THEORY OF ARGUMENTATION IN THE EDUCATION

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Abstract

Constantly expanding information space is a characteristic feature of modern society. Hidden information attacks have a negative impact on the lives of individuals and society in general. Recently, in this regard, the study of critical thinking seems to be particularly important. In our paper we present the project "Need of multi-dimensional critical thinking in the media competence development", which is dedicated to the scientific, humanistic and practical aspects of multi-dimensional critical thinking and its application in the media competence development. Our project is oriented to university students, professors, assistant professors, lecturers and researchers in different areas of study on one side and artists on the other side. The aim of this project is to provide these persons with basic elements of multi-dimensional critical thinking that could be helpful in progress of their media working abilities. It helps to improve the competence to receive and to interpret medial contents and to be active in medial communication process. Above mentioned skills and abilities can be used in their applied, professional and research activities. Based upon positive feedback from the e-courses of the subjects Logic I and Logic II, we have decided to add subjects related to critical thinking and argumentation theory to the education process in the humanities-oriented study program Mediamatics and cultural heritage at our University. In this paper, we highlight the need for critical thinking and logic as key instruments in the logical abilities and medial competencies development of students of humanities-oriented study programs. Experiences from e-learning course for Logic during last four years show that study of logic has a high impact on students’ professional studies. It improves their analytical and synthesis abilities and helps them to deal with various forms of opinion manipulation ultimately. Therefore, we decided to create an electronic educational course for subjects The Theory of argumentation and Critical thinking, which are taught in the second year of graduate study in the Department of Mediamatics and cultural heritage of Faculty of humanities of University of Žilina in Žilina as an important part of graduate skills of this study program. The aim of educational part of this project is to build up an educational conception of selected courses by creating educational texts and to build up an e-learning support for specific courses. We are confident, that the ability to analyse information critically should become one of the elementary skills of educated people of the 21st century. In this paper, we describe our teaching experience with subjects Theory of argumentation and Critical thinking by using different teaching techniques. We also describe positive possibilities of this e-course for practical use within the study and we present alternatives, innovation and visions for the future of teaching similar subjects. In this paper, we also introduce the structure of educational Portal of critical thinking, which would be used as an aid in teaching the theory of argumentation, mainly for students. Later, information presented in this Portal will be also open to the researchers in different areas and artists.

Keywords: Theory of argumentation, critical thinking, logic, e-learning, e-course.

1 INTRODUCTION

In the article, we present the development concept of critical thinking of students of “Mediamatics and cultural heritage” study program, our experience from teaching the subject “Theory of argumentation”, its potential and possibilities of practical use. We focus on what have the students’ biggest problems with, during the course and vice versa – what points are being learnt quite well. We focus on possible innovations as well, such as the use of storytelling-method when teaching logical wrong argument during school year 2016/2017. In the article we also present another possible innovations of teaching of the subject Theory of argumentation, with the possible use of critical-thinking portal. This can be used to exchange the knowledge from multi-level critical thinking to research workers, people from the art-spheres and important people from commercial spheres. We describe the structure of this portal as well, together with its specific sections and possibilities of use not only in mediamatics.

Based upon positive feedback from the subjects Logic I and II, we have decided to add subjects related to critical thinking and argumentation theory to the education process in the humanity oriented study program Mediamatics and cultural heritage of Faculty of Humanities of University of Žilina,
Department of Mediamatics and cultural heritage. We have created a logical cycle consisting of subjects Logic I taught in year 2 of a Bachelor degree, Logic II in year 1 of a Master degree [1], [2] and Argumentation theory in year 2 of a Master degree [3], [4].

2 THE NEED FOR CRITICAL THINKING IN THE EDUCATION PROCESS

In 2015 we succeeded with KEGA project "The need for multi-dimensional critical thinking in media competences development", we are working on currently [3], [4]. We are sure, that there hardly exists somebody, who has never made any logical mistake in his considerations. The analysis of logical mistakes in argumentation and the rules of correct inference always had an important role in science and education. Our project "The need for multi-dimensional critical thinking in media competences development" is oriented at students, professors, university assistants and researchers in different areas of study on one side and artists on the other side. The aim of this project is to provide these persons with basic elements and main principles of multi-dimensional critical thinking that could be helpful in progress of their media working abilities. It helps to improve the competence to receive and to interpret medial contents and to be active in medial communication process. Above mentioned skills and abilities can be used in their applied, professional and research activities.

According to the study of the Iuventa Foundation (2011) called "Youth and media - the level of medial literacy of young people in Slovakia", almost 75 percent of high school students' parents let their children watch media without any time or content restrictions. Young generation has a problem to evaluate truth of the information due to big amount of unfiltered information, not only economical or political, but even environmental, human rights- or globalization-oriented. This results to acute need to teach young generation to critically evaluate all the information. This ability becomes necessary in today's fast changing world.

Critical analysis is a set of procedures and abilities, usable in the evaluation of truth, or the rate of manipulation as well as in the interest analysis as used by the media. The base of critical analysis is active thinking about received information and its active evaluation. Information is the beginning of critical thinking only, not its result. The generation of own conclusions in the critical thinking process is not possible without sufficient primary inputs. We are sure, that application of critical thinking will be a contribution to education process. It will be helpful to students in deep utilization of wide knowledge range in the areas such as philosophy, applied mathematics, information systems and cognitive science. It is important to focus students' attention to interdisciplinary character of obtained knowledge. It is advisable to detached two types of mentioned characters. Structures isomorphism (accord between objects), meaning that it is possible to traverse from one representation to the other one, and structures homomorphism (relation of similarity) meaning that it is possible to consider one formalization as an approach to the another one. We need to know that most of information technologies problems and artificial intelligence field problems are deep philosophical and linguistic. Their solution from logical illiteracy point is wrong [4].

The reason of interest about critical thinking and argumentation is simple – critical thinking and argumentation are present at every level of social life: in the parliament, in a court room, in academic life, as well as in a shop, bar, family or friends' meetings. The asking for a dialogue and argumentation by any means of obtaining an equality, finding a common decision, arguments solving is an accepted standard even amongst lightly civilized people. Our social life runs in the middle of never-ending controversies and conflicts, real fights between followers of all opinions, conceptions, ideas, ideologies, in which, luckily, we defend and follow our point of view or conviction by means of words only. In democracy, free opinion exchange, belongs to most advocated principles of social-political life [5].

3 THE LOGICAL CONCEPT OF SUBJECTS LOGIC I, LOGIC II AND THEORY OF ARGUMENTATION

The subject Theory of argumentation was created as one of the basal subject for support and development of critical thinking of students of study program Mediamatics and cultural heritage. Together with the subjects Logic I and Logic II they are designed as a whole for improvement of students' logical and critical thinking. Study program Mediamatics is humanities oriented and in Slovakia can be studied on Faculty of Humanities of University of Žilina only. We are trying to achieve that critical and logical thinking, not only in the medial competencies context, were the knowledge to differ our study program graduates from similar study program’s graduates. We believe, that
knowledge that the theory of argumentation brings to the students, may also create a competitive advantage in labour market for our graduates. There exist many humanities oriented programs that produce graduates with the knowledge based upon memorizing, unable to connect gained knowledge logically and to think in wider context. Our aim is, with the created whole of subjects Logic I, Logic II and Theory of argumentation, to show to the students the way to find coherences, independent deducing and adoption of own standpoint. We are convinced that the aim of education of higher-level scientific disciplines is to teach the students about the world of fundamental ideas of a specific science and to show them the concepts behind strict scientific definitions.

We are convinced that the study of logic and theory of argumentation is highly important especially in today’s time period, because these scientific disciplines help to create the culture of reasoning necessary to allow all the research in natural and humanities oriented sciences. For humanities oriented sciences, the logical culture is essential, because all objects used in these disciplines are abstract. Therefore, everyone intended to work in the field of humanities oriented sciences (including mediamatics) or to teach them, has to be ready to produce a certain effort during the study of logic and the theory of argumentation [6].

3.1 Objectives of e-course for humanities oriented university

The theory of argumentation is based upon the ability to evaluate arguments used not only in media, but in a real life and thus to think independently and to objectively judge reality, information and phenomena around us. We are convinced that the subject Theory of argumentation is one of the basics of critical thinking of the program Mediamatics and cultural heritage graduate. Gained competences are necessary and usable not only during university study and final defence of the thesis, but in further practical and real life as well, because the ability to filter information through critical thinking shall become the part of elementary skills of the educated man in 21.st century.

Therefore we have decided to create a project "The need for multi-dimensional critical thinking in media competences development" that is dedicated to educational, practical and scientific aspects of multidimensional critical thinking and its use to medial competences development. In the pedagogical part of the project, its aim is to create the teaching concept of the subjects Theory of argumentation and Critical thinking, create teaching materials for certain subjects and create support for both subjects based upon e-education.

Due to improving of the efficiency of the educational process it is necessary for passive forms of learning increasingly being replaced by more efficient active forms, which markedly promotes individual work of students. E-learning also belongs to such forms of education. It is evident that the effectiveness and success of e-learning largely depends on the quality and attractiveness of electronic materials [2]. Based upon positive feedback from e-course for subject the Logic, we decided to create an electronic educational course for subject Theory of argumentation.

The project of creation of our course has the following global objectives:

- Create textbooks and e-presentation of the subject Theory of argumentation in the study program Mediamatics and cultural heritage in master degree for students in full-time and part-time forms of study.
- Place them in the Moodle system of the University of Žilina. E-presentations will be simultaneously used in the teaching process (lectures).
- Prepare e-learning study texts and interactive e-course of the subject Theory of argumentation.
- Compare the success of teaching by traditional form and by using e-learning.
- Launching a web portal aimed at Theory of argumentation and Critical thinking.

3.2 Necessity of theory argumentation for humanities oriented university studies

If we want to justify the trueness of a statement we are convinced is true, we do argument. Argumentation is an activity we use almost constantly and to defend the trueness of our statements we can therefore use intellectual activities, such as argumentation, only. Besides that, the ability to argument is a basic of critical thinking. The goals of argumentation are:

- to prove that thinking is correct and the reasons for acts and opinions are legitimate
• appraisal of arguments, reasons, opinions of the opponent

We do argument, when we are solving a problem, when we want to explain, reason affect or excuse our or someone’s behavior. To this, not only situation description is necessary, but one needs to consider – to find initial premise and to know to draw a conclusion – to argument. We have to consider, that most of the information when negotiating and by meetings and discussions is not an argumentation, but a simple submitting of facts, only.

Despite it, many people are convinced that they shall be able to convince another people about their proposal, intention, idea and/or reasons, why it is necessary to do something in some way and not the other one. In reality, there is nothing more difficult, than to bring one to change his/her attitude, mind, opinion, not to speak about conviction. People defend against information that are against their conviction, mind and belief and are disrupting the integrity of their inner world.

Our concept of the subject Theory of argumentation lies in the ambition to try the students to learn to differ, what is and is not an argumentation, to extract an argument from argumentation and to teach them to standardize an argument. We use the knowledge from subjects Logic I and Logic II helpfully. But because the argument is stated in a natural language, argument standardization brings problems we want our student to be aware of. It are the problems of equivocation, amphiboly etc. Based upon created abilities of the students to differ argumentation and to standardize arguments, consequently we pay attention to non-deductive arguments and the most essential part of the subject – incorrect arguments (logical fallacies). The aim of the subject is to identify incorrect arguments, the ability to consider the power of argumentation and to confuse opponent’s way of reasoning, and on the contrary even to use correct thinking by own argumentation.

The knowledge from Argumentation theory has wide use for students not only during their study, but in real life as well. Theory of argumentation is being properly taught in second year of master study degree, when future graduates of the specialization submit their final diploma thesis. In final diploma works especially, we see big potential to use the knowledge from the Theory of argumentation. In conclusions of their final works, the students are with the gained knowledge able to use correct ways of reasoning and to defend their attitudes and opinions written in the thesis – what often affects final grade of the thesis defence. Theory of argumentation also encourages the students to think in wider coherences and to connect specific information – what may help them to move towards more exact results in their thesis.

But competencies gained in the subject are usable in real life too – because nowadays, more than ever before, the ability to look at received information critically is essentially important. We try to demonstrate this fact in argumentation theory mainly in the relation to media, when even practical tasks to search for incorrect arguments focus on medial content, the students are consciously and unconsciously confronted on a daily basis.

During the second year of project application, based upon our analyses, we have updated the conception of teaching the subject Theory of argumentation in the study program Mediamatics and cultural heritage (created in the first year of the project) and electronic study materials in subject Theory of argumentation for master degree (created in the first year of the project).

Actualization means, to teaching syllabi of the subject Theory of argumentation we have included themes, such as: non-deductive ways of reasoning; logic of scientific knowing; specifics of humanity-thinking, including reasoning methods used in humanity areas of knowing; incorrect arguments and common logical fallacies. All of them shall (according to our opinion) help the students to develop critical thinking. Furthermore, based upon our analyses, we prepare a book “Logic II” for second year of master degree at university education in the study program Mediamatics and cultural heritage. In the book, we will summarize the results of our analyses in the topic of intellectual viruses and creation of methods that could help to resist the attacks of advertising companies, marketing, political and election campaigns.

Exercises from the subject Theory of argumentation, discussions with the students and the analyses of mistakes made by the students when working on tasks were all very helpful in our analyses (in this direction). We are intending to include our experience gained at exercises from the subject Theory of argumentation to the contentual concept of the information portal: feedback from the students at the subject's exercises and the analyses of the students’ tasks results during the semester. We plan to start the trial operation period of the information portal with the updated result from the education process after the end of winter semester of the academic year 2016/2017 and it will be located on
4 TEACHING OF THE SUBJECT THEORY OF ARGUMENTATION – EXPERIENCE AND INNOVATION

The subject Theory of argumentation has an educational dotation of 2 hours per week. Lectures have 1 hours and exercises 1 hours per week. Currently, the subject has following structure:

1. Identifying Arguments (Indicator words, Arguments vs. Explanations).
5. Argument from analogy.

Lectures from the subject Theory of argumentation are focused mainly on theoretical managing of the lectured topic and exercises from the subject Theory of argumentation are based mainly on working out practical tasks. The students have certain types of logical fallacies included in their tasks, which they have to search in medial contents, different forums and discussions. On one hand, we want to show the fact, that wrong argumentation is definitely everywhere around us, and on the other hand, we intend to motivate the students to be aware of this fact not only passively. But, we want the students to be able actively identify this form of argumentation and hence to be able to consider the credibility of a certain information and to dispute and to maintain their opinion correctly. Later on further exercises, we analyze found wrong arguments together, and this starts interesting discussion amongst the students and pushes them towards further reasoning.

Upon analyses of exercises from Theory of argumentation we have found out, what makes biggest problem to the students: identifying arguments and standardization of arguments. Despite it, identification of non-sequitur arguments was without problems. We consider one finding to be very important: students were able to identify wrong arguments in medial contents (designated for the 3rd task). This year, we have decided to innovate just this task and have used the storytelling method application. The students have had more difficult task – to contextualize logical fallacies – by creating a video or a story or other creative material that would clearly explain the essence of certain logical fallacies’ types. We may point out that students were absolutely creative and many of the tasks were of high level. Even usable for better presentation of logical fallacies in the future. Therefore, we decided to make storytelling a part of education forms of wrong arguments in the future.

4.1 Possibilities and vision of teaching of the subject Theory of argumentation in the future

Not only from in previous chapter mentioned analyses, we may say that it is necessary to keep the tasks prepared by students to subjects exercises. One of the aims of the subject is to encourage the students to realization of existence of incorrect argumentation in all spheres of our lives – in political discussions, internet forums, advertisements or common news. These tasks particularly push them to be able to identify incorrect argumentation and therefore to see statement value of a certain output critically. It is of course necessary to modify the tasks and to deal with actual problems, but still focus on the aspects, problematic for the students in the past. As the exercises from the subject show, the importance of tasks lies also in the ability to start an active discussion, cooperation amongst the students and inspire them to think in wider coherences during the exercises as well. In the future, to innovate the tasks, we aim to use modern methods of knowledge presentation as well, such as this year used storytelling mentioned already – they seem to be for the students more interesting to prepare, and even more effective to adopt needed information and skills.
Our ambition is on one side to teach the students to differ arguments around them and to initialize them towards critical thinking. On the other side, we want them to be able to defend their opinions – logically, correctly and intelligently. One of the visions is in this context, beside the tasks, to create simulated discussions about different controversial topics between the students during the lessons or exercises. Topic of the discussion would be announced one week in advance (and as mentioned already, it would be focused on time-outdoing controversial themes and current problems such as migration crisis, antivax campaigns etc.). During every exercise, a group of certain amount of students would be chosen, who hence will have time to prepare for the next lesson – to study the topic of a given theme and to decide what attitude to represent. They will also get the “roles” in accordance with the theme, such as politics-analyst, human rights activist, doctor, member of parliament etc. Our idea is that this form of discussion encourages the students to argumentation, logical thinking and critical thinking – with the natural participation of the viewers’ (e.g. other students’) questions. At the end of the exercise, we all would evaluate the level and process of the complete discussion together, with regard to the specific discussant’s ability to argument.

In the future, e-learning support for the subject will become very important element for us. During both exercises and lectures, we would like to use own portal focused on critical thinking, that shall in the first phase serve to mediatics’ students primarily, and later to the public. We describe its structure and mission in the next sub-chapter.

4.2 Critical thinking portal (not only) for the students

We plan to launch an informational web portal aimed to above mentioned problems as a space for professional and scientific discussions and opinions exchange. We assume that familiarization with critical thinking would be useful to significant experts in commercial sphere as well. As the result of the research, there will be series of publications forming the book, which will explain theoretical background, scientific methods and our results. It will be designed in such a way that it could be used to introducing ideas into educational practice, especially for students whose work demands deep processing of a huge amount of knowledge (philosophy, applications of mathematics, informational systems, cognitive science, structural linguistics, etc.). We will prepare a publication, which will be more popular introduction into ideas of logic and critical thinking. The main purpose of this popular publication are simplest methods, how to repel attacks of neuro-linguistic programming, multi-level marketing, totalitarian sects, political and electoral propaganda and other methods to deprive one’s free will.

Primal aim of the portal will be the support of critical thinking education and the subject Theory of argumentation. But our vision is to make it a complex internet webpage about multi-level critical thinking. In the future, portal might contain critical-thinking-skills tests, downloadable critical thinking handbook or discussion forum for different topics. When successful, we intend to extend its thematic focus to similar themes, such as information wars, propaganda, medial manipulation etc. So, the portal would, besides student, serve to the general and professional public.

5 CONCLUSIONS

Discussions (political mainly) often use incorrect arguments to conviction. We may meet mistakes in logical inferences almost everywhere, and obviously, it is not possible to avoid them completely. Finally, the process of human knowing consists of mistakes essentially – including mistakes by logical reasoning and their corrections.

We may find a lot of appropriate reasons of today’s crisis in political and intellectual sphere in the disability to express correctly and understand one’s formulation. When thinking more deeply, we may find out that in the basics of all of them lies some destructive “strategy of muddy water”, with the support of army of demagogues and mystificators, with basic task to camouflage logical and terminological non-senses of defended paradigm. If we are leaving critical thinking, we create almost “glass-house”-conditions for their destructive activity.

If we have to win the war against our credulity, we should trust only upon evidence and do only what has a good reason. It is important to learn to fight against the attempts of certain people to manipulate our opinions, activity and emotions. Critical thinking and logical abilities could be able to protect us. They could also protect us against the influence of advertisements in media, deformed news and unreal promises of the politicians. There exist anomalies and wrong arguments identifiable only if we have certain skills and knowledge from logic and theory of argumentation.
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