-evaluate the information obtained from several parties, select important facts and support their own views, according to the Jane Schaffer schema. A partly processed discussion was identified in 105 works (50.72 %). The biggest drawbacks: the absence of compatibility between the thesis and the fact, or information and evidence (mostly incorporating more general expert statements), absence of commentary and failure to comply with the schema provided. Inadequately processed discussion was identified in 59 works (29.00 %). This fact was contributed to by the fact that 56 essays (28.99 %) contained an inadequate processing of the thesis, which significantly influenced the processing of other essential components of the essay. In the remaining essays, there were no criteria for the processing of factual details (see point 4 - Strategy for Writing Specialist Essays Presented on a Theoretical Basis).

The overall result for the level of specialist essay composition and level of processing analytical categories is the result of the ability to select resources relevant to the topic. The evaluation of this analytical category is shown in Table 4.

Table 4: Relevance of selection of specialist literature to the discussion

Adequacy of thesis formulation	Absolute number (n)	Relative number (%)
yes	97	46.86
partly	75	36.23
no	35	16.91
Total	207	100.00

Evaluating the selection of literature relevant to the defined problem is an important component of critical thinking. The positive thing is that 97 students (46.86%) used relevant sources in the discussion. Partially relevant sources were used in 75 papers (36.23 %) as evaluated (e.g. using secondary sources). In some essays there were outdated sources or the list of literature used included resources that were not part of the content of the essay. Sources irrelevant to the problem identified were data in 35 expert essays (16.91 %).

We wanted to find out how closely the analytical categories of *adequate discussion* and *relevant sources* are correlated. To determine these connections, we used Spearman's correlation coefficient. The results of the tests are presented in table 5.

Table 5: Values of Spearman's correlation coefficient for adequacy of discussion and relevance of sources

Variable	Adequacy of discussion	Relevance of sources
Adequacy of discussion	1	0.711**

The highlighted values represent a significant relationship (** $p < 0.01$)

On the basis of Spearman's correlation coefficient $r = 0.711$ ($p < 0.01$) we found a highly positive correlation (Chráska, 2007, p. 105)² between selected analytical categories, specifically: the

²Approximate interpretation of the values of the coefficient of correlation according to Chráska (2007, p. 115) – $r = 1$ (functional dependence); $1.00 > r \geq 0.90$ (very high correlation); $0.90 > r \geq 0.70$ (high correlation); $0.70 > r \geq 0.40$ (medium correlation); $0.40 > r \geq 0.20$ (weak correlation); $0.20 > r \geq 0.00$ (very weak correlation); $r = 0$ (no correlation).

adequacy of discussion and the relevance of sources. The calculated coefficient therefore shows that the more relevant the sources are, the more adequate the discussion is in terms of the outputs that were evaluated positively and conversely, inadequate sources were reflected negatively in the quality of the discussion.

From the point of view of critical thinking, the most important thing is to reach a decision and to support it with relevant evidence. The result of the evaluation of the compatibility of the thesis and the concluding judgment is presented in Table 6.

Table 6: Values of Spearman's correlation coefficient for the relationship sensitivity of the thesis and concluding judgement

Variable	Sensitivity of thesis	Concluding judgement
Sensitivity of thesis	1	0.667**

The highlighted values represent a significant relationship (** $p < 0.01$)

Using Spearman's correlation coefficient $r = 0.667$ ($p < 0.01$) we found moderately positive correlation (Chráska, 2007, p. 105), which indicates a moderately close relationship between the thesis and the concluding judgement. The calculated value suggests that there is a significant relationship between these analytical categories, which means that if a student is able to correctly state the thesis, they are most likely to be able to justify it and properly support it with an appropriate argument. Conversely, if they are unable to distinguish the thesis from other statements (e.g. opinion), it influences the ability to establish a relevant argument and to arrive at a relevant judgment.

4 Discussion

The overall level of Jane Schaffer's Critical Thinking Expert Essays was expressed as Grade D - satisfactory ($M = 2.65$). We consider this result to be satisfactory as a whole, given the fact that such type of teaching is not common at Prešov University in Prešov in the context of master's level training for the teaching profession. The worrying result is that approximately 1/3 of essays ($n = 67$; 32.37 %) did not contain critical elements of critical thinking, which reflected their overall level of processing - classification grade FX. We assume that these may be caused by multiple effects on the individual:

- insensitivity to social problems caused by unethical presentation by the media;
- superficial solution of life situations - someone else will solve it for me;
- the laziness of the mind caused by the advances in technology – I can find everything on the Internet;
- non-critical acceptance of any examples, information, etc.;
- absence of communication face to face;
- absence of altruism;
- absence of responsibility
- unsystematic development of critical thinking in education and the absence of the foundations of modern logic and many others.

The fact is, that the development of critical thinking was not included in the Slovak Republic's National Education Program until 2008. The results of several research papers suggest that this issue is still present in Slovak education at all levels of schools in the periphery (Petrasová 2008; Smetanová et al 2015, Čavojová, 2017, Čavojová and Jurkovič, 2017 a.). This makes it more difficult to apply its development to the more specific social disciplines of the obligatory socio-scientific basis of teaching. The partial results of content analysis showed that students have problems working with information, selecting relevant facts and evidence, building relevant arguments, and so on. In this context, the Jane Schaffer method is considered to be very interesting because, on the one hand, it allows the learner to organize their own thinking according to predetermined steps and on the other hand, it brings a variety of cognitive skills. A

well-composed essay requires the ability to ask questions. The literature provides several options for reviewing and improving the process of one's own thinking. We recommend the following sources to readers: Paul (1992); Paul and Elder (2003); Crenshaw, Hale and Harper (2011); Schaffer (2017).

5 Conclusion

Supporting the critical thinking of learners is a challenging and responsible role of the teacher. Learning to critically review the information received is an important part of cognitive processes. It requires a teacher who has good socio-scientific insights and can think critically (e.g., to build relevant arguments, to identify logical errors, etc.). Our analyses point to relatively large deficiencies in the orientation of the learning outcomes of the courses offered in the field of teacher education to this area of the future teacher's competences, as well as to the level of critical sociological thinking of future teachers.

The application of Jane Schaffer's essay writing technique to teaching in addressing sociological problems caused several problems for students - future teachers. The students were not used to the type of teaching that required critical judgment. We encountered several issues during the seminars:

- reading enough relevant book and magazine literature,
- having sensitivity for selecting a socio-cultural problem,
- performing detailed analysis (theoretical and empirical anchoring),
- specification of the thesis,
- elaborating individual paragraphs of the essay in accordance with the Jane Schaffer schema - introductory paragraph, core of work, final paragraph with final judgment.

Despite the fact that enough space was spent on steps to meet the requirements of the given subject, about one third of the essays were poorly composed. We believe that this fact may be related to the teaching of the learners in previous years, which was not aimed at in-depth study or higher-level thinking. Students - future teachers - should be able to teach their pupils to actively work with different types of information, cultivate social sensitivity and lead to social responsibility. These qualities will be reflected in the future functioning of society. From the societal point of view, we consider it important to support education for critical thinking in the Slovak school system so that learners of all levels of school are aware of social and cultural contexts. Teaching Critical Thinking through the Jane Schaffer model (not only on social topics) is considered to be one of the important ways to prepare a person with the future competencies defined by the World Economic Forum (WEF, 2018) in Davos - the ability to solve complex problems, critical and creative problem solving, managing people, coordination with others, and emotional intelligence.

The presented lessons can be inspirational for all social disciplines, since the ability to think critically is considered to be the dominant competence of contemporary and future society.

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