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John Oversby

Is science education proactive or reactive with respect to humanitarian aid? The place of the military and climate change

Introduction

The European Commission sets out the principles of humanitarian aid (European Commission: 1 and 2). It proposes a set of rules that seek to limit the effects of armed conflict. It lays out the responsibilities of states and non-state armed groups during an armed conflict. The UN Charter has declared war as illegal but war still takes place. It defines, among others:

- the rapid and unimpeded passage of humanitarian aid in armed conflict
- the freedom of movement of humanitarian workers
- the protection of civilians (including medical and humanitarian workers)
- the protection of refugees, prisoners, the wounded and sick.

At present humanitarian aid is composed of the following aspects:

- Capacity building: policy and action preparation for internal humanitarian aid
- Cash transfers: structural infrastructure within the money system to provide finance for those without any wealth
- Climate change and the environment: extreme weather events made more likely though climate change
- Digitalisation: includes electronic information
- Disability inclusion: those with a disability need extra provision. Indeed military action often increases the number of those with disabilities
- Disaster preparedness: this includes basic food stores and methods of distribution.
- Humanitarian air bridge: when transportation routes are blocked or significantly damaged, movement by air might be the only viable alternative
- Emergency education: young people lose access to education through internal and external migration, while older people require both academic and vocational routes to be available.

In these respects, humanitarian aid is reactive, dealing with impacts after they have happened. However, there is a case for looking at the preparation for military conflict (Downey *et al.* 2010) and its creation of a need for humanitarian aid. Downey *et al.* (*op. cit.*) claim:

‘One set of institutions that facilitate resource extraction activities are international trade and finance institutions such as the World Bank, International Monetary Fund (IMF), and World Trade Organization (WTO). These highly coercive institutions have multiple, often violent, negative impacts on individuals, societies, and the environment However, these institutions do not directly use or control the means of violence, which we argue also play a critical role in maintaining and increasing global natural resource extraction and ensuring the safe transport of raw materials and finished products. The means of violence are, instead, controlled by military, police, mercenary, and rebel forces around the world that are usually, but not always, associated with local or national governments and that sometimes act on their own behalf and sometimes to ensure capital accumulation. Thus, we conclude that environmental sociologists and ecological unequal exchange researchers should focus theoretical and empirical attention not only on the relationship between natural resource extraction, raw material transport, armed violence, and environmental degradation but also on the structural role that military, police, mercenary, and rebel forces play in harming the environment.’

These resource extractions carried out exploiting unequal power relationships that already exist between wealthy and poor nations often create an environment where those without power are forced off their lands and compelled to live in poverty usually in urban centres. Additionally, land is frequently structurally degraded and left devastated and uninhabitable. Add to this the need for the military to test their equipment and weapons for lengthy periods damaging the environment and making it useless for human habitation or for farming, resulting in the need for humanitarian aid to continue over generations.

Of course, war and other military conflict involving violent repression leads to widespread damage to property and, more importantly, loss of life that could sustain normal behaviour. In such situations, exemplified recently in Ukraine but present in other theatres of war such as Yemen, Syria, and the Occupied Territory of Gaza, management of supply lines, widespread destruction of residential and commercial property, damage to transport links for living essentials, show how quickly devastation can result and coercive loss of land rights leading to the need for humanitarian aid.

The impact of climate change, a second human-induced devastation of the environment, leads to serious ill-health and death, more obvious in poor countries where resilience is restricted through poverty, both absolute and relative. Major floods, storms and fires are increasing as the climate warms up, requiring humanitarian aid to save life and to care for those affected. Food production is negatively affected by climate change resulting in farmers being less able to produce sufficient food as the climate warms up. Since climate change is so widespread, populations

are displaced and requiring humanitarian aid. Add to this the provision of good water supplies for farming, drinking and manufacturing industry which is declining, leading to the need to support populations over a wide area. Wealthy countries are contributing significantly, per head of population, to climate change, both directly by consumption of resource and indirectly by importing manufactured research from poorer countries.

So, what is the place of science education in these cases?

- In biology, the fragility of systems to continue life cycles, should be an integral part of the content of the curriculum, including food production. We recognise the interconnectedness of different parts of society (e.g. farming and food production, transport of food to centres of population for consumption) but we should introduce older students to the dangers of destroying elements of the systems that maintain life. Not least, those places that produce crops for export, such as wheat in Ukraine, could be used as examples of what happens in the case of military conflict. The emergence of extreme weather events, made more likely by climate change, also disrupts life cycles.
- With respect to chemistry, mineral resource extraction topics should incorporate consideration of armament production, and the consequent damage to the environment. Fuel supplies have been a major issue in military conflict battles as exemplified in the countries listed above, and it is not sufficient to teach about the use of fuels while omitting the high use of fuels by armies and communities. Explosive power leading to destruction of life and property, and the subsequent need for humanitarian aid should be included.
- In physics, military exploitation of the strength and density of metals to protect soldiers, while leaving civilians vulnerable, would be a valuable inclusion. See Thomsen (2022) for an introduction to teaching ethical issues in physics.

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Is science education proactive or reactive with respect to humanitarian aid? The place of the military and climate change

Abstract

In this paper, I will focus on the human-induced need for humanitarian aid, in particular, disasters created by climate change caused by humans, and military conflict caused by humans. These can largely be avoided beforehand, although I do not underestimate the political will needed to do so.

I point to international rules and procedures for humanitarian aid in times of armed conflict and natural disasters. Underlying the issues is a sense of injustice in the causes of military and climate change action, involving ethical considerations. Generally, these are not a focus in secondary school sciences curricula.

Key words: science education, humanitarian aid, climate change, disasters

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I. The role of school and the environment in social adaptation and assistance in mental crisis. Science and technology education and global justice

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Practical aspects of chemistry in the context of the necessity to survive

Introduction

As chemistry teachers, we are looking for new and better solutions, and preparing new, better teaching aids. We research what our students are interested in, and what they are not. We think about the accuracy of drawings in textbooks, and the possibility of using online laboratories or computer models. We check the competencies of students and teachers. But the question arises: Can knowledge of chemistry help in times of crisis ... war, hunger? (Quora; Pienta, 2014).

Background

In the past, the answer to this question was simple. It was believed that in chemistry class, the student should learn about the laws and facts he encounters in everyday life and that he would be able to explain and apply them to his needs. It was believed that by learning chemistry, the student would learn a practical aspect of science that could be used in everyday life. This was because the objects in the child's environment and used in the household were primarily composed of simple chemical compounds, the formulas and properties of which were relatively easy to explain (Nodzyńska, 2007; Turkiewicz, 1948; Matysik & Rogowski, 1966; Grodecka, 1965; Цветков, 1953; Petrů, Souček & Pacholík, 1951; Trtílek, 1957; Sotorník, Vurm & Pauk, 1957; Trtílek, Krsička & Ondráček, 1963; Pauková, Hájek & Otčenášek, 1963).

In Poland, during the economic crisis (1980s) (Zawistowski, 2017), the pupils made various products on their own, in the chemical class, which were missing in the shops. For example, they produced soap (made of fat and sodium hydroxide), which corresponded to the saponification reactions in chemistry classes (Kopek-Putala & Nodzyńska, 2020; Pietrzak, Walosik, Nodzyńska & Kubis, 2015). While discussing the properties and use of salt, students received toothpaste (made of calcium and magnesium carbonate). And they got glue from starch – in the chemistry

lesson, there was a topic – the use and properties of starch. Students also made matches (from zinc oxide, sulfur, glass dust, potassium chlorate and gelatin) that correspond to the topics: oxides, non-metals, combustion reaction, an oxidation-reduction reaction. They also learned to check – with iodine solution – whether the cream bought on the market is artificially thickened with flour. In the chemistry curriculum, this is the topic: starch detection. The question arises: Are NOW the students competent enough to do this? how can we create future critical thinkers and problem-solvers that will understand the necessity of sustainability and yet still be prepared to tackle the upcoming energy and water crises of our planet? (Jaini).

These topics were and are now in the core curriculum of chemistry and in textbooks both in Poland, the Czech Republic and Slovakia (Nodzyńska & Cieśla, 2015; Jaini; Janotová & al. 2020; Aichnger & al. 2017). However, their implementation differs significantly. Formerly, the emphasis on practice, now definitions and theory (Nodzyńska, 2010).

Research shows that currently, students do not know WHY they should have this knowledge – and whether it has any practical application (Howell, Yang, Holesovsky, & Scheufele, 2021; Smetanova, 2018). They cannot use theoretical knowledge in practice (Ali, De Jager, 2020; Birkenholz, & Others, 1993; Hess & Trexler, 2011). They think they don't need it (Ali, De Jager, 2020; Dohn, & Dohn, 2017).

Several years ago, culinary activities such as pickling mushrooms and vegetables in vinegar, cabbage or cucumbers, roasting, and preparation of jams and wines were widespread. Due to the shortage of stores supplies. Food was preserved in every home (COBOS 2014). Food preservation skills relate to the practical application of many elements of natural knowledge, including chemistry. The children learned these skills by helping their parents and grandparents with the housework. Then, during schooling, the children gained theoretical knowledge about the processes they knew before. The practical skill of pickling mushrooms and vegetables and marinating meat in vinegar was supplemented in biology lessons with theoretical information: toxin-producing bacteria cannot grow in an acidic environment (eg *Clostridium botulinum* producing botulinum poison). The pickling of cucumbers and cabbage, popular in Poland, are examples of lactic acid fermentation discussed in chemistry lessons. Roasting meat or making bread and jam-making are examples of the Maillard reaction discussed in chemistry lessons. Homemade wine production in chemistry lessons corresponds to alcoholic fermentation. Nowadays, most people buy ready-made food products (Sen, Antara, & Sen, 2019), so students often do not have the practical knowledge they need and do not see the possibility of applying their theoretical knowledge. For example, many children believe that milk comes from a factory. This is evidenced by, inter alia, numerous courses and trainings showing children how milk is produced (Wimmers, 2021).

In chemistry lessons, students discuss lactic fermentation but they have never acidified the milk on their own. Students learn about protein shearing under the influence of temperature but they have never made cottage cheese on their own.

Also, students learn about the protein shearing with salt but they have never preserved e.g. herring with salt on their own.

Given the students' lack of practical knowledge, the question arises: Without access to the store, will students be able to preserve food on their own? Bake bread, bake the meat; make cottage cheese, jam, and wine?

However, in times of crisis, knowledge of chemistry is needed not only in the kitchen. Knowledge of chemistry allows you to supplement the missing cosmetics, protect metals against corrosion (Nodzyńska & Cieśla, 2009), and impregnate clothes or shoes. Finally, some of the most important survival skills are obtaining water and decontaminating wounds. The first aid kit also contains many chemicals (see Table 1).

Table 1. Composition of the survival first aid kit

Chemical substance	Application
hydrogen peroxide (H_2O_2)	decontamination
swabs soaked in ethyl alcohol (C_2H_5OH)	local disinfection of the edges of the wounds
potassium permanganate ($KMnO_4$)	decontamination of drinking water, preparation of an antifungal solution, disinfection of wounds
saline ($NaCl$)	rinsing the eyes
Burow's solution ($Al(CH_3CO_2)_3$)	compresses of bruises and swelling

All substances and their properties listed in the table are discussed in chemistry lessons, but students do not use this knowledge in practice.

One of the most important survival skills is the ability to start a fire. Here, too, chemistry can help. Glycerin mixed with potassium permanganate ignites spontaneously. (First aid kits in a survival often contain these reagents, not matches, which can get wet.)

Literature review

In Polish, Czech and Slovak chemistry textbooks, the content is discussed theoretically. They lack both references to the context of everyday life and practice (Ali & De Jager, 2020). If there are examples of practical applications, they are discussed after the theory. The textbooks do not prepare for problems that may arise during crises.

When searching for articles on this topic, Web Of Science asked the questions "chemistry" & "crisis" and the search was limited to articles on didactics. 32 articles were received. 17 articles concerned teaching chemistry in the covid era. 5 concerned the water crisis. 2 were for an energy crisis and one was for radiation. 1 concerned the LACK OF CHEMISTRY TEACHERS. Subsequent individual articles describe – an overview of the main problems facing doctoral students' education in the field of chemistry, the climate crisis, and compare the use of the concept of the system in teaching the concepts of chemical cores or interdisciplinary topics related

to chemistry. And one is completely off-topic. The only Gentiles (2019) describes the so-called Complex Systems as preparation for the coming changes and crises. So as to prepare new generations of students to face the challenges of Complex Systems.

After entering the slogans “preparing students for war” and “chemistry”, we will receive texts about chemical warfare, the use of war gases or napalm.

It seems that although the knowledge of the basics of food preservation, water distillation and wound dressing is necessary from the point of view of crisis situations, it was not described/tagged in this way and it does not appear directly in the Core Curriculum or curricula. The articles describing the basic skills necessary to survive mention, among others skills such as preparation, food protection, water purification or treatment options (Aqsa Khan; Quora; Kassam, Avery, & Ruelle, 2016; Scriven, 1985). However, there is no description that these skills are related to the theoretical knowledge acquired in chemistry or biology lessons. Therefore, younger people who have different consumer experiences may not be aware of the necessity of having these skills. For example, nowadays most young people buy ready-made frozen food, not prepare it at home (Sen, Antara, & Sen, 2019).

Further research led to a title that sounded similar to “Survival Chemistry: Using Everyday Things to Create Energy and Drinking Water”, but the experiments described there require the use of laboratory glassware.

The main source of theoretical knowledge in chemistry should be school and formal education (we are not talking about disconnected information from TV or the Internet). But does the same apply to the practical skills based on chemical knowledge? Research comparing the percentage of practical knowledge from school and non-formal sources was carried out by, among others: Ogunjobi, Owolabi and Adejoye, (2018) and Dziob et al. (2022). Their research shows the predominance of sources of non-formal knowledge.

Methodology of the research

Purpose of research

It was decided to test the declared knowledge of people of different ages regarding their knowledge of chemical knowledge, which will allow them to survive during the crisis. It was also decided to check the sources of this knowledge. What skills do students learn from formal education at school and from informal education (from the family home, TV, Internet)? We also wanted to see if there are differences between food preparation knowledge and other survival skills.

Description of the research tool

A questionnaire with closed questions was used as a research tool. The online survey contained 13 questions. Each question was divided into two parts. The first part concerned the declared knowledge of the respondent. The students could choose from 2 answers: No / Yes. The second part was about the source of the information.

The students could choose from 5 answers: No; Yes, at school; Yes, on TV, on the Internet; Yes, my parents and friends showed it to me; Yes, other than stated. (This part of the question is marked with an A.) The survey was created in Google Forms. The link to the survey was sent to teachers cooperating with the University. The questionnaire was sent in the same way to students of primary and middle schools. University students were also asked to fill in the questionnaire (mainly in chemistry, but also those students who have basic chemistry in their programs). The respondents were asked to send it further.

Description of the research group

127 people from the Czech Republic took part in the survey (including 72 women, 47 men and 8 people who chose the answer “other” or “I do not want to answer this question”).

The group was diverse in terms of age (the youngest participants were under 15 and the oldest over 65). The most numerous group were students between 16 and 19 years of age (46.5%). Then, students up to 15 years of age (18.1%) and people aged 20–25 (16.5%). People over the age of 25 accounted for 18.1% in total (0.8% of respondents do not want to answer this question). The respondents also have different levels of chemical education. 23.6% learn chemistry in primary school, 46.5% learn chemistry in secondary school. 18.9% passed the high school diploma in 2010 or later. And 11% passed the high school diploma before 2010.

Research results

The table below presents the respondents' declarative responses.

Table 2. Percentage of answers Yes to individual questions

no.	question	% answers Yes
1	Can you start a fire with a chemical reaction?	58.3
2	Can you disinfect wounds with chemicals?	72.4
3	Can you purify water during survival?	67.7
4	Can you remove the limescale yourself with chemical reagents?	63.0
5	Would you be able to impregnate (e.g. leather, wood, fabric) with chemical agents?	49.6
6	Can you protect the metal against corrosion (without the use of anti-corrosion paints)?	44.1
7	Can you make soap at home?	65.4
8	Can you make yogurt yourself?	33.1
9	Can you make cottage cheese yourself?	40.9
10	Can you preserve mushrooms, vegetables or meat with vinegar yourself?	74.8
11	Can you make sauerkraut or pickled cucumbers yourself?	70.9
12	Can you make the jam yourself?	70.9
13	Can you make your own wine?	26.8

As we can see in the table above, the declared skills of the respondents are very different and depend on the question. More than 70% of positive responses are related to medicine (disinfecting wounds) and food preservation (pickling vegetables and meat, making sauerkraut or cucumbers and making jam). The p-value (one-sided test is 0.068147) calculated in the statistical program (<https://www.naukowiec.org/program-statystyczny.html>) is greater than the alpha value of 0.05, so we can assume that the differences are statistically significant. Correlations between the age and gender of the respondents are discussed below.

On the other hand, kitchen skills such as making sour milk and making wine obtained the lowest percent of responses (33.1% and 26.8%). It seems that the explanation of the diverse level of knowledge of the respondents can be found in the answers to the second part of the questions. The second part of the question was whether and where the respondents saw the use of the chemicals.

Table 3. Percentage of answers to individual questions

	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A
No	26	37	25.2	33.1	33.1	48.8	18.9	55.1	33.1	22	18.9	14.2	31.5
Yes, at school	40.9	12.6	3.9	10.2	7.1	13.4	22	7.1	5.5	0.8	1.6	0.8	3.9
Yes, on TV, on the Internet	18.9	14.2	55.9	17.3	20.5	13.4	38.6	12.6	29.1	4.7	7.9	11.8	29.9
Yes, my parents and friends showed it to me	3.9	23.6	8.7	28.3	26.8	18.1	12.6	14.2	22.8	66.9	68.5	67.7	26.8
Yes, other than stated	10.2	12.6	6.3	11	12.6	6.3	7.9	11	9.4	5.5	3.1	5.5	7.9

The percentage of respondents choosing the answer “I have never seen this” is very different from one question to another. The least number of respondents saw how fermented milk is produced and how metals are protected against corrosion without the use of anti-corrosion paints (55.1% & 48.8%). However, only less than 20% have never seen how sauerkraut or cucumbers are made and how jam is made.

School as a source of practical information useful in both safe and crisis times turns out to be insufficient. The only information remembered by respondents from school (by 40.9% of respondents) is how to start a fire with chemicals. (This experiment is often shown in schools as a motivating factor in learning chemistry.) The worst answers were to two questions: 10A and 12A (Have you ever seen the process of pickling mushrooms, vegetables or meat in vinegar? Have you seen how jam is made?). Only less than 1% of respondents remember this information from the school. Although acetic acid fermentation and the Maillard reaction are discussed in chemistry lessons. Less than 5% of respondents remember information from the school regarding 3 questions: 3A, 11A, 13A (Have you seen how to purify water during survival? Have you seen how sauerkraut or cucumbers are made? Have you seen how wine is made?). On average, only 10% of the information on survival was remembered by students from school.

Television and the Internet have proved to be very useful sources of informal knowledge about the practical aspects of chemistry. On average, students remembered from these sources over 21% of the information necessary for experiencing in times of a catastrophe. The most frequently remembered information (over 55.9%) was the answer to question 3A. Have you ever seen how to purify water during survival? The next four questions scored high. Almost 40% to questions 7A (Have you ever seen soap making at home?) and almost 30% to questions 9A and 13A (Have you ever seen how cottage cheese is made?, Have you ever seen how wine is made?), and more than 20% to the question 5A (Have you ever seen how it is impregnated (leather, wood, fabric) with chemical agents?). Only two questions had less than 10% of the answers: 10A and 11A (11A. Have you ever seen how sauerkraut or cucumbers are made? 12A. Have you ever seen how jam is made?).

As a percentage, the role of parents in gaining the knowledge necessary for survival seems to be the greatest (29.9% on average). However, it should be taken into account that this is due to the answers to three questions: 10A, 11A, 12A (Have you ever seen the process of pickling mushrooms, vegetables or meat in vinegar?, Have you ever seen how sauerkraut or cucumbers are made?, Have you ever seen how jam is made?). The percentage of answers to these questions is very high, ranging from 66.9% to 68.5%. These questions relate to the preservation of food at home, so it is logical that respondents most often indicate the home as the source of their knowledge. The answers to the remaining questions are much lower. Below 10% of the answers are two questions 1A and 3A (Have you ever seen a fire break a chemical reaction?, Have you ever seen how to purify water during survival?).

If we want to indicate the main source of information for each question and omit the answer "No", it turns out that the school is the main source of information for only one question (1A), TV and the Internet are the main source of information for four questions (3A, 7A, 9A, 13A). Whereas the family and friends for eight (2A, 4A, 5A, 6A, 8A, 10A, 11A, 12A).

The Pearson correlation coefficient was calculated for the questions concerning the declared chemical knowledge and gender, age and level of chemical education. As expected, there is practically no correlation between gender and the responses of the respondents. Only for questions 9 and 12 a weak correlation was found. The hypothesis that the older a given person is, the more tasks they can perform on their own has been confirmed (low or average correlation in all the questions examined). The dependence of knowledge on the level of chemical education is ambiguous. For 6 questions, it is below 0.2, which means there is practically no correlation (2, 3, 5, 6, 9, 13). For the remaining 7 questions, Pearson's correlation coefficient does not exceed 0.27. So we can talk about a weak correlation.

The Pearson correlation coefficient was also calculated for questions about the source of chemical knowledge and gender, age and level of chemical education.

For questions 2A, 8A and 9A, a very weak positive correlation regarding gender was found (which means that women indicated school as a source of information

for their knowledge slightly more often). And for question 1A, a very weak negative correlation was found (which means that men indicated school as a source of information for their knowledge slightly more often). In the remaining questions, there is no correlation between gender and the sources of knowledge indicated by the respondents.

More correlations can be found between the questions about the sources of information and the age of the respondents. In eight questions (1A, 2A, 4A, 7A, 8A, 9A, 10A, 12A) we can talk about a weak, positive correlation (i.e. the older the respondents were, the more often they indicated school as a source of information). In one question (3A) there is a weak negative correlation (this means that the younger the respondents, the more often they indicated school as a source of information).

However, the number of correlations between questions about information sources and the level of chemical education is not large. In four questions (1A, 2A, 4A, 10A), we can talk about a weak, positive correlation (i.e. the higher the level of chemical education the respondents were, the more often they indicated school as a source of information).

Discussion

Research has shown that the practical knowledge of students allowing them to survive in a crisis is not sufficient. The best (over 70% of answers) students know the answers to four questions 10, 11, 12 and 2. Five questions (5, 6, 8, 9, 13) have less than 50% of the answers. This is due to the fact that such experiments are not carried out at school (Pienta, 2014; Jaini). The subjects do not know how they could use their theoretical, chemical knowledge, which is analogous to the research described by Ali, De Jager, (2020), Birkenholz, & Others, (1993), Hess & Trexler (2011), Howell, Yang, Holesovsky, & Scheufele (2021), Smetanova (2018).

Research has also shown that the source of the students' practical knowledge is not the formal knowledge acquired at school. Similar results were reported by Ogunjobi, Owolabi, & Adejoye, (2018) and Dziob & et al. (2022).

If we assume that the main sources of practical, chemical information are the family home or TV and the Internet, a low percentage of answers to the questions (5, 6, 8, 9, 13) seems obvious:

- (5) TV and Internet advertise complex chemical compounds for impregnation, such substances are also used at home; no one uses wax, oils, etc.; at school, when discussing the properties of waxes and oils, their use is not discussed (however, in times of crisis, war, it's good to know how to make waterproof shoes or clothes);
- (6) anti-corrosion paints are advertised on TV and on the Internet, and although schools show other methods of protection against corrosion (e.g. grease lubrication or galvanic coating, use of a cathode or anode), informal knowledge is stronger;

- (8, 9) at present, when left warm, pasteurized milk does not turn sour, so people do not have this experience (home-made yogurt is not only healthy and economical, but also more and more fashionable; also people who cannot drink milk due to allergies can often drink it in the form of yogurt – during the war, the ability to make yogurt can prove very useful);
- (13) parents (rightly) do not show their children how to get alcohol at home (that's why they don't have this knowledge as adults).

Conclusion

Considering that students' practical knowledge of the use of chemistry both in everyday life and in times of crisis does not come from formal school knowledge, we think that we need to fundamentally change our approach to teaching, times have changed and our students are different and have different everyday lives experiences. Since, according to a study by Howell, Yang, Holesovsky, and Scheufele (2021), people who were taught chemistry in a personal context such as cooking and personal health were much more involved, it is a need to relate school subject content to students' daily lives. This is one of the biggest problems faced by researchers in the field of chemical education.

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Practical aspects of chemistry in the context of the necessity to survive**Abstract**

The article discusses how chemical knowledge (understood here as information, skills and attitudes) can be helpful in times of crisis, incl. war or hunger. In communist countries after World War II, the method of teaching chemistry at school was based on the student's practical skills acquired at home and at school (Nodzyńska, 2007). Then, in school, these skills were supplemented with theoretical data. This way of teaching allowed the student to combine practical skills and theoretical knowledge in the mind of the student, which allowed him to use this knowledge in practice. Nowadays, students often lack practical skills and at school, students encounter purely theoretical knowledge. This way of teaching may prove to be insufficient for students to be able to use this knowledge in practice during a crisis. thirteen practical skills were selected and the level of their knowledge the respondents were examined. The sources of the respondents' practical skills in the field of chemistry, which will enable them to survive in difficult times, were also examined and the correlation between the declared knowledge and sources of knowledge and gender, age and the level of chemical education. The obtained results show that the practical knowledge of the respondents about the use of chemistry both in everyday life and in times of crisis does not come from formal school knowledge.

Key words: formal and informal education; teaching chemistry; crisis situations

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Bridging the Gap – Sustainable Development in Secondary and Tertiary Education

Introduction

There is probably no need to convince any of the readers of the fact that the successful implementation of any new concept must be preceded by a broad and intensive educational campaign. That is why the UN declared the years 2005–2014 as the decade of education for sustainable development (UN Decade of ESD, 2014). An important task of it was to sensitise all inhabitants of our globe to interrelated socio-economic-environmental issues (Kostecka, 2009). Pawłowski (2006) understood this task even more broadly ‘as sensitisation to the integration of actions at the moral, social, economic, ecological, as well as technological, legal and political levels.’ The issue of a holistic, multifaceted view of the model of sustainable development for those interested in the natural sciences and – in general – the relationship between *school* or *academic* knowledge and the reality outside the education system, has recently become particularly relevant, inter alia, in connection with the outbreak of the COVID-19 pandemic and the development of anti-vaccination movements, as well as a Russian invasion of Ukraine.

However, the issues of sustainable development are perceived in a very restricted ecological context, it is therefore important to clearly define the differences between environmental education and education for sustainable development. Ecology relates to the interdependence between living organisms and their environment; nature education, on the other hand, focuses on increasing the ecological awareness of people, contributing to the change of their behaviour to such that would allow to maintain ecological balance. Thus, education for sustainable development (ESD), which in its assumption refers to values, is not intended to replace environmental education, but to expand and enrich it, because it concerns much broader topics and is oriented towards solving specific problems. As the key for education for SD, in addition to ecology is the social and economic sphere, and its task is to promote development of critical thinking and to create responsible civic

attitudes of students. Considering the above, the question arises: is it necessary to implement SD issues in the field of biology curriculum in a way that would integrate the UN Sustainable Development Goals (<https://sdgs.un.org/goals>) with the subject practical teaching? The answer is unequivocally affirmative. In the light of the emerging new threats (pandemics, armed conflicts, progressive climate change), the emphasis – according to the authors of this article – should be placed on specific objectives such as 4 – Quality education, 12 – Responsible consumption and production, and 13 – Climate change.

Background and conceptual framework

Research conducted in Poland shows that the public has difficulties in comprehensively understanding the concept of sustainable development (SD). Gotowska, Hope and Jakubczak (2012) showed that their respondents (mostly 20–30 year-olds with higher education) associated SD mainly with the process of satisfying human needs while taking into account environmental protection. A similar view is held by other authors, showing that students equate sustainable development with eco-development, environmental and nature conservation (Zabłocki, 2002). Interestingly, in the first decade of the 21st century, such views were expressed not only by students of natural sciences (Żeber-Dzikowska, 2010), but we can also find them in the studies of the students of economics (Łuszczuk, 2011). More recent research, however, makes us aware that students may link sustainability to the subjects they study. For example, in surveys of young people in Poland, mostly students of Production Management and Engineering, Agricultural and Forestry Technology, or Transport and Logistics Engineering in Krakow, almost 60% of responses included at least one dimension commonly related to human and social development and its institutions (such as industry, technology, and business), while only less than 20% of individuals associate SD with its environmental aspect (Pena et al., 2020).

A number of authors have also explored the organisational arrangements and methods used in education for sustainable development, described university actions taken as part of ESD and made certain recommendations. Among other things, it has been pointed out that subjects addressing ESD should be interdisciplinary and taught by specialists from different fields, and the methods used should be exercise-based (Gotowska, Hoppe and Jakubczak, 2012). Lorek (2013) went further and proposed three possible ways of discussing the content related to SD in student education programmes:

- a) as part of specialised study programmes dealing with the topic,
- b) as compulsory courses/modules dedicated to SD,
- c) by integrating SD-related content into other compulsory core courses/modules.

The first method has been applied at the Faculty of Chemistry of the Jagiellonian University with the creation of the study programme Chemistry of Sustainable Development in the year 2019. Faculties that have sustainability in their name

function mainly at universities and economics faculties, e.g. Economics of Sustainable Development at Lazarski University or as a major in economics at Opole University, at geography faculties e.g. at University of Warsaw, often in a narrower dimension, e.g. Sustainable Development of Organisations at Kozminski University (https://www.otouczelnie.pl/studia/kierunki_studiow). The most popular solution at Polish universities nowadays seems to be to discuss various aspects of SD as part of compulsory or only optional courses/modules.

Another strand of the research concerned the level and sources of knowledge about SD. The largest group of participants in the study by Gotowska and co-authors (2012) indicated that they first heard the term *sustainable development* only at university and this was 36.7% of the responses, while the term was known to only 34.4% of respondents from education at all previous levels (primary school, lower secondary school, upper secondary school altogether).

The authors of this paper wanted to check to what extent the results of research conducted in previous years, and conducted mostly at small and relatively young Polish universities are confirmed nowadays and by the oldest and one of the largest university in Poland. Especially, because the core curriculum in upper secondary schools has been changed recently. And thus, whether the conclusions from them can be used in education for sustainable development at any type of university in the country. As lecturers of Science, they would also like to teach in the best possible way and broaden students understanding of the concept of the sustainable development. Therefore, based on the basic principles of PCK (Pedagogical Content Knowledge) they analysed their classes in terms of: prior knowledge of students, possible misconceptions (alternative conceptions), teaching and learning methods, etc. In particular, they would like to go deeper than the previously described research and have posed a number of questions:

1. With what kind of knowledge on the topic of SD should upper secondary school graduates currently enter university (at least in theory – based on school core curriculum)?
2. To what extent is the subject of SD covered in compulsory and optional courses at the chemistry and biology faculties of the Jagiellonian University?
3. How, and in particular – how broadly do students perceive the issue of SD? Do they see the relationship between the different orders of SD?
4. What measures are being taken at the biology faculties of the Jagiellonian University to develop a holistic view of SD in their graduates?
5. What is the impact of introducing the interactive elements of a conversational lecture on SD, and what can the lecturer learn from them?

In addition, the authors, emphasizing the practical significance of the results of their research, would like in this article to expand them with examples of interesting solutions at ESD at university level.

Methodology of the research

In an attempt to answer the questions posed above, a case study was conducted using Yin's (2014) linear analytical approach. Authors have chosen such method because, a case study aims to understand the complex reality and meaning of actions in a specific context. They were aware that it requires a diversity of data collection and this may be a strength of this study. It is one of the frequently used qualitative research methods in the social sciences, and in particular in educational research, and can also be based on quantitative data (Yazan, 2014). This method allows for the description, explanation and generalisation of a particular phenomenon of interest to the researchers. In a case study, the context is part of the research because its conditions – unlike experiments – are not predetermined and/or controlled (Ridder, 2017). Generally speaking, the data analysed can come from observation (direct and participatory one), oral accounts, interviews (individual and group ones), documents and reports; in addition, films, photographs, or social media posts can be analysed. Elements of the exploratory approach based on the analysis and comparison of the opinions of direct participants of the discussed activities were also taken into account in this paper (Yin, 2014, Strumińska-Kutra and Kołodkiewicz, 2012).

The research methodology adopted here can also be described as educational action research. 'Such methodology involves participants conducting inquiry into their own practices in order to improve teaching and learning, practices and programs. This means that the researcher is a participant in the activity being investigated, be it in schools, (universities) or community centers — wherever teaching and learning occur' (Hines et al., 2020). Describing the activities undertaken in the natural and exact science faculties of the Jagiellonian University: the JU Faculty of Chemistry and the JU Faculty of Biology, the authors drew, among other things, on their own experience as coordinators or lecturers of the subject *Fundamentals of Sustainable Development* described in this work, which is compulsory as part of the bachelor's degree programme (<https://syllabus.uj.edu.pl/pl/document/752471d2-79c0-467b-9476-a8b562ed6129.pdf>). In line with the research methodology, case selection was of purposive sampling nature (Merriam and Tisdell, 2015).

3.1. Sample and data collection

Document analysis was used to answer the first question. Authors reviewed the 2018 Core Curriculum for General Education for Secondary and Technical Schools (Podstawa programowa, 2018) and the curricula of the chemistry and biology courses taught at the Jagiellonian University in the year 2020/21, looking for the keyword *sustainable* and its various derivatives in the text.

The observations, documents and data concerned two classes of biology students taking the course *Fundamentals of Sustainable Development* at the Jagiellonian University in the summer semesters of 2020/2021 (88 students registered) and 2021/2022 (113 students registered). The course was introduced as an obligatory

course for second-year bachelor's degree biology students. Since education for SD is interdisciplinary in nature, this course has been listed within the classes in the area of humanities or social sciences (obligatory 5 ECTS in Polish higher education system). The courses in the first case were implemented as synchronous lectures using MS TEAMS, while in the second case as conversation lectures in a lecture theatre. In both cases, student activities were made possible by the university's remote learning platform PEGAZ (Moodle based), as well as by using external ICT tools such as the padlet board or the mentimeter or slido quiz applications.

3.2. Data analysis

Coding (sorting the data by concepts or issues) and clustering (categorising by common features) were used in the data analysis. Exceptional statements that differed significantly in their content from others were also selected for further analysis. The rationale for this was that the advantage of single-case analysis, as opposed to quantitative research based on statistical analysis, is the ability to focus on situations, phenomena, objects that are unique, one-of-a-kind (Budzanowska-Drzewiecka, 2022). In the case of selected data, the percentage share of each category in the total population was presented and analysed.

Results and their discussion

4.1. Analysis of educational documentation – secondary schools core curricula

The concept of SD appears in the general education core curriculum for secondary and technical schools (Podstawa programowa, 2018) only for biology, chemistry and geography school subjects. 'Teaching of biology in the extended scope allows the student to understand the importance of rational management of nature's resources, responding to environmental changes and protecting biodiversity as an indicator of sustainable development.' After such courses, the students should understand the need to take into account all three or even four dimension in development: the environmental, social, economic, political and institutional one, because, according to the core curriculum, it 'presents the essence of sustainable development' and 'explains the principles of sustainable development.' (Podstawa programowa, 2018). Chemistry only touches upon SD in a very narrow sphere of environmental protection – 'it proposes ways to protect the environment from pollution and degradation in accordance with the principles of sustainable development' (Podstawa programowa, 2018). The most is expected of the students in connection with geography lessons. Important here is the 'understanding of the need for rational management of the geographical environment in accordance with the principles of sustainable development, protection of elements of natural and cultural heritage, and the need to rehabilitate and revitalise degraded areas.' (Podstawa programowa, 2018). After the lessons of this subject, the students, among other things, analyse the impact of the dynamic development of tourism on the geographical environment and present

the possibilities for the application of the principles of sustainable development in tourism; they identify conflicts of interest in human-environmental relations and understand the need to resolve them in accordance with the principles of sustainable development, as well as give their own proposals for ways to resolve such conflicts; they present examples of ways to overcome the natural limitations of human economic activity, and assess their compatibility with the principles of SD.

It follows that current students of natural sciences should have encountered the concept of SD at least several times in their earlier school education. How much importance the teachers of the aforementioned subjects attached to understanding this model of development, to exchanging opinions about it with their students, to discussing and considering the problems, or whether they ended up merely quoting a few principles and facts, is a different issue.

A certain multi-facetedness of the concept of SD could also be seen in the school's entrepreneurship programme, in the introduction to which we can read 'In the process of education, students learn- while pursuing individual economic goals - how to be entrepreneurial and at the same time socially responsible in their endeavours and actions (...)' (Podstawa programowa, 2018). It is also extremely important to shape in students respect for the values that are the foundation of the market economy and socially responsible business, as well as ethical attitudes and readiness to observe them in professional and social life. The learning outcomes in terms of knowledge included, for example, 'understanding the principles of management, the role of marketing and social responsibility in the functioning of an enterprise,' and in terms of skills 'recognising ethical and unethical activities in economic life and manifestations of corporate social responsibility.' 'Therefore, university lecturers have the opportunity to refer to the knowledge of upper secondary schools graduates also in this school subject/discipline.

In contrast, in the core curriculum for the subject Knowledge of Society, in the chapter entitled 'International governance', the list of learning outcomes included '[the student] presents the objectives of the World Health Organisation, International Labour Organisation, Food and Agriculture Organisation, International Monetary Fund, International Bank for Reconstruction and Development, World Trade Organisation, United Nations Educational, Scientific and Cultural Organisation, United Nations Industrial Development Organisation, and International Atomic Energy Agency.' (Podstawa programowa, 2018). There is none among these organisations related to environmental protection, which proves a narrow understanding of 'International governance' at the secondary level of education and should be discussed with university students. SD does not appear in the History curriculum in Poland, where, in authors' of this paper opinion, there should be a place for mentioning the unique event of the Earth Summit in Rio de Janeiro in 1992. This again may limit students' understanding of SD to environmental and possibly economic issues and should be extended during university education.

After all, the task of education is to prepare students for life in the world yet to come, to set goals and to make informed decisions. Moreover, the experience of the last two years of worldwide health crisis and a war in Europe (Russian aggression against Ukraine) proves that only education perceived in that way will make it possible to develop informed, critically thinking and participative members of civil society.

4.2. Analysis of educational documentation – syllabuses of the university courses

In case of Jagiellonian University biology students curriculum, on the list of study programme learning outcomes there is not a single one that would directly relate to the issues of sustainable development. This applies to both Bachelor and Master level studies. There are, however, those that relate to the knowledge and skills acquired by students within the framework of broadly understood ecology and nature protection courses. For example, for the bachelor's degree it will be BIO_K1_W47 – *The graduate knows and understands the theoretical principles of the functioning of nature in terms of biodiversity protection*, or: BIO_K1_K18 – *The graduate is ready to consciously understand the practical importance of biological sciences for environmental protection*. However, for the master's degree, only one can be mentioned: BIO_K2_W01 – *The graduate knows and understands the complexity of processes and phenomena in nature, the solution of which requires an interdisciplinary approach*, which concerns broadly understood issues of ecology and biodiversity.

In turn, an in-depth analysis of the course syllabuses from the catalogue of bachelor's studies offered to students until the 2020/2021 academic year allowed to identify only one course: *Biological methods of wastewater treatment WBNZ-891*, which relates to the issues of SD. It is an obligatory course for 2nd year students following one of the available education paths: environmental biology. One of the effects relating to the knowledge acquired during the above-mentioned course, referring to SD, is: *W1 Student describes the mechanisms used in biological wastewater treatment plants from the perspective of the global circulation of elements and sustainable development*. This effect – according to the authors of the syllabus – refers to all three core educational effects: *BIO_K1_W32 The graduate knows and understands / has basic knowledge of general and population ecology and is able to explain ecological phenomena; BIO_K1_W33 The graduate knows and understands the basic life processes of living organisms; BIO_K1_W46 The graduate knows and understands the basics of general microbiology in the field of bacteriology, virology and mycology*, which proves that also academic teachers identify SD with eco-development and environmental and nature protection. In the syllabus of the optional course: *Earth's polar environments*, the learning outcomes include those relating to the negative impact of anthropopressure on the functioning of sensitive polar ecosystems or global threats resulting from climate change and related glacier recession processes. However, what is puzzling is the lack of reference to the subject of sustainable development and its main goals.

As for the syllabuses of the courses in the catalogue dedicated to biology Master level students, none of them refers directly to SD. This is even more puzzling because, similarly to the first level (including the obligatory for 2nd year students course Ecology and facultative courses; Ecological education, Ecotoxicology and environmental pollution impact assessment), there is also an educational path here: environmental biology, where student is expected to attend a number of “ecological” courses, for example: obligatory course for 1st year students – Global problems of ecology, or optional courses – Ecology of inland waters, Assessment of environmental impact of investments, Environmentally friendly agriculture, Socio-economic determinants of nature protection and many others.

The Faculty of Chemistry of the Jagiellonian University already runs the aforementioned *Chemistry of Sustainable Development* study programme and, in addition, the list of learning outcomes for the *Chemistry* study programme includes one outcome related to SD, namely ‘Graduates know and understand the relationship between the achievements of chemistry and related sciences and the possibilities for their use in socio-economic life, taking into account the principles of sustainable development.’ This is a rather narrow approach to the subject matter, referring in part to the concept of Responsible Research and Innovation. The specific outcomes for each course/module are presented in Table 1.

Table 1. Sustainable development in the syllabuses of courses in the JU Chemistry major, 2nd degree (MSc)

Course/module	Compulsory or optional	Place in syllabus	Entry content
Bioinorganic Chemistry	Compulsory for the Biological Chemistry panel	learning outcomes	The student is ready to justify and promote the necessity of pro-ecological awareness of society in order to maintain sustainable development of our civilisation.
Medicinal Chemistry	Compulsory for the Biological Chemistry panel	learning outcomes	The student is able to present and explain the relationship between the achievements of chemistry and biomedical sciences and the possibilities of their use in socio-economic life taking into account the principles of sustainable development.
Contemporary Challenges in Environmental Chemistry	Compulsory for the Chemistry and Environmental Monitoring panel	content	A very important element of the course is the distinction between processes naturally occurring in the environment and those caused by humans. This includes energy production, reduction of liquid and gaseous emissions and removal of water, soil and air pollution, sustainable development or waste collection and treatment.

Course/module	Compulsory or optional	Place in syllabus	Entry content
Photochemistry of Coordination Compounds	optional	learning outcomes	The student is ready to present the role of coordination compounds in solar energy conversion processes and outline their importance for sustainable development.
Introduction to Circular Economy for Chemists	optional	content	Extended producer responsibility, sustainable industrial production and sustainable consumption.
Good Chemistry Methodological, Ethical and Social Dimensions	optional	learning outcomes	The student describes the history, definition and normative basis of sustainable development.

4.3. Description of actions undertaken at the Faculty of Biology of the Jagiellonian University

The aim of the course *Fundamentals of Sustainable Development* is to familiarize students, among others with the origins of the concept and the goals of sustainable development – social, economic, and ecological, civilization threats and their causes (here: demographic growth, technological development, widespread urbanization, armaments and wars, socio-economic relations, life models) and the effects (climate change, deforestation, desertification, loss of biodiversity, pollution) on a local and global scale. After completing the course, the student should be able to discuss and evaluate the process of implementing the principles of sustainable development and present selected examples of their application in the economy; to characterize models other than the sustainable development option – that of consumption and maintenance society; to use arguments for sustainable development and explain difficulties in harmonization (here: economic effect, meeting social needs and environmental protection). To achieve above mentioned goals, the course is conducted in the form of a conversational lecture and discussions, as well as through activities on the PEGAZ (Moodle based) remote learning platform.

4.4. Analysis of students' written statements

Homework and assignments carried out during classes referred to students' prior knowledge, presented alternative conceptions, personal views and reflections. They allowed students to retrieve concepts they had already learnt, to reflect on what had been discussed at lower levels of education and in lectures, to relate what they had learnt to the surrounding reality, including to situations in the local environment in which the students lived or from which they originated – family home, place of residence before starting their studies.

4.4.1. The reviews of the film *Home* – a discussion forum

The task inaugurating this year's edition of the course (2021/22) was to watch the movie *Home*, directed by the French documentary photographer Yann Arthus-Bertrand from 2009. After watching it, students were asked to answer the following questions: i) whether and how our awareness of the state of the Earth, including human influence on the progressive climate change, has changed since the film's premiere; ii) whether the message of the film is still valid despite a number of actions taken.

The most interesting and/or typical quotes from students' statements are presented below, so that the readers can read them directly. It is not a very popular approach in the educational literature but, according to the authors, should not be overruled. This is the type of raw data that other researchers can use to pursue the principles of open access. An authors' analysis of these statements is provided below them.

Here are some examples of students' replies which were then commented on:

"I can say that HOME is one of the best movies I have watched in my life. It shows beautiful frames, landscapes from many corners of the world, and the story told by the lector is very addictive, moreover, a person can learn many new things. I believe that the message of the film is still valid. Although 13 years have already passed, the whole world, people, live in a constant hurry. More and more buildings and roads are being built and improved. Man tries to find the best possible life, regardless of the nature that surrounds him. Countries spend huge amounts of money on military and armaments". (Student 1, S1)

"This film, despite its date, is still up-to-date, perhaps not in every aspect discussed, but the scary thing is that some of the issues raised are still with us and we still pretend not to see them... We want everything faster and therefore use more resources and we produce more waste. This film quite brutally made me realize one thing that I usually wanted to push away from myself, namely the selfishness of people. Most people, unfortunately, do not care about the fate of our planet in 100 years, most people look at their comfort and whims, most of us do not really intend to care for the environment assuming that we will not do anything alone". (S2)

"Like others, I claim that this film is still up-to-date, and because a long time has passed since the first broadcast of this film, the problems it describes are even more painful. We are the cause of many things, from the extraction of minerals to the melting of the ice caps, most of our activities not only do not serve the planet, and therefore also us. If we do nothing, it will only get worse". (S3)

"I had wanted to watch this movie for a long time, but I did not have the right mood. I had a rough understanding of what I was going to see there, the amazing landscapes, the beauty of our planet and destructive human activity. I think everyone should see this movie; it is amazing but sad at the same time. I hope everyone who watched this movie will reflect on the fact that if we want to change the world,

we must first start with ourselves. I am very happy that there are countries that are still trying to preserve nature, but there are even more that are destroying it. And this has already led to irreversible consequences and catastrophes. It is scary to think what we will leave to our children, if we do not choose a different path, because now our rapid development leads to self-destruction. This is one of those cases where the film is worth to be seen by everyone – the work of Jan Arthus-Bertrand is priceless!" (S4)

Film "HOME, to be honest, I completely did not like it and would not recommend it to my friends. From the very beginning, it is full of substantive errors, such as the recognition of cyanobacteria (the Cyanobacteria group) as archaea or the determination that plants come from cyanobacteria (I suspect a strong copy from the endosymbiosis theory, which led to a highly controversial statement). The culmination was the statement that plants produce oxygen from the breakdown of water molecule, which made me unsure whether to laugh or cry. I have doubts about many other statements from this movie, which are more or less a simplification, such as the storage of energy by leaves or the comparison of trees to sculptures (where the latter definitely do not grow and are not subject to changes such as trees), however, here one could argue to what extent it was actually a distortion of the truth, and to what extent some creative invention or attempts to make the message more attractive for the viewer". (S5)

"Watching this movie, I felt like I was watching some masochistic lament, detached from our everyday reality. Not to mention the inaccuracies and hypocrisy of the companies that financed this film. Greenwashing ancestors? The problems depicted in the film are up to date, but the intricate dependencies have been neglected. Why is the concentration of people in cities bad?

Why is technological progress presented as something that causes destruction? This movie may evoke some emotions, but that's about it. The viewer will turn off the movie and bring nothing new to his life. The film did not provide solutions. It briefly mentioned that states prefer to invest in the military rather than in nature conservation / human protection. Why can't we have this and that?" (S6)

"This movie is very pessimistic and does not provide solutions to the given problems. Consumerism and money rule the world and even if there were a thousand such films, I think nothing would change. Top people, directors of companies and large corporations, presidents, politicians, etc. – they must first change their thinking and try to mitigate the effects of people's actions (it is too late for prevention). In my opinion – there is no chance for that. Of course, I do not just blame them. Everyone is to some extent to blame for what is already happening. In conclusion – the film is for total laymen who will take everything personally and will not think critically. (S7)

"In my opinion, the movie Home had its pros and cons. It presented itself very well visually, showing how beautiful the Earth is. It is also worth praising the film for editing and music. I agree with others that its general message is still valid after several years. However, I believe that the film should be (and maybe even is) aimed

more at people who are not so related to biology, environmental protection etc. future generations have our actions on the environment, on Earth. That is why such people need to be educated, for example, about global warming. They believe that it is not a problem or even does not exist, because it is hot in summer and snowing in winter and such people do not know the difference between climate and weather. And people who know the subject even a little bit should get further and detailed awareness of the subject and taking more active actions.” (S8)

Almost 50% of the forum participants focused on the assessment of the substantive value of the film and its shortcomings in terms of the content provided (example S5). Bearing in mind the current Mission and Development Strategy of the Jagiellonian University until 2030 (Strategia, 2021), which begins with the paragraph: “The Jagiellonian University is proud of the past, shapes the future, is constantly developing as a research university, creating very good opportunities to study and conduct research and achieves excellent results in this field “- it is not surprising that the emphasis in students’ statements is on scientific issues and the evaluating tone dominates. However, there is no reflection or answer to the question whether the authors of the film *Home* really aimed at conveying advanced biological knowledge. In the light of the seriousness and threats presented in the film, and the fact that the film is aimed at a very wide audience, should we talk about these issues in detail or rather discuss the phenomena in a simplified way? In other words, as shown by the results collected in Table 2 and the answers posted on the forum of the course, biology students may have a problem in the future with disseminating their in-depth knowledge at the level available to the average John Smith, i.e., with achieving a targeted learning effect regarding the ability to communicate with non-specialists.

Table 2. Analysis of comments on the course forum in the task inaugurating the academic year 2021/2022.

Task inaugurating the academic year 2021/2022	Number of responses	% based on the whole number
Whether and how our consciousness has changed?	YES: 9	42
	NO: 10	45
	I have no opinion: 3	13
Is the video message still up to date?	YES: 20	91
	NO: 0	0
	I have no opinion: 2	9
Total number of responses	22	100%

22% of the responses posted on the forum pointed out that a consortium was involved in the creation of the film, which included the largest cosmetic and fashion companies and retail chains (e.g. S6), which on the one hand may raise doubts, and on the other hand, thanks to this the film was available in 181 countries around

the world – it was distributed on state TVs, YouTube, etc. 2009 – this is the time when the awareness and knowledge of many phenomena generally known today was low, and such wide availability meant that the film's message found its way to wide audience around the world. 9% of statements pointed out that the film should be aimed at politicians and directors of large corporations, i.e., decision-makers (e.g., S7).

In turn, 13% pointed to other, more up-to-date and better-made films relating to the issues of the modern world (including the disappearance of biodiversity and the looming climate catastrophe, here: Don't look up, The dark sides of fisheries), which the fact that the course participants go beyond the standard by being interested in the subject of SD outside the contact hours.

As many as 45% of statements pointed out that the movie ends with a positive message, but its overall message is pessimistic and biased (e.g., S7), which may be related to popular, so-called 'positive psychology' focusing on personal happiness „here and now", denying the need to worry about the future.

Authors of this paper (teachers conducting the classes) got the impression that students contribute to the classes at the university with elements of discussions taking place on internet forums: aggressive, black and white, not supported by evidence. This, according to these lecturers, requires efforts to develop students' discussion skills before graduation.

4.4.2. Student personal and social needs – a words cloud

In the first lecture, students have been asked 'What do you need to live? Enter max. 3 key words in the word cloud using Sli.do application'. The aim of the task was to build a basis for a discussion about the dimensions of sustainable development. In 2020/2021, 82 students present online participated in the vote; they entered 132 different words. The needs most relevant to them were: security (24 votes), health (21), work (20), money (18), stability (7).

The most votes among the 57 male and female students present at the 2021/2022 lecture who took part in the voting were cast to: health – 31, love – 30, money – 28, security – 25, happiness – 21. Unlike the previous year class, the term 'peace' appeared 7 times. In total, students entered only 56 different words, perhaps because the voting took place in the lecture room and they were able to consult with each other on the terms entered before entering them (although they were not encouraged to do so).

As can be seen based on the results presented above, three factors were most important to our students: health, safety and securing financial needs, which are part of the economic and social dimensions of the SD framework. Interestingly, only some individuals mentioned clean environment, air, water or nature. It is important to remember that the classes of both years attended the course during the COVID-19 pandemic.

4.4.3. Student pre-knowledge about SD – a board (padlet)

David Ausubel (1968) said that ‘the most important single factor influencing learning is what the learner already knows, ascertain this, and then teach him accordingly.’ Therefore, the first homework assignment was to revise the knowledge previously acquired by the students both in formal education in high school biology or geography classes and informally – from the media, including social media.

The freedom to choose the media reports quoted (Q.3) allowed for an analysis of the examples chosen by the students. The analysis of the statements presented on the table ‘What have I learnt about sustainable development from mass media and social media?’ showed that both classes, although differing in the form of education (remote/onsite), have similar views (Table 3). The students mostly focused exclusively (62% and 57%, respectively) on information related to the course they were studying or on environment and nature conservation as one of the two discussed dimensions of sustainable development (additional 18% and 13%, respectively). These results are completely divergent from the surveys among young people in Poland where 57.1% of respondents indicated at least one dimension of SD related to human and social development (including also its institutions such as industry, technology, and business) and only 17.5% individuals associate SD with its environmental dimension (Pena et al., 2020). Probably because the study group for this paper was much more homogeneous than for the cited work.

Table 3. Analysis of statements presented on the board ‘What have I learnt about sustainable development from mass media and social media?’

Number of SD dimensions to which a student’s statement referred to	2020/21		2021/22	
	Number of answers	% in relation to the total number	Number of answers	% in relation to the total number
one	34	68	46	66
Including the one concerning environmental protection or nature conservation	31	62	39	57
two	9	18	10	13
including the ones concerning environmental dimension	9	18	9	
three	7	14	13	19
Total number of responses	50	100	69	100

Among the responses, there were isolated instances where students repeated the general definition of SD and these we did not address in the content analysis. The main categories of statements that could be distinguished in the surveyed sample are presented below.

Similarly, as in the introductory task (film analysis), there were several statements that referred critically to the concept itself, its implementation in practice and its effectiveness. The examples are presented below:

'We know from the mass media only that we should strive for sustainable development, but currently this slogan in the media debate is like "ecology", an eristic trick that is not followed by any action except idle discussions.'

'Recycling was a lie – only 10% of the plastics we've used has been recycled.'

'Are electric cars really particularly environmentally friendly?'

'Of course, it is a great and environmentally friendly solution to install solar panels; however nowhere does it say what to do with them when they will have reached the end of their "life"'

'Sustainable development is virtually non-existent. The current economic system promotes economic growth over self-sufficiency, causing issues such as climate change and biodiversity decline to be pushed on to the sidelines until the last minute, when it is often too late.'

In each year class, several statements related directly to students' daily lives, e.g. 'no straw', 'fast fashion', ecological vegetarianism/veganism as a 'diet for the planet', 'cigarette butts – a source of non-biodegradable plastic'.

Given a free choice, students presented contemporary examples, curiosities, problems and concepts (rarely, if ever, found in school textbooks), e.g. *insects as the food of the future, vertical farming, underwater farms, closed-loop economy, COVID-19 accompanying waste reduction efforts, patho-development, corruption – an obstacle to national development*. It is topics such as these that can be a good engaging element in the next lectures, and an interesting interlude when dealing with more difficult content.

Students surprisingly often cited information on the pro-environmental actions of commercial companies: 8 companies in 2020/2021 and 2 companies in 2021/2022. These included: HP, Shell, ABB, IKEA, ESG Bank Pekao, Hochland, Audi, Foodcare, Adidas, Zelando, Coca Cola. In one place, they drew attention to the phenomenon of greenwashing i.e. 'behaviour or activities that make people believe that a company is doing more to protect the environment than it really is' (Cambridge Dictionary).

Conclusions and recommendations

The analysis of the Core Curriculum for General Education at Secondary and Technical Schools has shown that the concept of SD appears repeatedly in the curricula for school subjects, and consequently it is possible and appropriate to refer to this content in university education using so-called *retrieval-based learning* and activating

prior knowledge. The issue of the practical implementation of the provisions of the core curriculum in schools is worthy of in-depth research.

A holistic approach to sustainable development is lacking in the education system, both at level four ('matura'- upper secondary school final exam) and levels six and seven of the European Qualification Framework. On the basis of the research conducted, it can be concluded that biology students continue to perceive sustainable development predominantly through the prism of ecology and nature conservation, similar to what was described 10 years earlier by Żeber-Dzikowska (2010). Bearing in mind the conducted, in-depth analysis of both study programmes (first and second biology degrees) and modules learning outcomes (course catalogues at both degrees), this fact is not surprising, because in the curriculum currently in force for biology majors, the concept of education for SD does not appear, though it should. Such changes, however, take time and need to build consensus among the faculty academic staff. A step in the right direction was the appearance, starting from the 2020/2021 academic year, of a compulsory Fundamentals of Sustainable Development course for second-year biology students (first cycle degree studies). It is an example of efforts of the authorities at the Faculty of Biology to develop a broader student perspective on sustainable development. Moreover, the introduction of this course into the compulsory programme for biology majors may contribute to other academic teachers also introducing elements of education for sustainable development into their specialised courses, as was the case at the University of Economics in Katowice (Lorek, 2013).

The authors of this thesis share Gotowska's, Hoppe's and Jakubczak's (2010) belief concerning the need for small group exercise – type classes in ESD. However, if for some reason a lecture is the more readily accepted type of class in a given faculty/university (e.g. because of the number of teaching hours and thus costs), it should be a conversational lecture, taking into account high student activity, supported by distance learning tools. Student assignments not only facilitate the achievement and evaluation of the intended learning outcomes, but also provide the lecturer with an insight into his/her students' views on SD.

The introduction of interactive elements in the conversation lecture and the subsequent analysis of the students' statements also provides a basis for the use of cognitive dissonance, the motivating force of which is fundamental to the learning process (Elliot and Devine, 1994). The active teaching and learning methods and techniques described in this paper provoke and engage in discussion, motivate students to express their own opinions and to think more deeply. They make it possible to get to know the students' interests, to consider together with them the quality and reliability of the information found, and, most importantly, to catch and work through the so-called misconceptions/alternative conceptions.

By the way (as quite often happens with case study analysis) an unexpected internal contradiction was found. On the one hand, the three life factors the most important to the students were health, safety and securing financial needs, on the

other hand, when asked about the definition of SD, most of them focused solely on the environmental dimension. This incoherence requires future discussion and harmonization in the course of university education.

The biology students surveyed presented opinions of very different substantive value and degree of responsibility for words; the influence of mass media and social media can be seen in them, and many of them are very critical of the surrounding reality. The latter is done, on the one hand, without considering the wider context of the situation and, on the other hand, without reflecting on proposals for remedial actions. In view of the above, it seems particularly important during the educational process to develop the ability to assess the reliability of information found on the web and to distinguish between information and opinion, what is described in the 2nd degree Characteristics of the Polish Qualification Framework, Level 6 and 7 in the form of ‘the correct selection of sources and information from them, making an evaluation, critical analysis and synthesis of this information’ (Chłoń-Domińczak et al., 2018).

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Bridging the Gap – Sustainable Development in Secondary and Tertiary Education

Abstract

The aim of this paper was to examine the knowledge with which secondary school alumni come to higher education and with which graduates of natural science study programmes leave the university walls. In addition to the analysis of educational documents, the case study method was used to investigate the ‘Fundamentals of Sustainable Development’ course conducted at the Faculty of Biology of the Jagiellonian University in Krakow.

Research results indicate that the concept of Sustainable Development (SD) appears repeatedly in the Polish curricula for school subjects, and consequently it is possible and appropriate to refer to this content in university education using so-called *retrieval-based learning* and activating prior knowledge. However, an analysis shows that holistic approach to sustainable development is lacking in the Polish education system, both at level four (upper secondary school) and levels six and seven (BSc, MSc) of the European Qualification Framework. The concept of SD appears in the general education core curriculum for secondary

and technical schools such subjects as biology, chemistry and geography, which reduces the students' understanding of SD to the environmental and economic dimensions only.

The authors showed that even during a lecture devoted to SD, the active teaching and learning methods may be used at university level (e.g. film analysis, words cloud, e-posters, discussion forum, interactive website) to motivate students to search, to talk, to express their own opinions. The methods enable a teacher to get to know the students' views, to consider together with them the quality and reliability of the information found, and, most importantly, to catch and work through the so-called misconceptions/alternative conceptions. An unexpected internal contradiction was found. On the one hand, the three life factors the most important to the biology students were: health, safety and securing financial needs, on the other hand, when asked about the definition of SD, most of them focused solely on the environmental dimension.

Key words: critical thinking, higher education, student opinions, sustainable development

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*Olga Wyzga***Tasks of school and teachers in times of refugees' crisis****Introduction**

The dramatic events of everyday life on the Poland's eastern border, without losing sight of other hot spots on the world map, provide a background to the question of a moral nature – the question about the tasks of school, education and teachers who meet students affected by traumatic war experiences everyday. An absolutely crucial area for the adaptation of refugees in our society is the proper functioning of schools and the professionalism of teachers and pedagogues employed in them.

The last two years have not been kind for children all over the world. During this period, the UN and UNICEF are pointing to several serious crises that have hit children and young people the hardest. One of the significant ones that affected the whole world was the COVID-19 pandemic. Next one is the situation in Yemen. For many Yemeni children, life has become hell. Years of armed conflict, economic collapse, the COVID-19 pandemic and a lack of humanitarian aid are putting Yemenis on the brink of collapse, and an increasing number of children is at risk of starvation. Currently, this is the biggest humanitarian crisis in the twenty-first century.

In 2021, children in Palestine experienced a violent escalation of the conflict. Many people lost their lives and families were broken up, and all of that had a dramatic impact on the youngest. In the Gaza Strip, schools and medical facilities were destroyed, and houses and office buildings were razed to the ground. Many families have been displaced. Schools, houses and buildings in Israel were also destroyed.

Afghanistan has so far been one of the most dangerous places to live in the whole world. Along with the escalation of the conflict in 2021, the situation has become even more desperate, especially for children. Conflict, drought and the COVID-19 pandemic have exacerbated the humanitarian catastrophe. Too many children in Afghanistan have seen events and situations that no child should ever experience.

It is hard not to mention the crises in South Sudan, Palestine and finally the situation that began in February 2022, i.e. the war in Ukraine.

The brutal aggression of Russia caused a mass escape of Ukrainian citizens and the appearance in our country of a large group of people with wartime refugee experience. The people who survived the bombings, who may have been hiding in basements, who perhaps have seen death, or who perhaps "only" traveled into the unknown for three days with a crowd of terrified other refugees.

Children, young people with such a baggage of experiences and emotions are entering the Polish school, which by definition is a safe place, but for them it is unknown, unfamiliar place, perhaps arousing anxiety or fears.

According to the Polish educational law, every child aged from 7 years old till 18 years old, who is staying in Poland is a subject to a compulsory schooling or compulsory education under penalty of sanctions against guardians. These rules also apply to children who do not have Polish citizenship, including children who fled to Polish before the war. In the face of such a situation, questions arise about the tasks of the Polish school in times of refugees' crisis.

Research and discussion / Amplification

School as a new place of functioning for refugee students is another dose of emotions. Being in a new place, in new environment, could be another factor exacerbating the crisis of war refugee children because it is a consequence of an aggravating, extremely difficult event that took place in their lives.

According to L.M. Bammer, a crisis is a state of disorganization in which people experience frustration of important life goals or a violation of their life cycles, as well as the unreliability of methods for coping with stressors. (Bammer: 1985)

B.E. Gilliland, R.K. James believe that a crisis is a kind of perception by an individual of an event or situation as an unbearable difficulty that exceeds a person's coping mechanisms. According to these authors, a crisis can cause serious disorders of human functioning in the affective, cognitive and behavioral areas. (B.E. Gilliland, R.K. James:1993)

Referring to various psychological concepts, W. Badura-Madej characterizes the crisis as a temporary state of internal imbalance, caused by some critical event, requiring significant decisions. (Badura-Madej:1996)

To sum up, the crisis should be seen as an obstacle to the achievement of life goals or as a decisive state for the further fate of the individual, which can often be accompanied by stress, trauma and PTSD (post-traumatic stress disorder).

Trauma is psychological injury caused by events that go beyond the ordinary social order which gives people a sense of security, meaning, control, and connection with others.

PTSD is a condition that occurs as a consequence of a frightening, life-threatening, physical or emotional event. A survivor of such an event often has persistent, frightening thoughts and memories associated with it.

Trauma and PTSD may occur after an event that:

- took place in the life of a child,
- took place in the life of a person closely related to the child,
- the child observed as a witness.

Examples of events whose occurrence in a child's life can cause trauma, PTSD (even when the child was "only" a witness and not a participant or subject of these events) are:

- serious accidents (car, train, plane),
- the elements (floods, earthquakes),
- man-made tragedies (terrorist attacks, war),
- attack, physical violence (assault, torture, kidnapping, etc.),
- harassment or sexual assault,
- psychological violence.

When children and youth are confronted with a situation that reminds them of a traumatic event, may experience very strong emotional, intellectual and physical disturbances in their normal functioning. Some of them may relive trauma over and over again in the form of nightmares and recurring memories during the day. They may also experience some or all of the following symptoms:

- sleep disturbances,
- depression,
- loss of interest in what previously gave pleasure and joy,
- irritation,
- increased level of aggression and even the use of violence,
- persistent avoidance of places and situations that evoke certain memories,
- intrusively recurring images, smells, sounds and feelings associated with the event (the impression that the traumatic event is happening again).

It is not a rule that every traumatized child will develop PTSD. Post-traumatic stress disorder is diagnosed only when the symptoms last longer than a month and negatively affect the child's life. In people with PTSD, symptoms usually appear within three months after the trauma, but they can also appear with some delay, such as months or years after the event.

Severe stress arouses strong emotions when a person suffers loss, harm or is in a situation of danger, emotions are a natural reaction. If a student, who escaped from the war, had to abandon everything known, parted with loved ones, goes to the school class – various emotional but also physical reactions during the lessons should be expected, e.g.:

- crying,
- outbursts of anger,
- aggression,

- anxiety,
- panic attacks,
- reluctance to take any action,
- apathy, lack of commitment,
- fatigue, sleepiness, exhaustion,
- problems with memory and concentration,
- somatic pains and ailments,
- reduced attention to hygiene.

In this situation, finding themselves in a new school is an extremely difficult challenge for children from Ukraine, consisting not only in overcoming the language barrier. At the beginning, it may even turn out that the Polish-Ukrainian agreement at the level of the language is not very difficult – as some words and phrases sound similar, and with a little good will a lot can be explained or shown. However, it can be difficult to assimilate social patterns, rules of behavior. These patterns are something that every person soaks up from childhood watching their parents, other children, taking the guidance of adults in various everyday situations. They concern dress, food, communication, duties, what we call personal culture, hygiene, what is allowed, what is right, etc.

Educational, caring and pedagogic tasks of the school

The tasks of the Polish school are defined in the Constitution of the Republic of Poland and the applicable provisions of the educational law, i.e. among others *the Education Law Act, the Act introducing the Education Law, the Regulation on the organization of psychological and pedagogical assistance in kindergartens, schools and institutions, the Core Curriculum of General Education*.

According to the statement of the Minister of Education and Science from 4th April 2022 it stems that 161,000 Ukrainian children have been admitted to the Polish education system since Russia's invasion of Ukraine. Only 10% of this group learns in preparatory departments. This means that the vast majority have been included in the existing classes and together with Polish students execute the Polish Core Curriculum. Or at least it is trying, because the effectiveness of these activities already at the stage of assumptions raises many doubts and concerns.

In the countries of the European Union, two models of integration of newly arrived pupils dominate: the separation model (foreign pupils spend the first months or years learning a language) and the integration model (pupils are included in the educational process in the classroom from the very beginning, with additional language lessons of the host country). The latter model operates in Poland. According to the policy of the European Union and the Council of Europe – a foreign child has the right to free education in a new country. A reference to the education right can also be found in the Convention on the Rights of the Child. In Poland, Article 70a of the Constitution of the Republic of Poland stipulates that education is obligatory

for everyone, including foreign children. The legal basis for admitting foreigners to kindergartens and schools in Poland are set out in the Education Law Act of 2016 and the Ministry of Education and Science (the Ministry, MEiN) Regulation of 2022.

1) Educational tasks of school

The appearance of students from Ukraine in Polish schools forces institutions to quickly implement the assumptions of inclusive education, meaning education that is able to ensure the availability of teaching and learning for all participants of this process. Inclusive education is an approach to the organization of the education system and the process of education and upbringing, aimed at all students, not only those who have learning disabilities. A key category of inclusive education is participation, which means that the student (MEiN: 2021):

- engages in group activities, deriving satisfaction from them and trying to provide this satisfaction to others;
- has a sense of influence on the changes taking place in his life (emphasizing the subjectivity of the learner);
- makes an effort to understand the transformations of reality as opposed to the attitude of cognitive withdrawal;
- is responsible for his or her life and also tries to take responsibility for the group(s) in which he/she operates (e.g. class, family, friends, local community, nation).

For children coming from Ukraine, the Ministry of Education and Science (MEiN) has prepared various opportunities to fulfill the obligation to attend school. The first of these is the continuation of education in the Ukrainian system in a remote mode. On March 14, 2022, the Ukrainian Ministry of Education and Science launched a special platform through which Ukrainian students can continue their education, using both real-time lessons and a digital version of textbooks, films and educational materials.

A parent or guardian of a child who wishes to choose this option only needs to submit a declaration to the municipality competent for the place of current residence. Some people, especially those who hope for a quick return to Ukraine, and those for whom learning in a Polish school would be too high a cost, especially mental, will benefit from this solution.

Students who have sufficient knowledge of the Polish language can join Polish classes. The decision to admit new pupils is the responsibility of the school heads. Like all foreigners so far, they are also guaranteed the opportunity to use additional Polish language lessons and compensatory lessons.

In the opinions of teachers, there are some doubts regarding the assumption that an eight-year-old student from Ukraine can be automatically enrolled in the second grade in a Polish primary school. Ukrainian primary school lasts nine years, and children begin education at the age of six. Even a cursory comparative analysis of the scope of content in mathematics or the broadly understood STEM block

shows that Ukrainian students have a much wider range of knowledge and skills than their peers in Poland. While the indicated competence allowances are not a key difficulty in the implementation of the Core Curriculum, the lack of knowledge of the Polish language, in which 100% of subject education takes place (this applies not only to Polish language lessons, but also geography, physics or artistic subjects, as well as a foreign language, e.g. English or German), is certainly such a problem. And this is a problem that affects three sides: Ukrainian students, Polish students and teachers.

An area that clearly needs to be strengthened in terms of activities undertaken by the school, teachers, specialists are the cross sectional competences of students, also referred to as transferable resources. They are divided into three categories (Knopik, Oszwa: 2017):

- cognitive – involving critical thinking, reasoning, analyzing and synthesizing, taking different perspectives on the perception of phenomena, etc.;
- intrapersonal – these include self-control, independence, management of personal resources, setting goals and setting ways to achieve them, emotional competences and strategies for coping with difficult situations, resistance to failures, understanding of one's own emotions, etc.;
- interpersonal – concerning social relations, the skills to communicate with others, cooperation, implementation of tasks in a group, dynamic assumption of roles in a team, negotiation, resolution of disputes, etc.

In the implementation of these difficult didactic tasks, teachers and school specialists must take care of appropriate and diverse teaching methods that will allow to stimulate various activities of students during the lesson. The use of polymethodicity seems to be a necessary task for achieving the objectives of education. Methods that activate students, including didactic games, problem methods and practical methods, always work in every situation. It is also extremely important in the implementation of the education process for teachers to take care of such didactic means that will allow them to work with a group with diverse educational needs in the formula of sharing a common field of attention, and not individualization consisting in providing each student with different material. And this task is very demanding. The assumptions of the universal design model in education (the so-called UDL model – *universal design for learning model*) and guidelines for the preparation of easy to read (ETR – *easy to read*) texts may be helpful.

2) Pedagogic and caring tasks of the school

A Ukrainian student suddenly torn out of the natural educational and cultural context in traumatic circumstances must find himself overnight in a new classroom, in which everyone usually already knows each other well and, what is more, communicates freely with each other. The natural first reaction according to Bennett's acculturation model is denial and defense (components of culture shock), which over time only (thanks to the activities of the subject itself and the favorable actions

of the environment) turn into acceptance, and even into adaptation or integration. (M.J. Bennett: 1993)

One of the educational tasks that teachers are facing is the need to develop the intercultural sensitivity of students so that they could become conscious citizens of the world. In this respect, the school should propose broadly understood eclecticism, implemented as part of a communicative approach. It would be necessary to move away from flawless mastery of the language system and focus on the ability to communicate effectively in a way that corresponds to a given situation. (Komorowska: 2003)

Shaping intercultural competence among students requires subjective treatment of each student, taking into account his individual educational needs. It also put emphasis on developing students' autonomy and self-study skills.

Children with different educational needs who are learning in one classroom begin to see that people are different, have various needs and limitations. They learn to help others, but also to accept their limitations, to copy with failures, which are an inseparable element of the education and upbringing process. A school that is sensitive to the needs of all students, including refugee students, develops an intercultural sensitivity. Direct contacts between pupils and other refugees who are experiencing similar difficulties and gradual reconnaissance in the new education system are helpful in this task.

In schools, care has also been taken to ensure that students learn about the principles of behavior at school adopted in our society and understand certain attitudes and requirements, as well as the customs, tastes and culture of their peers. In some schools, children from Ukraine are admitted to already existing classes with Polish students, which is to serve integration and better knowledge of the traditions and culture of our countries.

A very important care and educational task is the organization of psychological and pedagogical support for children of war refugees in the school.

Psychological and pedagogical support is directly defined in the Regulation of the Ministry of National Education of 9 August 2017 on the principles of organization and provision of psychological and pedagogical assistance in public kindergartens, schools and institutions (Journal of Laws of 2020, item 1280). This document defines the scope of psychological and pedagogical assistance: *Psychological and pedagogical assistance provided to a student in a kindergarten, school and institution consists in recognizing and satisfying individual developmental and educational needs of the student and recognizing the individual psychophysical abilities of the student and environmental factors affecting his functioning in the kindergarten, school and institution, in order to support the development potential of the student and create conditions for his active and full participation in the life of the kindergarten, school and institution and in the social environment.* In addition, that regulation indicates that the need to provide psychological and pedagogical support to pupils/students in a kindergarten, school and institution results in particular from factors such

as: disability, social maladjustment, risk of social maladjustment, behavioural or emotional disorders, special aptitudes, specific learning difficulties, competence deficits and language impairments, chronic illness, crisis or traumatic situations, educational failures, environmental negligence related to the living situation of the student and his family, the way of spending free time and environmental contacts, adaptation difficulties related to cultural differences or changes in the educational environment, including those related to previous education abroad.

Students from Ukraine who have emotional problems related to the experience of war or refugees may additionally encounter various learning difficulties conditioned by problems that they have already faced in their country, e.g. dyslexia, disability or illness. As a result, these children may reveal very diverse, sometimes extreme reactions. From withdrawal, tearfulness, apathy, to irritability, tantrums, or even aggressive behavior.

Even children who have not experienced traumatic experiences may experience negative effects of changing the environment, separation with colleagues, breaking off friendships, etc. Therefore, in the first period of learning, an important task of teachers is:

- observing these students,
- monitoring their progress,
- conversations with parents, guardians.

In case when it was identified that difficulties requiring specialist support occurred, additional support should be provided to Ukrainian children and young people in the form of classes in the field of psychological and pedagogical support. Adequate assistance at school should also be provided to gifted pupils.

Such assistance does not require obtaining a document from a psychological and pedagogical clinic. It may be undertaken on the basis of a diagnosis made by teachers and specialists working in the school where the assisted student is staying. This will allow for quick intervention and in a short time can improve the functioning of the student. If the actions taken at the school do not bring the expected results, then the student should be referred to the counseling center. In terms of providing assistance to students, it is also necessary to properly prepare teachers and specialists, for whom the current situation is as extreme as for other participants in school life. It is worth that the school head takes care of: the opportunity to participate in trainings, provides the opportunity to consult with specialists, e.g. from a psychological and pedagogical clinic, has knowledge about various forms supporting school's activities.

There are many initiatives and projects supporting schools in their teaching, upbringing and caring tasks, including organization of psychological and pedagogical help for students.

Only in 2022, thanks to the cooperation of the City of Cracow with UNICEF, unique places were created. SŁOŃCE – Słoneczne Przestrzenie Wsparcia (*SUN – Sunny Spaces of Support*) consists of eight places in different locations in Cracow,

where both children from Ukraine and their Polish peers can benefit from the help of psychologists, pedagogues and speech therapists. They are also places full of additional activities for parents, teachers and multicultural assistants. The guarantee of high-quality care offered by *Słoneczne Przestrzenie Wsparcia (Sunny Spaces of Support)* is based on many years of experience of self-government psychological and pedagogical counseling centers which implement the educational policy of the City of Cracow in the field of specialist assistance and care for children and adolescents. Special support in *Słoneczne Przestrzenie Wsparcia (Sunny Spaces of Support)* is directed to children with adaptation, emotional or developmental problems, as well as to children and students with special educational needs and their guardians. Care in those spaces is dedicated not only for children, but also parents and teachers are covered.

Słoneczne Przestrzenie Wsparcia (Sunny Spaces of Support) are offering a wide range of assistance, which is selected on a very individual basis. Workshops and additional consultations are organized. The proposed activities include, among others, meetings related to speech and language therapy, art therapy workshops, meetings supporting psychomotor development and meetings that support finding oneself in a new environment. Specialists employed in the *Słoneczne Przestrzenie Wsparcia (Sunny Spaces of Support)* exchange their experiences and information in order to make sure that people in need could receive the most appropriate form of help.

Another example of good practice in helping children from Ukraine is the Educational and Therapeutic Center, which was established in cooperation with the local government of Cracow and the United Nations Children's Fund (UNICEF). The center is integrative and is dedicated for both Polish and Ukrainian children. Children with special educational needs, e.g. with autism, are looked after here. This facility is not only a school. Children are also provided with the care of rehabilitators, physiotherapists, nurses and psychologists. Both students and their families are provided with psychological support. The concept of this center is a response to the diagnosed social needs of students with disabilities, therefore it also includes integration activities, e.g. work with the family of a student with a disability, psychological and social support, building a support network, etc. Thanks to the presence of students from Poland and Ukraine (and other countries, in case of need), the Center has a multicultural and multilingual community of 22 students, but ultimately the facility can accommodate 40 students.

The center is run by the Foundation for the Support of Polish Culture and Language. Named after Mikołaj Rej, and in 2022 its tasks are financially supported by the United Nations Children's Fund (UNICEF). (Educational portal, 2022)

According to Olechowska (2016), in the education process, it is essential to look for the golden mean between general guidelines and the possibility of fulfilling them here and now by specific people. The examples of good practices concerning help for refugee students show that great commitment and willingness to help.

Everyday life of teachers at school with a war refugee student

A teacher who is supposed to carry out those various tasks at school related to the presence of children from Ukraine at school often also faces a new situation, with a lot of thoughts in his head about the war and a large dose of emotions associated with it.

In addition, he or she does not see clear systemic solutions and lacks from substantive but also psychological support in daily work. Teachers are increasingly talking about the fatigue of helping or empathic fatigue.

E. Jarczewska-Gerc claims that the behaviors and emotions that teachers observe in themselves are consistent with the theory of social crisis. When a person suddenly encounters tragic images, relationships, incomprehensible suffering, he or she is shocked. He or she loses the sense of influence on the environment, as well as the impression that the world is fair. In order to regain the sense of influence, there is a phase of heroism, of helping at all costs.

The next phase is so-called honeymoon, when we experience positive emotions related to acting for the general good. Unfortunately, after this phase there is always disappointment with everyday life. Why do we feel disappointed? Because the war is not over, not everyone managed to help, all the time there are reports of rapes, murders, refugees that we have at home or whom we pass on the street, do not behave as we assumed.

Those insights lead to the so-called reconstruction phase, which consists in realizing, first, that refugees are not a homogeneous group, like any other ethnic or social group. Secondly, that alongside our ordinary life, evil is still happening abroad. Thirdly, we must revise our psychological and material capacities and weigh on one scale the desire to help and on the other our own life, into which the economic crisis and inflation are entering. This is a good starting point for changing value priorities and reorganizing life. Disappointment, because perhaps we were hoping for more gratitude, plus fatigue, burnout of aids can lead to depreciation of those we have supported so far. This is the natural reaction of the mind that seeks to reduce discomfort. However, it is socially better to put the matter clearly: you need to help further, although a separate question is whether I can and want to do it at the moment. (E. Jarczewska-Gerc: 2022)

The everyday life of teachers is not simple, because what is happening now goes beyond normal life and professional experiences. Wars in the world are constantly going on, but what is happening today on the east of our state border is way more difficult for us Poles because of the proximity of these events.

It is normal that in such a situation teachers feel helpless, lose motivation to work and more and more often wonder: why am I doing this, only to start working with children and for children again the next day.

Conclusion

To sum up, the Polish school, whether likes it or not, becomes an authentic laboratory of intercultural education, whereby it must ensure that this situation becomes an opportunity to develop cross sectional competences (otherwise known as transferable resources) of students, and not an opportunity to deepen the inefficiency of the system and point out mistakes and look for the guilty.

Today, we do not know how many refugees from Ukraine will stay permanently in Poland, and their children will continue their education in Polish schools. We also do not know how long the war will last and when it will be possible for Ukrainians to return to their cities and villages. In this situation, the maxim already known from the era of remote learning during the COVID-19 pandemic will work: Maslow before Bloom. It emphasizes that in the hierarchy of action's goals, in a crisis situation, priority should be given to satisfying the need for security, belonging, emotional balance, and only then to achieve the learning goals. This balance is also needed by Polish and Ukrainian students and teachers.

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Tasks of school and teachers in times of refugees' crisis

Abstract

Education in emergency and extremely difficult situations, during prolonged crises, is not only an opportunity for children and young people to acquire knowledge, skills, contributes to their development, but also strengthens their resistance to stress and negative emotions. Moreover, well-organized and delivered education could also provide direct physical and mental protection and could also be a source of life-saving knowledge and skills.

One of the main tasks of carrying out organized educational activities at an early stage of a crisis situation is to reduce the psychosocial impact of traumatic experiences on the mental condition of young people. Disturbances in everyday functioning, in stability, loss of home and often loss of parents or friends, and uncertainty, which are inextricably linked to the situation in which refugees find themselves, can adversely affect the physical, intellectual, mental and social development of children and youth. The priority task of the school and the teachers working in it in the era of the refugees' crisis is not only the necessity to ensure the development of Ukrainian children and youth, to create educational experiences that prevent exclusion, but also and perhaps above all – to provide hope for a better future and a sense of security and relative normality.

Key words: crisis, refugee student, didactic tasks, care and educational tasks of schools and teachers

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Effects of war on teacher mental health: a brief review of research findings

Due to the war that began in February of 2022 in Ukraine, its population found itself in a situation of real threat to human life. Employees of the Department of Occupational Psychology of Ivan Ziaziun Institute of Pedagogical and Adult Education during the applied study “Development of psychological readiness of teachers for professional activities in the New Ukrainian School” (2020–2022, RK № 0120U100227) conducted a study of signs of anxiety, fatigue, insomnia, depression and symptoms of panic disorders among teachers and practical psychologists of general secondary education. The relevance of this research is determined by the need to ensure optimal and productive professional activities of teachers and practical psychologists not only in the implementation of the concept of the New Ukrainian School (NUS), but also under the conditions of pandemic and war, when people feel a real threat to their lives.

The study found that a significant number of subjects showed signs of anxiety, depression, insomnia and panic disorders as the consequences of the impact of the pandemic threat and war on the human psyche.

The main purpose of this article is to highlight the results of the study, in particular: the dynamics of panic disorders due to being in hostilities; the main trends of their development and impact on the psychological readiness of the individual for professional activities during the implementation of the Concept of NUS under the conditions of quarantine and war.

Materials and methods

The experiment is carried out by the decision of the meeting of the Academic Council of the Institute of Pedagogical Education and Adult Education of the National Academy of Pedagogical Sciences of Ukraine on the basis of agreements concluded with the heads and teachers of experimental educational institutions. The study involves

pedagogical staff: Pereyaslav-Khmelnitsky State Pedagogical University “Hryhoriy Skovoroda” of the Ministry of Education and Science of Ukraine; gymnasium-boarding school No. 13 in Kyiv; Bila Tserkva Institute of Continuing Professional Education; Kyiv Institute of Business and Technology of Vinnytsia Branch; Municipal Higher Educational Institution “Kherson Academy of Continuing Education” of Kherson Regional Council; Educational and Scientific Institute of Pedagogy, Psychology, Training of Higher Qualification Specialists of Mykhailo Kotsiubynskyi Vinnytsia State Pedagogical University of the Ministry of Education and Science of Ukraine; Department of Education of Sviatoshyno District State Administration in Kyiv; Anton Makarenko Kyiv Vocational and Pedagogical College; Mykolayiv Specialized School of the 1st–3rd levels of Arts and Applied Crafts “Academy of Children’s Creativity”; Specialized educational complex “Preschool educational institution-general educational institution “Lileya”, Kyiv; Specialized school of the 1st–3rd levels No. 125 with extended learning English, Kyiv.

Panic disorders as a research problem is a difficult phenomenon to study. This led to the choice of a combined approach to experimental work. To obtain reliable and valid information along with diagnostic interviews, observation, methods of self-assessment of health and mental states were used: hospital scale of anxiety and depression, HADS (Zigmond A.S., Snaith R.P., 1983), alarm scale, HARS (Hamilton M., 1959), the scale of depression, BDI (Beck A.T., Steer R.A., Ball R., Ranieri W., 1996), the method of “*Study of emotional states of personality*” (Pomytkin E.O., Pomytkina L.V., Ivanova O.V., 2020). Diagnostic interviews, observations and the above-mentioned methods used by the authors as a search for well-grounded information about the state of teachers who need help or support in the development of psychological readiness to implement educational reforms in professional activities in war and pandemic threat, which is necessary for applying the overall purpose of the experimental study.

The aim of the experimental study was to empirically study some aspects of personal and professional components in the general structure of psychological readiness of teachers for teaching in the New Ukrainian School, including empirical study of professional self-realization, professional reflection, professional communication, emotional intelligence, and mental health.

The theoretical and methodological basis of the experimental research program were the starting points of the personal-professional approach to the psychological characteristics of the teacher’s professional activity, professionalism and its highest form – pedagogical skills, professional personality, the awareness of teachers of basic concepts of professionalism, the development of pedagogical skills.

The methodological basis for the program were: psychodiagnostic method, associative experiment method, multipersonal dialogue method, which were used to identify the impact of basic personality traits on forming professionalism as a form of personal readiness of teachers for professional activities; a set of experimental methods: methods for determining the level of psychological readiness of the teacher

to work under the conditions of NUS; questionnaires to study the structure, features and trends of professional self-realization, professional self-reflection, professional communication, emotional resources of teachers of the New Ukrainian School; questionnaire "Mental health of the individual", questionnaire "Self-assessment of the readiness of teaching staff for diagnostic and counseling and correctional and developmental career guidance work."

The initial postulates of empirical research were the view that:

1. the structure of psychological readiness for professional activity consists of motivational-value (professional attitudes, interests, aspirations, value-professional orientations, professional-pedagogical orientation), cognitive-operational (professional orientation of attention, ideas, perception, memory, pedagogical innovation) thinking, pedagogical abilities, experience of creative and innovative pedagogical activity, actions, operations), emotional and volitional (emotional intelligence, feelings, volitional processes that ensure the successful course and effectiveness of professional activities of teachers; emotional tone, emotional receptivity, purposefulness, self-control, persistence, initiative, determination, independence, self-criticism, self-control (psychophysiological), psychophysiological (the ability to freely control their behavior and the behavior of others, mental health and ability to work, be active moving pace of work), reflexive-effective (professional reflection, self-assessment of their professional suitability, compliance of the individual with the requirements of the process of optimal performance of professional tasks) components;
2. the level of development of psychological readiness of pedagogical staff for professional activity under the conditions of NUS is a variable value due to age, professional, individual psychological factors and is differentiated from lower to higher manifestations: independence in defining and performing new tasks of pedagogical activity; adequacy of self-esteem, as well as self-esteem of professionally important qualities; ability to effectively and optimally perform the tasks of professional pedagogical activity in conditions of change, quarantine and time constraints during the COVID-19 pandemic, in particular during the war, when negative trends (value-semantic disorientation, increased emotional burnout, anxiety, depression, panic) interfere with effective professional activity, affecting the mental state of an individual.

Results

Despite the vast majority of people with a high level of positive mental states (well-being, activity, self-awareness, social adaptation, psychological self-regulation, stress, a sense of personal well-being), there is a category of teachers who have severe mental health deficits, discomfort, social maladaptation, psychosomatics and that is a prerequisite for the emergence of life-threatening panic disorders.

In the course of the research tasks, it was determined that the vast majority (67%) of surveyed teachers and practical psychologists of secondary schools have insufficient level of psychological readiness for professional activity in the implementation of the New Ukrainian School Concept and at the same time under unusual living conditions, threats in particular (Ihnatovych O.M., 2020; 2021). Under the influence of the Covid-19 pandemic on the emotional and cognitive sphere of the individual in the behavior of representatives of the above-mentioned categories of teaching staff there were significant changes in their emotional states. Peculiarities and tendencies of change of emotional states are that about 12% of respondents experience positive emotional states, while the vast majority are characterized by negative emotional states, which led to weakening the immune system, deterioration of professional duties and family relationships. Among the factors that negatively affected the emotional state, the following were mentioned as: inconsistency of information and a situation of uncertainty about further professional activity under unusual living conditions (Pomytkin E.O., Pomytkina J.B., Ivanova O.B., 2020).

Comparing the results of surveys conducted in March 2020, February 2021, March 2022, it was found that due to the influence of adverse factors (pandemic, war) there is a gradual increase in panic disorders among the studied categories of teaching staff (Figure 1, Figure 2, Figure 3).

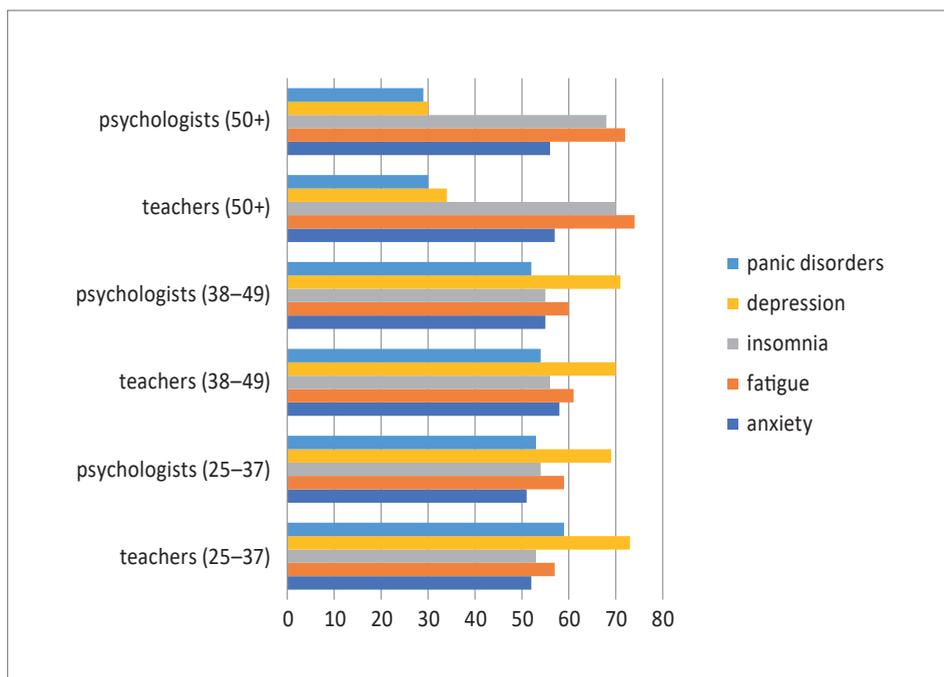


Figure 1. Distribution of anxiety, fatigue, insomnia, depression and panic disorders among those studied in 2020 (Ihnatovych, O.M., 2020)

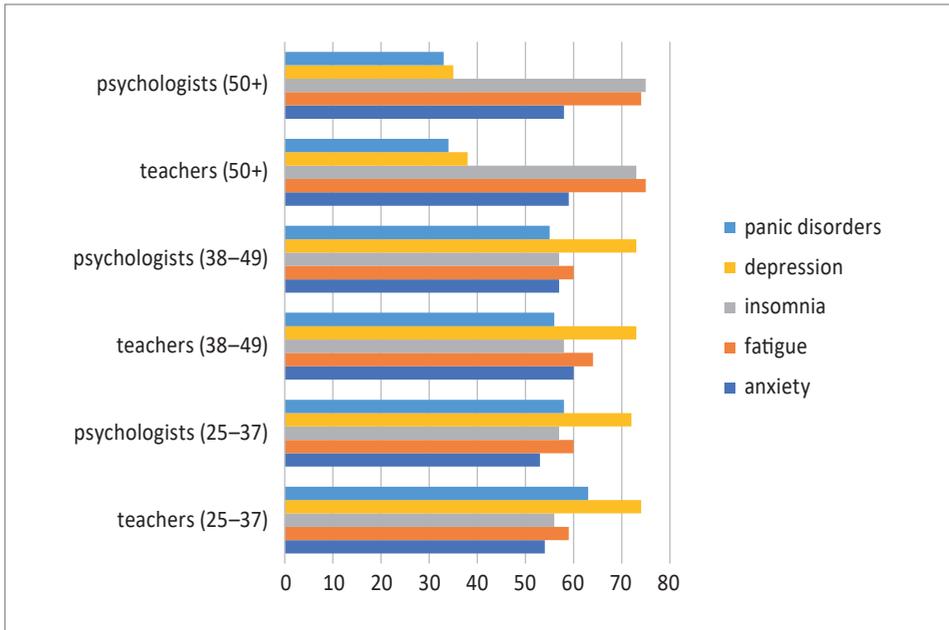


Figure 2. Distribution of indicators of anxiety, fatigue, insomnia, depression and panic disorders among those studied in 2021 (Ihnatovych, O.M., 2021)

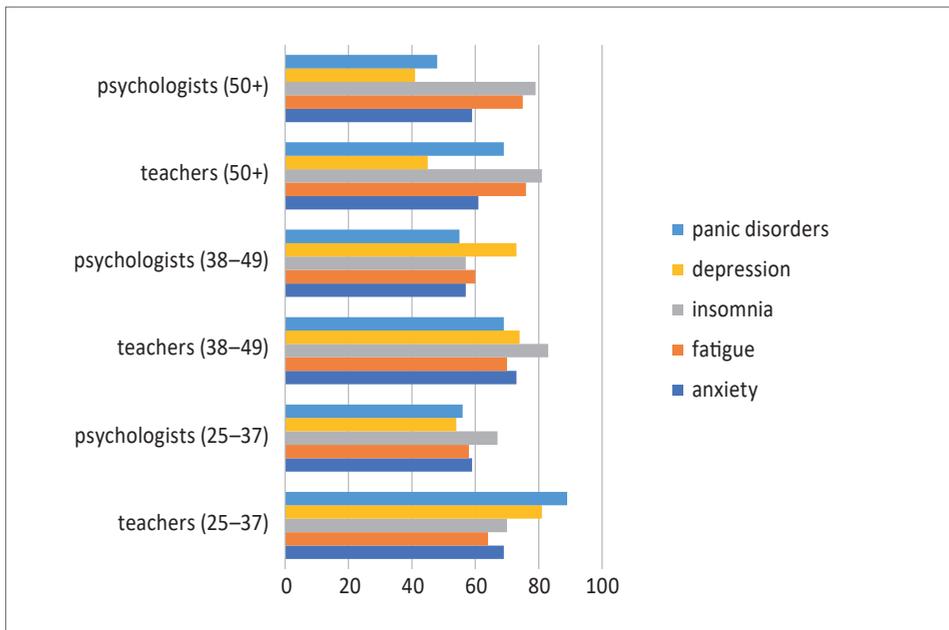


Figure 3. Distribution of indicators of anxiety, fatigue, insomnia, depression and panic disorders among those studied in 2022

A high level of anxiety was found among all age groups. Representatives of the age categories from 25 to 37 years old and from 38 to 49 years old – depression and panic disorders. Older subjects (50 years and older) have lower levels of depression but higher levels of fatigue and sleep disorders. Therefore, there is a need not only to prevent and overcome states of fatigue, depression, anxiety, and in particular psychotherapy of panic disorders, exacerbated by representatives of the studied categories during the war.

Discussion

Panic disorder, or episodic paroxysmal anxiety (Andrews G., Bell C., Boyce Ph., 2018) as a subtype of anxiety disorder of the neurotic level in the studied educators at an early stage was discovered in the syndrome of increased activation syndrome body: abdominal discomfort, urge to urinate, etc. (Bandelow B., Michaelis S., Wedekind D., 2017), and at a later stage – it is accompanied by a state of active anxiety, which occurs suddenly, reaches a limit within minutes and lasts a little more than 10–20 minutes, and then suddenly recedes.

In this case, panic disorder in older subjects is manifested in combination with other diseases: rheumatic diseases, pathologies of the endocrine and cardiovascular systems (Nardi A.E., Freire R.C.R., 2016) and comorbid disorders such as anxiety, phobic, obsessive-compulsive, post-traumatic, exacerbating the course of persons under the age of 37 – manifests itself as an independent disorder or in combination with depressive states and psychosomatic manifestations.

Different types of distress became the basis for the emergence of panic disorder in those subjects (36% of cases) who visited the war zone. Such subjects are characterized by a sudden influx of vivid memories of military events, accompanied by a sense of being in a traumatic situation. In some of them, memories arise in response to stimuli similar to those experienced during hostilities, as well as in situations associated with or reminiscent of a traumatic event.

The interaction of the identified features, especially during the war, changes the personality of the studied categories of teachers who become less sociable, more closed, seek to avoid contact with colleagues, friends, even family members, do not seek to make new acquaintances, there is a tendency to isolated and secluded lifestyle, their emotional reactions to family and friends become less pronounced, feelings of love, pity, even for the closest people, the ability to enjoy life disappear, they have complaints about the loss of meaning in life, lack of prospects, they begin to avoid long-term planning and are convinced that they will not be able to live fully and lose their professional interest. At the same time, they are afraid of hostilities, crowds, loud noise, roar, frightened by bridges, tunnels, closed housing and transport. In some cases, patients with panic disorder refuse to leave the shelter at all (Overchuk, V., Liashch, O., Yatsiuk, M., Ihnatovych, O., & Maliar, O., 2022).

In order to provide psychotherapeutic assistance to subjects with panic disorder, as well as in accordance with the existing clinical protocol at the stage of supportive psychopharmacotherapy, we started: systematic desensitization and rational influences (behavioral psychotherapy), frequency – 3 times a week, 2–3 months; identification and study of etiopathogenetic mechanisms that contribute to the emergence of neurotic states, the awareness and correction of inappropriate reactions and behaviors (individual-oriented psychotherapy), frequency 3–5 times a week, duration 3–4 weeks; the fixation of attention on relaxation, the sedation of emotional disorders, the recovery of mood (hypnotherapy) frequency – daily, only 8–20 sessions.

Also, in order to maintain mental health and prevent the effects of stressors, teachers were trained in mental self-regulation, psychological self-help, which will avoid or reduce the manifestation of negative mental states, panic disorders, and help make behavioral responses more controlled.

Conclusions

A necessary condition for this is the formation of pedagogical staff meaningful psychological attitudes, guidelines, experience, moral and ethical principles through the development of reflection, responsibility and conscious attitude to the world necessary for the organization and optimal (effective and with the least physical and mental costs) in life-threatening conditions.

The predicted results, thus, will be: maintaining the mental and professional health of the individual; reduction of the general emotional load; increasing the resourcefulness and formation of integrity of professional self-realization, professional reflection in the general system of developing psychological readiness of pedagogical staff of general secondary education establishments to professional activity under various conditions of life, including under the conditions of the war.

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Effects of war on teacher mental health: a brief review of research findings

Abstract

Among the consequences of the war, one of the most significant is the deterioration in the mental health of teachers. The conducted research reveals the features of the dynamics of panic disorders that arose as a result of teachers experiencing traumatic situations during military events. Prevalence rates of panic disorder among educators are related to the degree of trauma and the availability of physical and emotional support.

Key words: war, mental health, panic disorder, coping strategies.

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II. Teachers as mediators in difficult educational situations

*Magdalena Leżucha***The role of mediation in a multicultural school**

*Real understanding is only possible
when both parties understand that they speak not one but two languages, in which
“the same” words have different and sometimes definitely different meanings.
When they enter into a conversation aware of these differences, willing to listen
to each other and ask questions, they begin to really talk and enjoy talking.*

Margaret Mead (Heller, 2011, p. 3)

Introduction

The political, technical, economic changes taking place in our country, have a direct impact on the structure of society and its functioning. This significantly concerns the young generation, which is extremely susceptible to change. New content, which is the effect of expanding the life space of young people, is the source of their experiences and sensations and affects their further functioning (Rud, 2010).

Currently, our country is experiencing the greatest humanitarian crisis since the end of World War II. Hundreds of thousands of refugees have found refuge and safe asylum in our country. They are fleeing war, persecution, torture, hunger – they are fleeing death. Poland is a country that provides assistance to thousands of them, although it does not have a long tradition and experience in receiving and helping refugees and immigrants. In Poland, where more and more immigrants are arriving, the role of school and education is extremely important. It is at school that Polish citizens should be taught from their earliest years that diversity is a value because through it we can become more open, more tolerant, and richer. At school, young people should develop the ability to see and challenge harmful stereotypes, the courage and the ability to ask questions that will allow them to better understand the world and the people they meet along the way. Visitors from foreign lands have very different backgrounds and their situation in Poland is also different. Most often, however, when talking about foreign children at schools in Poland, we think of refugees. Their presence in schools is often perceived by teachers as a difficulty (Januszewska, 2017, p. 131).

In schools with multicultural and multilingual populations, conflicts between frustrated students arise as a result of a lack of ability to find themselves in a given reality and to resolve them (Izdebska, 2007, p. 518). The situation in which the

students accidentally find themselves causes them to struggle with many problems, consequently they have to face numerous difficult situations that concern the emotional, social and cognitive spheres. Conflicts make it difficult for any individual to function in any community, causing social exclusion. Panacea in the fight against this phenomenon are formed and developed social competences. Thanks to the ability to effectively solve situations conflict and mitigating its effects, it is easier for young people to move into new social roles and situations (Polak, 2008, p. 30).

Conflict is a natural phenomenon in any functioning school. Moreover, conflicts are an inherent part of social life (Bartkowiak, 2014, p. 74). The perception of conflict has evolved significantly in recent years. Traditionally it has been perceived as a strongly negative phenomenon and has been labelled as harmful and destructive. Nowadays, however, there is a view that conflicts play a positive role and are understood as stimulating activity and motivation of individuals. Such understanding of conflict has been transferred to school where the model of creative and imaginative use of conflict situation is becoming an element of students' personal development (Koc, 2011, pp. 193–195).

Mediation has become a valuable way of resolving all disputes, done through “a voluntary agreement between the victim and the offender with the help of an impartial and neutral person – a mediator – who helps the parties to come to an agreement and brings about reparation, compensation for the damage done and/or the material and moral harm suffered (...)” (Kupisiewicz, 2014, p. 180).

Mediation literally translated from Latin means to mediate a dispute. The etymology of this word translates into the totality of its influence. Mediation adheres to established standards based on certain principles, such as: the principles of voluntariness, confidentiality, neutrality, acceptability, impartiality and subsidiarity, as well as the principle of professionalism. Over the years it has become a very dynamically developing method of resolving disputes of various types and origins within the structure of Polish law. It has a relatively short tradition in Poland, which unfortunately translates into low awareness of its essence and advantages. This is because not everyone associates mediation as a tool used to improve the effectiveness of interpersonal communication, reduce conflicts through dialogue, lead to amicable settlements, and reduce the time necessary to achieve mutually satisfactory solutions (Szczyński, 2004, pp. 122–123).

Challenges of a multicultural school

School as a space of mutual interactions of various subjects of educational interaction – is a place of particular risk of conflicts and disputes. Involved in them may be, in principle, everyone who co-creates the school community (Wojtkowiak M., Wojtkowiak K., 2008, pp. 289–290).

The school of the 21st century is an institution that is open to dialogue and intercultural encounters and that addresses the problems of a globalized world.

“As a place of contact between cultures becomes a place where values are exchanged, judgments are formulated, stereotypes are verified, signs of humanity are seen in the *other/alien*, and one sees oneself as poorer for other dimensions of culture or richer for *new knowledge of the world* (Dobrowolska, 2010, p. 61).

The tasks of a modern school include preparing its teaching staff to work in a multicultural classroom, strengthening their cultural competence and preparing them to cooperate with the wider local environment in order to better integrate culturally different students into the educational institution and living environment. The school should be ready and open to the challenges it faces in educating and raising students with a migrant background (Rud, 2010, s. 4).

It is important that by: “recognizing the specific functioning of foreign students, their belief systems and references, needs and problems (Wyszyńska, Bobaj, 2009, p. 328), The school should be able to prevent school failure and social exclusion of culturally diverse students. The school should also enhance the cultural competence of Polish students; sensitize them to encounter the “Other”; teach them to live harmoniously in culturally heterogeneous environments; teach them attitudes of mutual respect, tolerance, respect for human rights, dignity, solidarity, and cooperation with people of different skin color, beliefs, values, and religion (Wyszyńska, Bobaj, 2009, pp. 328–329).

As Jerzy Nikitorowicz notes: “Education is aimed at a thorough presentation of one’s own culture, its values, specificity and distinctiveness, while noticing and learning about the cultures of Others, supporting them, releasing them through dialogue and cooperating in the process of mutual development” (Nikitorowicz, 2002, p. 264).

Polish educators are just learning how to work in multicultural classrooms. Although there are more and more foreign children, their presence in Polish school is still not the norm. At least two factors make their presence a real challenge for the teacher. First, foreign (and especially refugee) children come to schools at different times of the school year, appearing suddenly and disappearing just as unexpectedly. We have to accept the fact that in many cases Polish schools will not be able to organize a full educational path for such children. The only thing teachers can do is to make the best use of the time they are given. And therefore offer these children the kind of support that will make it easier for them to cope with a reality that is extremely difficult for them (Rud, 2010, p. 2).

Refugee children who are placed in Polish schools come from many regions of the world. They speak a different language, have a different culture, religion, traditions and educational experiences. In the new country they experience culture shock connected with the process of acclimatization. Some are marked by traumatic experiences of war, persecution, violence in their country of origin and fleeing to a new country. In order to overcome fear, uncertainty, distrust and disorientation in the new school environment, the teacher should create an environment that provides the student with a sense of security, stability, respect, acceptance, understanding, as well as empathy, friendship and emotional support (Jakubczak, 2010).

Foreign students manifest many difficulties in functioning in their new environment. Hence the extremely important and still underestimated role of the teacher, who should be their guide, explaining Polish customs and norms of behaviour, can encourage them to talk about the history and culture of their home country. The teacher is often the only person who can recognize a hidden talent in such a child, help develop talents, clarify misunderstandings resulting from cultural differences, reduce fear or alleviate aggression. Secondly, the attitude of immigrant children to compulsory education varies. Sometimes pupils come from families in which attending school is not a priority (Potoniec, 2009, pp. 220–222).

Problems of working in a multicultural school are also connected with teaching children who often do not speak Polish well or even at all, do not know Polish culture and customs, have such life experiences in relation to their peer group that it is difficult for them to translate them into reality in Poland. Ethnic or religious conflicts also occur and it is the teacher who has the burden of solving such situations. If teachers receive any support in this work, it usually comes from other people of good will or non-governmental organizations. However, this assistance is not always sufficient. In practice, the lack of appropriate structural solutions, i.e. support in the form of efficiently run government programs and specially earmarked public funds for various forms of assistance to multicultural schools, results in the school, on which so much depends, being left on its own (Janik, 2011, p. 10).

Foreign children often require different treatment than Polish children, among others due to low level of Polish language proficiency, specific living conditions (e.g. living in refugee centers) or due to obligatory religious and cultural norms (e.g. prayer needs). This is why it is so important for the receiving school to take care of the immigrants' specific needs. Moreover, these needs must not be seen as a problem, but rather as part of the school's responsibility to the children (Potoniec, 2009, pp. 220–228).

Special attention to the needs of foreigners may arouse surprise or protests of Polish students and their parents. This happens if Polish children are not brought up with respect for cultural differences and therefore do not understand why foreign children may need special treatment. It is the school's task to make sure that Polish parents know where and why foreign children come to Poland and to a given school. Hence, education about equal opportunities and fair treatment of all participants in the educational process is extremely important. If the school is to be a community, then Polish parents and children should also play a role in making foreign students and their families feel comfortable there.

Foreignness/otherness as a cause of conflict situations in multicultural schools in the light of the literature

The exceptional attentiveness of foreign children in this particular wartime period in schools often arouses and is a source of conflict fueled, unfortunately, still by the home environment.

Among the undesirable behaviors of school children and adolescents, aggression and school violence still occupy a dominant place. This phenomenon can be observed in all types of schools. Its causes are multifaceted and can be traced back to the family, peer and school environment as well as to individual characteristics of students. Teachers often have limited ability to mitigate or eliminate them. Extracurricular causes, in particular, escape their influence. At the disposal of teachers is the sphere of educational interventions of the school. Typical ways of dealing with aggression and violence at school are: the school's educational programmes, which should include the topics of educational lessons and extracurricular and out-of-school activities, prevention programmes, cooperation with pedagogues and school psychologists, cooperation with parents, school procedures for dealing with specific situations, and student grading systems (Woś, 2014, pp. 195–196).

Students' school aggression is transmitted primarily from outside the school and then transmitted in altered and mitigated forms within the school. School also causes it to a certain extent, but it is above all the main place where it manifests itself. It is based on unresolved conflict in social relationships. The terms aggression and violence are often used interchangeably (Gordon, 1996).

According to Krystyna Kmieciak-Baran (2000) violence is seen as a kind of destructive aggression towards another person or group. In the definition of the author: K. Kmieciak-Baran (2000) the following common aspects of violence are mentioned:

- intentionality of action – infringing the freedom and rights of an individual (group)
- causing physical and psychological harm breaking socially recognised standards of behavior (Gordon, 1996).

The literature distinguishes different classifications of types of violence:

- hot violence (manifested by anger, rage, fury)
- cold violence (actions undertaken with premeditation) – interpersonal violence (in direct contact with people)
- structural violence (existing in social structures, consciousness, culture)
- symbolic violence (rejects other cultures and recognises the dominating culture as the only one) (Kmieciak-Baran, 2000).

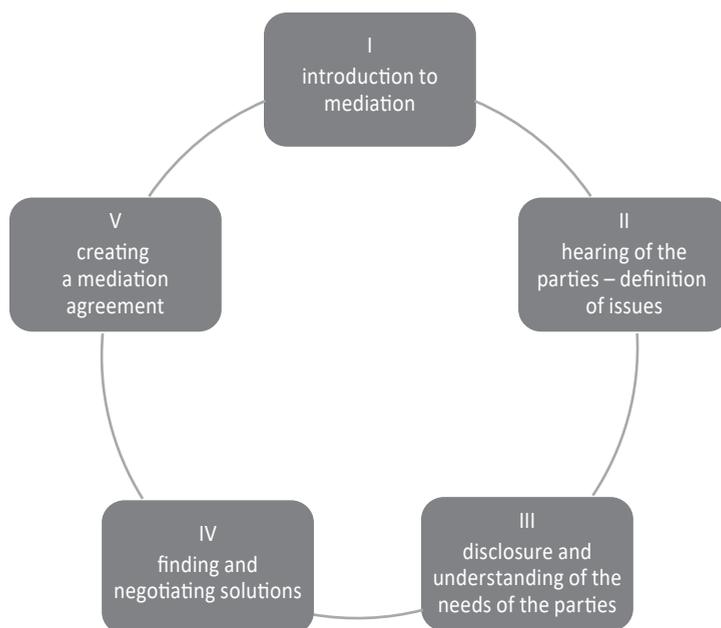
Well-known models for resolving conflicts between parties are negotiation and mediation. The difference between the two is that in negotiation, the parties directly talk to each other to reach a solution, while mediation is a process in which a professionally trained person helps the parties resolve the conflict. Both methods can be used in conflict resolution at school. Mediation is a process for reaching an agreement in the event of a dispute, the need for redress. It can also serve to establish contact between the parties (Tabernacka, 2018, pp. 33–35).

Mediation, as mentioned, requires a well-prepared mediator and its effectiveness in resolving conflict depends on this. The mediator interacts with both sides of the conflict but does not impose his own solution. The goal of mediation is not to admit that either party is right, but to help find a satisfactory solution. The basic

principles of mediation are: – voluntariness of the parties to participate in the mediation meeting – impartiality of the mediator's treatment and equality of the rights of both parties – confidentiality – neutrality – the parties come to a solution on their own – acceptability – acceptance of the mediator and the procedures of the proceedings – professionalism – the mediator is well prepared – the mediator shows respect to the parties.

Mediation is a process consisting of several stages (phases) (picture 1).

In phase one, the parties to the mediation meet with each other. They agree on the rules of the meeting and subsequent meetings, which must be accepted by both parties. In the second phase the conflicting parties present their version of the events and give their reasons. They do not interrupt each other, do not use vulgarities and insults (the rule of respect for the other side). On the other hand, the mediator can elaborate on the questions, additionally clarify unclear issues and summarize them by paraphrasing. The third phase is an individual meeting of the conflicting parties with the mediator, which in principle should be kept secret. In the fourth phase, the conflicting parties meet and try to find out the position of the other party. They talk about their feelings, present their version of events and talk about the consequences. The mediator makes sure that the meeting takes place in a cultured atmosphere (Polak, 2008, pp. 32–33).



Pic. 1. Phases of mediation

Source: own elaboration based on: K. Polak (2008), *Mediacja jako szansa rozwiązywania konfliktów szkolnych*, [In:] *Wychowanie Na Co Dzień*, nr 4–5(175–175), kwiecień–maj, pp. 32–33.

The fifth phase is the search for a solution to the conflict, for compensation, for repairing the harm. The mediator makes sure that the proposals that are written down in the form of a mediation agreement are possible to fulfill and do not cause new problematic situations in the future (Polak, 2008, p. 33).

Advantages and suggestions for using peer mediation in school

Educational executives are increasingly drawn to the idea of the level method of problem solving. This method refers to looking for the right level at which to solve difficulties. It is important for the teacher to look for the lowest level of conflict resolution and not to immediately refer the matter to parents or the school management. If the problem concerns a dispute between pupils, which could be solved by mutual agreement without the introduction of superior persons, it is worth using such a solution. Implementing mediation at school, especially intercultural mediation, becomes in the long run a relief for educators who are tired of trivial problems, but it is also a method of showing students to trust (Sierota, 2019, part I, p. 27). The idea of mediation is increasingly popular among principals, especially in these times of increased migration and mixing of different cultures. The idea of peer mediation has lived to see a concrete program of implementation in schools.¹

The goal of the program is to obtain an agreement between the parties, and often a settlement. They provide an opportunity to explore the cause of the conflict, reflect on it, and compensate for the harm done so that a similar situation does not happen again in the future (Sierota, 2019, Part I, p. 27).

A mediator in an intercultural classroom must pay special attention to language barriers that exist between conflicting parties. Very often children do not speak Polish, or do not speak it well enough to express themselves in it. This creates a lot of tension, fear and it is necessary to act especially wisely in order to break it down. Moreover, there are a lot of barriers of an intercultural nature in intercultural classrooms, which is connected with customs, habits, and the culture of the country of origin of foreign children. Religion, sensitivity to non-verbal gestures, facial expressions, voice modulation, manner of speaking, volume all have an impact as this can be misperceived by the classroom or school community (Rud, 2010).

A child from a foreign culture who speaks loudly and expressively and gestures a lot can be seen as an aggressor who shouts offensively to other children or teachers. Cultural differences, of which there are many, can be a trigger and unfortunately foreign children are equipped with such flashpoints and therefore it is important to approach them appropriately. Conflict in common parlance has a negative connotation. A mediator helps turn the negative elements of conflict into positive ones. Conflict, on the other hand, is such a dynamic moment of changing a negative into

¹ Halina Czerwińska's original prevention program Peer Mediation – the Road to Reconciliation.

a positive. A mediator helps to plan this change and then to implement it (Tabernacka, 2018, pp. 33–35).

The role of social influence of peers on the behavior of children and adolescents has long been known to educators and used as a method of education. Its basis is the perception of development in a cultural context. Through mutual communication and perception between group members, children and adolescents acquire knowledge and learn how to relate to one another. Proper peer group relationships enable intellectual, emotional, social, and moral development. Peer mediation is both a program for solving problems that arise in social relations between students at school and at the same time supports the process of social and emotional development of students. The essence of peer mediation is the understanding and resolution of conflicts by students who are in the same age group. Peer mediation usually solves smaller, but often occurring, difficulties and conflicts in social relationships. Peer mediation is part of a broader concept of peer education. Peer education is based on giving appropriately prepared students the role of teacher – guardian in the group from which they come (Leszczyńska, 2011, p. 41).

Peer education is a general strategy of educational interventions, it is also used as a form of prevention of children's aggressive behavior towards refugees/foreigners. In peer education conceived in this way, the tasks of mentor students include:

- rebuilding relationships between students,
- supporting new pupils,
- integrating isolated pupils into school life,
- helping pupils with learning difficulties with their homework,
- supporting pupils who are victims of violence (Leszczyńska, 2011, p. 41).

Peer mediation provides both a program for resolving problems that arise in social relationships between students at school and supports the process of students' social and emotional development. The essence of peer mediation is the resolution of conflicts by students who are in the same age group. It also helps to solve smaller but often occurring difficulties and conflicts in social relationships (Schmidt et al., 2010).

American schools that have successfully implemented a peer mediation system/program indicate a number of advantages of this method (Picture 2) (Cohen, 2005, Schmidt et al., 2010).

Peer mediation most often results in a settlement because during mediation students address not only issues related to a specific event, but also other, broader contexts related to it. Both students and mediators learn to communicate effectively, to see the consequences of their own actions, and to create and evaluate alternative solutions to problems. Peer mediation is a form of conflict resolution at school and counteracts students' aggressive behavior. Pupils develop their skills in real situations, in relation to real conflicts, making it easier for them to apply these skills in their own lives and in the wider world.

Mediation motivates students to resolve issues amicably rather than to fight, they learn how to deal with each other from peers who are mediators or parties in conflict, and they become convinced of the positive outcomes of mediation. Teachers and educators are also involved in this process, coordinating the conduct of student mediation. A pro-social, non-repressive, rules-based model of conflict resolution is used. The school community learns to be responsible for its own actions (Cohen, 2005, Schmidt et al., 2010).

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Pic. 2. Advantages of peer mediation

Source: own elaboration based on: R. Cohen, (2005), *Students Resolving Conflict: Peer mediation in schools*, Good Year Book; F. Schmidt, A. Treidman, J. Marvel (2010), *Uczeń jako mediator*, Gdynia: Centrum Kształcenia Liderów i Wychowawców ARRUE.

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By resolving many conflicts outside of teachers' control, students gradually learn responsibility and preparation for decision-making in adult life. In contrast, mediators experience the positive effects of their actions on others; their contributions are valued by adults and other students. In the mediation process, students learn to manage an important part of their lives. As a result, those who exhibit undesirable behaviors have a chance to be included in the social life of the school. The effectiveness of mediation results in students spending more time in the classroom and teachers spending less time disciplining students (Leszczyńska, 2011, pp. 42–43).

Mediation is not used only after a conflict event, but in many cases successfully prevents the conflict from occurring or developing. Mediation, through a culture of dispute resolution, creates a specific climate in the school that encourages students to mediate when problems arise between them. Early resolution of conflicts results in the non-appearance of subsequent conflicts.

In their educational efforts, teachers strive to maintain a balance between simultaneously giving students freedom and controlling them. Mediation reconciles both needs – it provides rules and schemes within which students make their own choices (Leszczyńska, 2011, pp. 41–43).

Peer mediation can be conducted in all types of schools. Students selected as mediators must receive appropriate training (Schmidt, Treidman, Marvel, 2010).

Mediator selection can be done by students, teachers, and volunteers. Mediators must represent and reflect a cross-section of the school community and have certain characteristics such as interpersonal skills, leadership qualities, respect for others, good verbal communication, ability to listen to others, discretion and confidentiality, and willingness to participate in the program (Sierota, 2019, Part I, p. 27).

When implementing a peer mediation project, it becomes crucial to choose a coordinator from among the teachers whose tasks include: conducting or participating in the training of students, familiarizing teachers, students, parents with the idea of the program, preparing a list of mediators, supporting students with additional training if necessary, providing assistance to mediators in difficult situations, seeking solutions to problems that arise at school (Sierota, 2019, part II, p. 31).

School situations indicate that many conflicts arise without students' bad intentions or due to students' inability to anticipate the consequences of their own actions. By this It is more appropriate to undertake constructive communication between the parties than to use disciplinary regulations (Leszczyńska, 2011, p. 43).

For several years, increased interest in peer mediation as a method of resolving conflicts between students can be observed in Poland. Research conducted in 2020

by Joanna Rusinkiewicz and Łukasz Piś shows the benefits of this method perceived by teachers and students. The researched school community declared their willingness to use mediation in case of finding themselves in a conflict situation, seeing it as a way to alleviate disputes, with students presenting more positive opinions in this regard (Rusinkiewicz, Piś, 2020, p. 155). In 2019, Agata Sierota conducted unpublished research on school mediation. In the research, the author indicated that there was considerable concern among teaching staff and parents of students about this method. These concerns included: the effectiveness of the method, the inadequacy of the method for the severity of the disputes, the additional stress on the children, the separation of the mediators from the other students, and the trust of the parents and students in the peer mediator. This research also highlighted a number of benefits to the school community: the effectiveness of the method, the trust of the affected students in the mediation group, and the involvement of teachers in improving the problem situation (Sierota, 2020, part II, p. 32).

The following example testifies to the effectiveness of the school mediation method: *a boy of Ukrainian nationality (Dmytro², age 10) was admitted to the fourth grade in one of the schools in a village in the Podkarpackie Province. In spite of his good performance in school and in Polish, and his positive relationships in class, he was the object of bullying and ridicule by a group of his peers. Attempts to change the group's behaviour made by teachers, school counselor and the school management were ineffective. As the situation did not only concern this boy, the school decided to implement the peer mediation method. Mediators and a coordinator from the teaching staff were appointed and the mediation began. After talking with Dmytro, the mediators reached out to his bullies, and since they were his schoolmates, they were able to influence them to change their behavior towards the bullied student. In addition, the mediators encouraged the boy to help other students learn English, which he did very well.*³ In this particular case, the mediation method proved to be more than effective.

Mediation through a culture of dispute resolution contributes to a kind of collaborative climate in the school that encourages students to mediate when disputes arise, enhances students' sense of belonging to the school community, ownership and co-determination of the school, and improves mutual communication (Sierota, 2019, part I, p. 27).

Summary

Polish school, which is currently experiencing a new change caused by the necessity of accepting refugees within its walls, at different stages of education and the necessity of adjusting school infrastructure and curricula, is facing many difficulties. One of them are conflict situations between Polish and foreign students.

² The name has been changed.

³ Source: the example shown is from an anonymous teacher who works at this school.

School situations indicate that many conflicts arise without students' bad intentions or due to their inability to predict the consequences of their actions and the lack of communication. To avoid them, the following actions should be implemented in a multicultural school: first, developing a pluralistic school by spreading knowledge about students' cultures and countries of origin, second, treating children individually while respecting cultural and religious differences, and third, adopting an active attitude towards students who do not speak Polish. These actions will reduce to some extent the cultural polarization between foreign and Polish students and will partly reduce the occurrence of cultural conflicts.

However, when conflicts do arise, peer mediation presented in this study is an invaluable form of conflict resolution. Mediation is helpful in helping schools fulfill one of their goals of educating youth. This perspective, however, requires that adults/educators share their power to decide for youth and not assume responsibility for them during mediation. It is also important to work with and support the student-mediator, as professionalism and adult competence are invaluable to the success of a potential mediation project (Grudziecka, 2022, pp. 7–8).

Peer mediation will not solve all school disputes. They become only an opportunity to seek agreement, minimize the effects of the conflict or reduce the manifestations of aggression and violence at school. They give young people time to reflect on their own behaviour and repair their relationships with peers (including foreigners) (Grudziecka, 2022, p. 13).

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The role of mediation in a multicultural school

Abstract

Mediation is receiving increasing attention. The number of schools that implement programs related to school mediation is growing. Mediation is one of the ways to solve peer conflicts and prevent violence. It can also contribute to the development of both students and teachers in the area of social and cognitive skills.

Every pupil differs from his/her peers in some external feature, and therefore may encounter lack of acceptance or negative attitude of the school group. The same may happen when a child differs in terms of image and culture from his/her peers or speaks Polish poorly or not at all.

Mediation helps resolve conflict situations and mitigates their effects, making it easier for students to assume new social roles at school, among peers, and in the family.

School, especially multicultural school as a space of mutual relations and interactions is a place of particular risk of conflicts and disputes. Therefore, knowledge in the field of school mediation aimed at reaching an agreement and reaching consensus on key issues may prove extremely useful (Rusinkiewicz, Piś, 2020, pp. 135–136).

The purpose of this article is to identify the role of peer mediation in the functioning of refugee children in the new school reality and to identify potential opportunities for interaction in the classroom or school group.

This article is a theoretical study which does not present specific research on the topic presented, but is an attempt to formulate new proposals for mediating activities in a multicultural school based on elements drawn from the literature on the subject.

Key words: peer group, student, conflict, refugee, stranger, mediation, peer mediation, school, multiculturalism

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The teacher as a mediator in difficult educational problems

Introduction

The effects of armed conflicts go further beyond population losses. They contribute to the increase in the number of people who suffered permanent physical and psychological damage as a result of the war. This causes a significant increase in disability, mental illness, suicides and pathology. Moreover, conflicts disrupt the population structure of the communities concerned.

The war in Ukraine shocked all of Europe, including Poland. According to UNESCO's Institute for Statistics data, Ukraine's total school-age population stands at more than 6.84 million students, from pre-primary to the tertiary education level. Ukrainian authorities have reported that in the first month of more than 733 educational institutions have been damaged or destroyed. Thank to European Union directives persons under 18 years-old could benefiting from the temporary protection status under the same conditions as their own nationals and EU citizens and move freely to EU countries (UNESCO1, 2022). Many countries responded the problem, including Poland. In the April 2022 more than 2490000 Ukrainian fled the war into Poland and 160000 children of Ukrainian refugees joined Polish schools. (UNESCO2, 2022).

It is a very difficult experience for children and young people, both Ukrainian and Polish. Teachers are also facing an extremely important challenge. How to talk to students about what is happening in Ukraine? Is this topic always worth discussing? How to support the Ukrainian minority attending Polish schools?

Proper resolution of conflict situations requires knowledge of the psychological regularities that govern them and the use of selected techniques, methods or means of conflict resolving. Among the best known is the approach "without failures" by T. Gordon, in which the point is not to prove who was right, but work for a joint resolution of the conflict.

This method brings positive effects not only in resolving conflicts, and above all in seeking solutions that are acceptable to both parties to the conflict. (Gordon, 1995; Chełpa, Witkowski, 2004; Kazimierczak, 2008).

By excluding the failure of any of the participants in the conflict, this method offers the prospect of improving the educational practice. It is very important that everyone feels satisfied. The teacher's behavior should break down stereotypes about conflicts so that the students are able to cope with such difficult situations. The method of conflict resolution is extremely important, taking into account, according to the assumptions of T. Gordon's theory, the principle of 6 steps related to:

1. Identifying the conflict and naming it
2. Showing the children that the teacher understands their feelings and needs so that they can understand themselves.
3. Common search for solutions.
4. A critical evaluation of the proposed solutions.
5. Deciding on the best solution.
6. Implementation of the decision (Gordon, 1995).

When faced with a conflict situation among students, teachers adopt various attitudes depending on their beliefs or preferences. In terms of education, the most desirable attitude of the educator towards the conflict is the creative attitude, in which the teacher tries to use a difficult situation as an opportunity to jointly analyze behaviors and attitudes, thanks to which the students can better understand and get to know themselves. Creative negotiation, resulting from the ability to think creatively, is one of the important professional competences of a teacher.

Negotiating requires a lot of goodwill from teachers, kindness to the student and negotiating skills, and above all, a creative, flexible and open attitude towards school conflicts. Principle-based negotiations aimed at reaching a mutually satisfactory agreement are difficult and require the parties to the dispute, in addition to respect for each other and their partner, understanding the essence of negotiated interests, adherence to certain rules, and a good knowledge of negotiation techniques and interpersonal communication rules. When negotiating, the teacher must see new perspectives for educational practice (Folta, 2003, Duda et al., 2019, Lubas, 2019).

The teacher's recommended activity is also to strengthen the positive atmosphere of the school and to create a friendly environment that guarantees equal access to high-quality education and is conducive to constructive conflict resolution with the use of mediation techniques (Moore, 2012; Gmurzyńska, 2009).

Students should understand what the mediation procedure is, what its purpose is, how it works and who the school mediator and peer mediator are. Such a formula should be acceptable to everyone (Jackiewicz, 2021; More, 2019).

Recommendations in this regard were presented by the Ombudsman for Children in November 2017 in the document "Standards of peer and school mediation in schools and other educational institutions". He pointed out that: *Mediation*

introduces a culture of dialogue and shared responsibility for shaping the climate at school. It is an important and effective tool of psychological and pedagogical help in work with children and youth, in accordance with the regulations of the Minister of National Education on the principles of providing and organizing psychological and pedagogical assistance in public kindergartens, schools and institutions. Mediation is also part of legal education at school.

The legal possibilities in this regard are specified in the Regulation of the Minister of National Education of 23 August 2017 on the education of non-Polish citizens and persons who are Polish citizens, who were educated in schools operating in the education systems of other countries.

When planning work in such a diverse class team, the teacher should look for answers to questions about the possibility of achieving the goals of education and methods of verifying the degree of achievement of the detailed requirements of the core curriculum, the effectiveness of the teaching and learning methods used, conducive to the development of new students' language and subject skills. Problems related to the monitoring of students' work aimed at supporting their development in the field of key competences, the development of natural interests, the inclusion of non-Polish-speaking students in the work of the entire class, as well as assessment conducive to learning will also be extremely important (Pruś, 2022).

Methodology of the research

The aim of the research was to collect teachers' opinions on the impact of the current situation in Ukraine on the teaching process, including in biology and nature lessons. The research was carried out using a diagnostic survey among teachers of primary schools in the Małopolskie Voivodeship. The on-line questionnaire contained 17 questions, including 12 closed and 5 open questions. The research was conducted in April 2022, approximately two months after the armed conflict in Ukraine began. The link to the questionnaire was sent to all primary schools in the Małopolskie Voivodeship to the school's e-mail addresses available in the Register of Schools and Educational Institutions with a request to be filled in by science subjects teachers. 123 polls were returned.

Results

Below the research results that reflect the respondents' responses to selected questions included in the questionnaire are presented.

According to teachers' indications, before the outbreak in Ukraine in February 2022, the presence of students from other countries in Polish schools, such as Ukraine, Belarus, Russia, other European Union countries than Poland, and also from outside the European Union was incidental. They were usually single learners or small groups of learners who had been involved in the educational process for

a long time. The teachers indicated that most of the students present at the school had come from Ukraine in the last three months.

Nearly 30% of science teachers believe that the conflict in Ukraine significantly or very significantly influenced the organization of the educational process at school, while nearly 50% of teachers believe that this impact was insignificant or non-existent. The majority of science teachers (55% of teachers) are also convinced that the situation has little or no impact on the organization of science teaching. Only 22% of science teachers believe that their lessons have changed significantly with the arrival of new students, while 32% of teachers believe that lessons have not changed and 26% believe that their lessons have changed only slightly.

The majority of the respondents (71%) pointed out that the appearance of new students in class teams did not negatively affect the relations between students. The teachers were of a different opinion, who indicated that they influenced very significantly 1% and significantly 4%. The motivation of students to learn is similar, in a class where children from war-affected areas study. Well, 78% of teachers say that the motivation has not decreased at all, 10% that it has partially decreased.

The presence of Polish and Ukrainian students in the lessons caused a change in working methods. Teachers decreased using the methods conveying the information (direct methods of direct instructions), and so over 21% of the respondents indicated that they do not use methods conveying the information in their work with Ukrainian students. 39% of teachers answered that they often use problem methods among Polish students, and 10% among Ukrainian students introducing them to asking questions-problems, to formulating hypotheses and verifying them in the course of mental and practical operations. As many as 33% of respondents do not use problem methods when working with Ukrainian children.

Activating methods and strategies are very popular among the teachers. Those methods of work were used in lessons by teachers very often, but more often in lessons with Polish than with Ukrainian students (46% – Polish students, 28% – Ukrainian students). 16% of teachers do not use activation methods in classes attended by Ukrainian students. The exposing methods are less often used compared to the activating methods, they are used sometimes (31% – Polish students, 32% Ukrainian students) or often (36% – Polish students, 24% Ukrainian students).

When discussing science issues, teachers use practical methods often (37% – Polish students, 28% – Ukrainian students) and very often (25% – Polish students, 21% – Ukrainian students) during lessons with both Polish and Ukrainian children. Interestingly, the scientific/IBSE methods are not used by teachers or they use them occasionally, while in the presence of Ukrainian children, as many as 67% do not use this method at all.

The teaching difficulty is the use of a variety of methods while working. Research has shown that another method that is not popular is the educational project and the flipped lesson method. 43% of respondents do not use the project method among Ukrainian children, but in lessons in which only the Polish children

participate, the method is used sporadically (31%) or sometimes (33%). The situation is similar when it comes to the flipped lesson method, 21% of teachers do not use it even when teaching Polish students, and as much as 62% while teaching Ukrainian students.

Science teachers were also asked how often they use selected teaching aids, methods and forms of work during their lessons. Results are presented in Table 1.

Table 1. Frequency of use of the chosen forms of teaching aids, methods or forms of realization by science teachers (% of teachers).

	1 (not using)	2	3	4	5	6	7 (very often)
Work in groups	2,4	16,3	19,5	19,5	21,1	11,4	9,8
Games	4,9	20,3	21,1	17,1	15,4	10,6	10,6
Tasks developing students' creativity	3,3	21,1	15,4	29,3	20,3	0,8	9,8
Film projection	1,6	4,9	16,3	22,0	13,0	23,6	18,7
Supplementing worksheets and exercises	3,3	10,6	19,5	22,0	17,1	13,0	14,6
Work with text, textbook	5,7	22,8	17,9	22,8	17,9	4,9	8,1
Outdoor activities	8,9	21,1	25,2	19,5	11,4	8,1	5,7
Observations	1,6	5,7	19,5	13,8	25,2	13,8	20,3
Illustrating experiments	4,1	15,4	17,9	16,3	19,5	13,8	13,0
Scientific experiments	15,4	18,7	16,3	18,7	22,8	3,3	4,9

The results show that students perform scientific experiments infrequently or not at all, which supports the earlier finding that teachers do not work with the scientific method or in accordance with IBSE. Experiments and observations are made moderately often and frequently in the classroom. Lessons are rarely conducted in the field. During the lesson, the textbook, worksheets and exercises are moderately often used. 43% of teachers use movies frequently or very often during lessons. Tasks developing students' creativity are carried out moderately frequently – only 30% of teachers introduce them often or very often. Teachers also use group work less frequently than more often. 5% of teachers do not use games, and 42% use them sporadically or very occasionally.

Teachers were asked to identify factors that can constitute a barrier to the integration of children from conflict countries with other students in the class. The results are presented in Table 2.

Table 2. The % of teachers' answers to the question "Please indicate to what extent individual factors constitute a barrier to the proper integration of children from countries affected by conflict with other students in the class?"

	1 (no effect)	2	3	4	5	6	7 (very strong effect)
Language barrier	8,1	12,2	15,4	11,4	8,9	11,4	32,5
The emotional state of the students	10,6	9,8	19,5	12,2	19,5	14,6	13,8
Discrepancy in program content	11,4	14,6	18,7	19,5	17,9	8,9	8,9
Reluctance from other students	38,2	27,6	11,4	8,1	7,3	3,3	4,1
No motivation	16,3	20,3	17,1	13,0	12,2	13,0	8,1
The feeling that they are only here for a moment	13,8	13,8	8,9	11,4	13,8	17,9	20,3
Reluctance to learn	23,6	22,0	15,4	12,2	9,8	10,6	6,5
The level of difficulty	22,8	23,6	15,4	14,6	13,8	8,1	1,6
other...	53,7	16,3	11,4	8,1	6,5	2,4	1,6

The results show that the most important factors influencing the proper integration of students in the classroom are: the language barrier, the emotional state of the students, as well as the students' belief that they are here for a while.

Another question concerned the individual factors that can constitute a barrier to the proper implementation of the planned goals of teaching in the field of science. The results are presented in Table 3.

Table 3. The % of teachers' answers to the question. Please indicate to what extent individual factors constitute a barrier to the proper implementation of the planned goals of teaching in the field of science.

	1 (no effect)	2	3	4	5	6	7 (very strong effect)
Language barrier	10,6	6,5	13,0	11,4	5,7	10,6	42,3
The emotional state of the students	10,6	17,9	13,8	13,8	19,5	12,2	12,2
Discrepancy in program content	7,3	17,9	13,8	13,8	25,2	4,9	17,1
Reluctance from other students	33,3	27,6	11,4	12,2	7,3	6,5	1,6
No motivation	15,4	21,1	14,6	15,4	14,6	10,6	8,1

	1 (no effect)	2	3	4	5	6	7 (very strong effect)
The feeling that they are only here for a moment	14,6	17,9	10,6	8,9	14,6	17,9	15,4
Reluctance to learn	17,9	23,6	17,1	17,1	8,9	7,3	8,1
The level of difficulty	21,1	19,5	18,7	22,8	11,4	5,7	0,8
other...	50,4	19,5	11,4	8,1	6,5	3,3	0,8

The results show that the most important factors influencing the proper implementation of the planned goals of teaching in the field of science are: the language barrier, discrepancy in the content of the teaching program, the emotional state of the students, as well as the students' belief that they are here for a while.

Work in a class team joined by children from areas affected by armed conflict shows a certain unambiguity in the responses of the respondents. 85% indicate that they engage Ukrainian students to work in groups or projects. 76% of Ukrainian students keep subject / exercise books. 81% of teachers indicate that they have different assessment criteria than Polish students. The respondents claim that Ukrainian children are treated concessionally (72%), as many as 78% of teachers believe that they should not be treated equally in terms of educational requirements. The overwhelming majority of Polish students (88% according to the respondents) help Ukrainian students and do not generate conflicts among themselves (91%). Teachers believe that every student should have the same rights to access further education.

The situation also influenced the relations between students at school. 80% of Polish students do not feel threatened by students who have joined class teams. 83% of Polish students do not generate conflicts with new students (sometimes – 15%). 78% of Polish students do not feel neglected in their lessons (sometimes – 19%). Only 8% of students are afraid that they will run out of places at school in the next stage of education. Most students (70%) do not feel any deterioration in the quality of subject education due to the current situation, while 27% say sometimes.

Teachers found that assessing children from conflict areas is partially conducive (39%) to learning. In turn, 15% of the respondents had a different opinion. Only 6% of teachers said that assessment is conducive to learning for Ukrainian children (Figure 1).

Most of the respondents monitor the work of students from conflict areas, which is aimed at supporting them in the development of key competences. 31% of teachers often monitor their work, 28% sometimes, occasionally 18%, very often – 9% (Figure 2).

There were also open-ended questions in the questionnaire. One of the questions concerned the most important problems that teachers notice with regard to the presence of Ukrainian students at school lessons. Most of the similar statements,

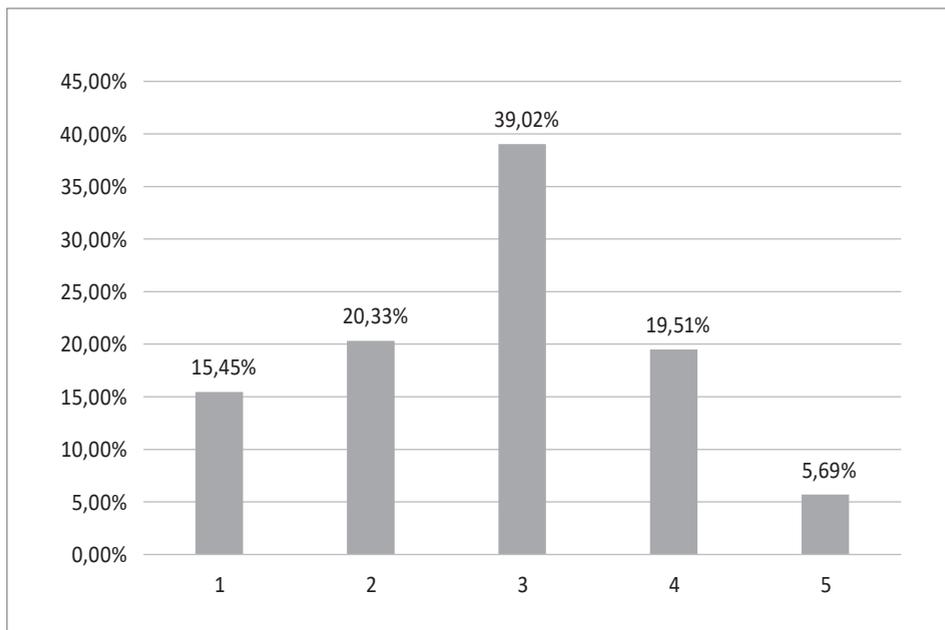


Figure 1. To what extent is the assessment of children from conflict areas conducive to learning? (1 – not conducive, 5 – yes).

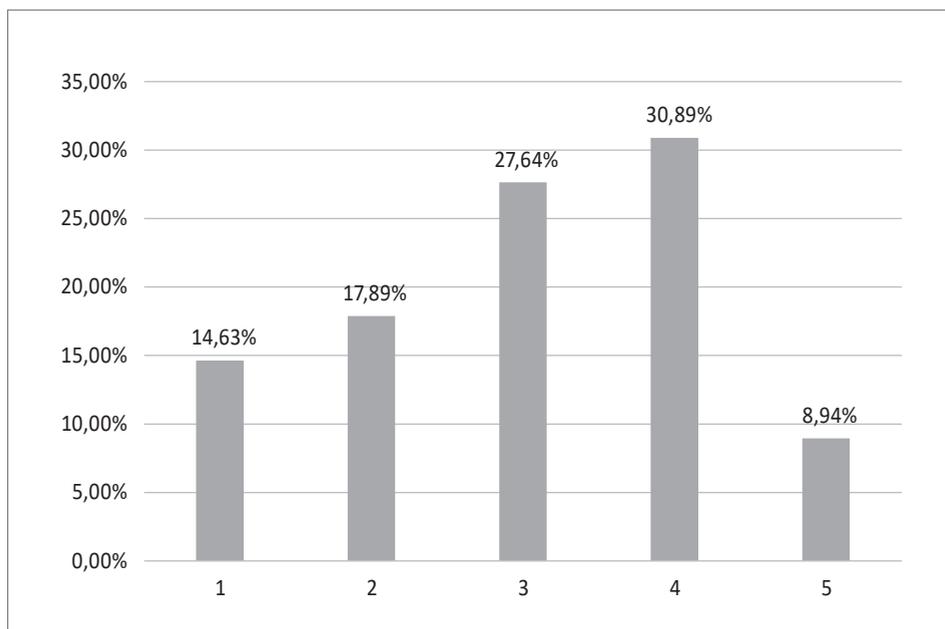


Figure 2. Monitoring the work of students from areas affected by the conflict, which aims to support their development in the development of key competences. (1 – at all, 5 – very often).

and of course understandable, was the language barrier that significantly hindered communication. An important fact, and what the teachers emphasized, are the differences in the Polish and Ukrainian core curricula, as well as the adaptation of educational requirements to the students' abilities. Apart from preparing the workshop, the teachers encountered another problems from the emotional side of the students affected by the conflict:

- uncertainty of „tomorrow”,
- retreat,
- the conviction that “they are here for a while”,
- sense of danger,
- emotional instability,
- lack of motivation.

The teachers, working with Ukrainian students, presented their developed methods that were aimed at solving the problems presented above. The help provided to students takes place in two ways, in the emotional and scientific spheres (implementation of the core curriculum). First of all, a conversation with a student, silencing negative emotions, support, cooperation with other teachers, a school pedagogue and psychologist or a language assistant were the basis for mediation in difficult educational problems. Teachers indicate that there is not enough time to become more involved in working with students from Ukraine, but if problems arise, they react on a regular basis.

Among the respondents there were also teachers who used worksheets in Ukrainian during lessons, displayed topics in Ukrainian or Russian on the board, used a translator, and helped with homework at school. Teachers indicate that they tried to diversify the educational process, praise and motivate more than usual to work. The help of other students is indispensable, helping with integration but also with understanding new messages. The participation of teachers in various training courses on working with students from Ukraine also had an impact on mediation with students. The methods of work are varied, as evidenced by the statements of the respondents:

- *Classes are carried out in Polish and English, in addition, the text in Ukrainian and Russian of what I say is displayed on the blackboard.*
- *The children do not speak Polish. We use Russian to communicate, but it is not always successful. There is a picture dictionary for communication in the classroom, printed from online materials.*
- *The work uses Ukrainian publications with a translation into Polish. Additionally, the student learns the Polish language for 3 hours a week with a Polish teacher.*
- *I cope with the cost of sleepless nights, looking for any hints on the Internet. I have a friend who knows Ukrainian and helps me translate worksheets.*
- *I can see that the initial enthusiasm has already burned out a little.*
- *I use an online translator, sometimes Ukrainian students assist with translation by who have been going to school for several months.*

Discussion

The results of the research indicate that the presence of students from the areas affected by the conflict forced teachers to adapt the methods and forms of work during the lessons. By comparing the methods of working in lessons with Polish and Ukrainian students, it was shown that activating, exposing and practical methods were used more often. The development of natural and biological content with the use of especially activating methods as well as the scientific method combined with the performance of experiments and experiments facilitates overcoming the language barrier by activating additional senses, in addition to hearing: sight, taste, touch. The teaching and problem-based methods require greater knowledge of the Polish language, so they were rarely used by teachers during lessons with Ukrainian students compared to the situation before the conflict.

Despite the language barrier, the teachers motivated, adjusted the educational requirements, and assessed Ukrainian children. As the research shows, these students conducted subject notebooks or exercises, participated in group work, and the educational requirements were different in relation to Polish students, adjusted to the students' perceptual abilities. Greater focus on working with students with language barriers, according to the respondents, did not lower the quality of subject education, and the remaining ones did not reduce the quality of teaching and the students did not feel neglected in their lessons. Ukrainian students are often emotionally withdrawn and do not generate conflicts, rather they need conversation and support from teachers, but also from their peers.

Each teacher monitors and evaluates the work of all students. Assessing Ukrainian children was conducive to their learning as well as mobilizing. The alignment of educational requirements during the assessment played a key role. Monitoring the work of students, individualization of the teaching process to a greater or lesser extent resulted in the development of key competences of students in accordance with the assumptions that the teaching and learning process is not only the transfer of knowledge and information processing, but also proper scientific communication, mediation of problems and disputes (in the case of e.g. nature and biology are many ethically, socially and environmentally important issues) as well as negotiating and adapting the environment and learning methods to the needs of students. The key competences for lifelong learning, essential for self-fulfillment and personal development, are extremely important today, as they represent the dynamic combination of knowledge, skills and attitudes that the learner must develop. They include, among others competences in the selection and creation of information in the mother tongue and foreign languages, mathematical, natural and digital skills, as well as social competences (European Commission, 2018).

Successful and effective education in forms attractive to students means the necessity to constantly improve one's own competences so as to, at least to some extent, keep up with the dynamics of reality changes. The 21st century surprises us

with the pace and quality of changes in the functioning of the school, the organization of the educational process, the strategy of learning science subjects, and the role of the teacher in the process of supporting the multilateral development of students. The problem lies in understanding and implementing what is called modern education, a competent teacher of the digital age dominated by modern information technologies, computers, multimedia and the Internet.

A contemporary school should therefore be an environment of innovation, and teachers should efficiently and effectively use the opportunities offered by information and communication tools, especially in a conflict situation. A creative teacher's attitude, appearing in including proper communication into educational practice, conflict resolution skills and assertive and empathic behaviour, would be helpful as well. That communication can be realized through the mediation techniques, which are far-away from arbitrage, which used to be a natural teacher's behaviour. Used in a specific elementary school environment, mediation takes much more educational advantages for the students involved. Mediation teaches to understand own acts, to take the responsibility, it creates the sensitivity for other men's feelings and rights. The mediation seems to be a secure and effective way for creative teachers.

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The teacher as a mediator in difficult educational problems

Abstract

The current situation related to the war in Ukraine has made the presence of children from armed conflict areas, mainly foreign-language children, in Polish schools, becoming one of the main challenges facing education. Moreover, modern school becomes a place of students' rivalry and aggression. Teachers have to find their own way to handle the problem, frequently becoming a part of the conflict themselves. The problems of educating foreign children and young people require quick changes, adjusting the Polish school system to the realities. Therefore, it should be a concern of teachers to ensure appropriate teaching conditions in order to increase the educational chances of both Polish and Ukrainian students, and the inclusion of non-Polish speakers in the work of the whole class. The aim of the research carried out in March and April 2022 using the diagnostic survey among primary school teachers was to collect their opinions on the impact of the armed conflict and the current situation in Ukraine resulting from it on the course of natural and biological education. The paper presents the results of the research.

Key words: primary school, education, mediation, war

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The role of the teacher in adjusting educational tools in inclusive education for children from Ukraine – case study

Introduction

Inclusive education is understood as an approach in the process of education and upbringing, aimed at increasing the educational opportunities of students by providing them with individually adapted conditions to develop their own potential, possibly in the vicinity of their place of residence (Błaszczak and Imiołczyk, 2012). Nowadays, this education is a priority in various countries, including the member countries of the Organisation for Economic Co-operation and Development (OECD) (Tarwacki, 2015), e.g., in France, Poland (Wasiukiewicz-Rogulska, 2019, p. 14). It requires a flexible and creative approach by the teacher to the process of transferring knowledge (understood as knowledge, skills and attitudes) and the implementation of educational tasks (Krakowiak, 2021, p. 19). Working in the classroom, the teacher comes into contact with various units that require special attention, these are students with special educational needs (SEN). This type of students includes both gifted students and students broadly understood from the so-called learning difficulties (e.g., students with dyslexia, dysgraphia, dysorthography, dyscalculia, visually impaired, hard of hearing, students with chronic diseases, attention deficit syndrome, etc.). Often, in class teams, there are also students with low motivation to work and “underdiagnosed” who have several minor difficulties, not constituting one named disease entity. Apart from these units, it must not be forgotten that in school classes there are also students with average educational abilities and emotional problems. For all these types of students, the teacher should Individualise Work (The Act of September 7, 1991, Kopek-Putała and Nodzyńska, 2020) incl. by adapting methods and forms. This is a great challenge for the teacher, requiring extensive psychological and pedagogical knowledge. At the same time, this task requires additional activities and is time-consuming for the teacher. Additionally, teachers lack specific guidelines on How to work with a given specific student on a given specific science subject with a small number of hours. (Tips from psychological and

pedagogical counselling centres are very general and not always adequate to the subject taught, for example: “a student with dysgraphia should write in capital letters.” For a chemistry teacher, this is a problematic recommendation, because Co and CO in chemistry are two different chemicals.) Every day, the teacher must diagnose the current problems of SEN students and try to help overcome them and at the same time provide adequate incentives for gifted students and other members of the class team. Nowadays, additional requirements related to the presence in classes of students from Ukraine have been added to the tasks of the teacher.

Students from Ukraine (their legal guardians) may choose one of the two educational paths available in Polish: School (www 1)

- A school with a preparatory department
- A school without a preparatory department (the school is obliged to admit a student “temporarily residing” in the perimeter of a given institution, in accordance with art. 133 section 1 and art. 151 section 1 of the Education Law Act of 14 December 2016 (§ 4 section 1 point 1 § 4 section 2 of the Regulation of the Minister of National Education of 23 August 2017).

Students from Ukraine entering schools in which no preparatory departments have been established encounter a number of difficulties on their way related to, inter alia, in the broadly understood change of the environment, the education system (including the assessment system and language) and partially the level of everyday functioning and emotional difficulties.

The problems described above particularly affect teachers of public schools in which no preparatory departments have been established. In this case, teachers were added to teach more students with special educational and traumatic needs and experiences and most often with unfamiliarity with the communicative (basic) level of the Polish language.

Background / literature review

Due to various events in the international arena and technological advances in many areas of life, there is greater mobility among people. Foreigners often come to Poland with their whole families. For this reason, there is a need / necessity for compulsory schooling and education for foreign children (The Education Law Act of 14 December 2016, The Regulation of the Minister of National Education of 23 August 2017). Teaching the content of school subjects with an additional language is becoming increasingly popular (Swain and Johnson, 1997, Dalton-Puffer, 2017). Content-Based Learning (CBI) and Content and Language Integrated Learning (CLIL) are also used to promote language and / or content learning around the world (Cenoz, 2015). Learning in a second language is problematic for a foreigner (Stevens, 1971, 1976). This is due to, inter alia, from research in the field of teaching academic subjects in a foreign language (Gajo, 2007a, 2007b), in particular, we can talk about “linguistic opacity” and “subject density”. Even in those situations where bilingual teaching is

constantly practised, teachers informally use the students' mother tongue as the language of explanation to facilitate understanding (Probyn, 2001, Tsui, 2004, Mohanty, 2013, Karabassova, 2020). This shows how difficult it is to learn science in a "second" language. The problem of teaching in a "second" language has been described in several publications. Le Henaff, et al. (2017) in their publication describes the teaching of chemistry to French students in English. In the article, they investigate how a chemistry teacher uses her resources (Adler, 2010) during a lesson on atoms which is entirely in English. Ben Hammou and Kesbi (2021) analyse how Moroccan science teachers perceive science teaching in foreign languages, mainly French, in Moroccan secondary schools. According to them, neither teachers nor students were prepared to deal with a foreign language as a means of teaching. They believe that students' low knowledge of the French language is the main challenge. Therefore, they admit that they resort to their mother tongue to make it easier for students to learn the content. Teacher research reveals a certain reluctance to teach in a foreign language (Pena Diaz and Porto Requejo, 2008, Aguilar and Rodriguez, 2012, Bovellan, 2014). This is because teachers are not familiar with the integration of the language component in their teaching (Mehisto, 2008, Airey, 2012, Banegas, 2012). Numerous publications also indicate the lack of teacher preparation in the field of bilingual education (Probyn, 2006, Pena Diaz and Porto Requejo, 2008) and the lack of instructional materials. For example, Coonan (2007) reports that the burden of planning and designing materials in bilingual education rests on teachers, which may explain their reluctance to teach in a foreign language.

The literature describes teaching medical students in English relatively often when it is not their mother tongue (Chen and Wang, 2007, Ruyffelaert, et al. 2015, Chen, et al., 2016, Bahromov, Gapurov and Javohir, 2022). There were also publications related to teaching chemistry in a foreign language (Nechepurenko, 2015, Kondrashova, 2019).

Theoretical / conceptual

Based on the review of the literature and personal experiences, it was decided to investigate how inclusive education is implemented in relation to students from Ukraine in science subjects. The aim of the article is to present the ways of working with students from Ukraine in a school without a preparatory department. Characterization of work with 4 different cases of youth and assessment of its effectiveness from the teacher's level. Hypothesis: Teachers in the School without a preparatory department are not sufficiently prepared to work with foreign students from Ukraine. They do not receive sufficient support adequate to their needs in subjects other than Polish to optimally organise their education

Methodology of the research

The research used the case study method. A case study is appropriate when the subject matter of the research falls outside of the quantitative methods. The essence of the method is the belief that “stagnation and problems are caused by the individual’s weakness, and the condition for the development of a person in a crisis situation is a comprehensive diagnosis of the causes of a specific case and individualised help, ensuring, in addition to a material offer; also the initiation of practical human activity as well as psychological ingenuity and faith in own strength” (Pilch, 1995). The case study aims to create an individual theory of a general phenomenon. Learning about specific, individual cases contributes to broadening the knowledge about the problem and allows for a better deepening of its analysis. The method of individual cases with an educational orientation is a research method based on the analysis of the fate of individual people involved in a specific educational situation. This method is used to describe education from the point of view of individual human biographies, focusing on the diagnosis of a case or phenomenon in order to implement therapeutic activities (Pilch, 1995, Rzepa, 2007). Examples of problems that determine the object of interest according to the discussed method are educational and didactic difficulties and family situation of the child, functioning of foster families, etc. The most frequently used technique of this method is an interview. Observation supplemented with the analysis of personal documents is also used (Pilch, 1995). This research was based on the observation and analysis of personal documents.

The genesis and dynamics of the phenomenon

Case 1

A student with average educational abilities with artistic abilities. During the initial lessons, he tries to “absorb the content with his whole being” (visible tension in the figure and uncertainty in the eyes). During the classes, there are visible overall differences in the way of implementing environmental issues and in the implementation of material in a given class. A student reporting difficulties with learning mathematics, which was confirmed by the mathematical problems implemented in the subject of chemistry. A student is involved in the process of acquiring knowledge, actively using a translator and materials prepared by the teacher in two Polish and Ukrainian languages, as well as the offer of activities and additional activities to improve functioning. Trying to establish basic verbal contact with both the teacher and class team members (during lessons and breaks), mainly in Ukrainian or through sentences read from the translator. Regularly and conscientiously working during classes throughout their duration. Involved in all activities in the classroom. Noticeable difficulties in learning foreign languages (These difficulties

are not surprising, because the difficulties of using many languages in learning and communication are compounded here – Polish, Ukrainian, Russian and additionally, e.g., English or German.)

Case 2

A student with good educational opportunities in science subjects at the educational and higher education level (he should attend a post-primary school in Poland). In the course of education in the initial lessons, he is very active in science classes. He could correctly answer questions addressed to Polish students but in Ukrainian. As a result, he quickly gained recognition in the eyes of his peers and integrated himself perfectly with his surroundings. Integration may have been influenced by the fate of the student, for whom this is not the first time moving to a different environment. Involved in the process of acquiring knowledge, efficiently using the materials prepared by the teacher in two languages Polish and Ukrainian, as well as the offers of classes and additional activities to improve functioning. Regularly, relatively conscientiously working during the classes for most of their duration, although in jumping mode. Involved in all activities in the classroom. Noticeable difficulties (low motivation) in learning foreign languages other than Polish. During classes and during breaks, he conducts conversations with the teacher on loose topics related to the student's interests as well as on the teaching system and differences in the evaluation system in Ukraine compared to Poland. Showing interest in using Information and Communication Technologies (ICT) in class. Information that in Ukrainian schools the use of ICT in institutions, and even more so in lessons, is not so advanced.

Case 3

A student with average educational opportunities in science subjects. In the course of his education from the beginning of his lessons he was not very active, he nodded affirmatively to most of the questions, requests and orders (even those without much sense). Not showing much interest in the discussed subject. Reacting mainly to messages or texts written in Ukrainian. Reluctant to talk about loose integration-related topics related to nature. Had little will to integrate with the class team, despite the activities initiated by the teacher and the possibility of speaking about their country in Ukrainian. A noticeable integration barrier, despite the fact that the student's fate suggests that this is not the first time he has moved to a different environment. (However, it happened at a very young age.) A student is involved in the process of acquiring knowledge only if he or she has specially prepared materials in Polish and Ukrainian, however, using mainly Ukrainian translations and to a small extent the content in Polish. Contact with the Polish language was limited to working with the textbook, mainly with picture content and diagrams. A student uses the offer of classes and additional activities to improve functioning, but with a passive attitude. A low level of involvement in classes, even in intra-teaching activities,

was observed. All activities had to be clearly initiated by name from the teacher to the recipient and supported by messages and / or motivating gestures. Reluctant to interact with the teacher and class team members during class and breaks, even with maximum openness and commitment from the other side. Noticeable difficulties (complete lack of motivation) in learning foreign languages.

Case 4

A student with few educational opportunities in science subjects, interested in his regional folk culture. In the course of education from the beginning of the lessons, inactive (even for tasks of elementary difficulty). For most questions, requests and commands, he nods affirmatively (even those without much sense). Not showing interest in the discussed subject of natural sciences. Reacting mainly to certain messages or text written in Ukrainian. He was reluctant to talk about loose, integration-related topics related to nature or any other activities. Not willing to integrate with the class team, despite the activities initiated by the teacher and the possibility of speaking about their country in Ukrainian. A noticeable integration barrier, keeping in touch mainly with other Ukrainian students at school and with the tutor and management (rather than only because they had to). Slightly involved in the process of acquiring knowledge only if he had specially prepared materials in Polish and Ukrainian, but only with the use of translation into Ukrainian and to a negligible extent with Polish content. Contact with the Polish language was limited to working with the textbook, mainly with picture content and diagrams. A student who does not fully use the offer of classes and additional activities improving functioning, but with a very passive attitude. Performing the minimum curriculum. A low level of involvement in classes, even in intra-teaching activities, was observed. All activities had to be clearly initiated by name from the teacher to the recipient and supported by messages and / or motivating gestures – and even so, avoidance systems were used first. In class and during breaks, not getting in touch with the teacher and class team members, even with maximum openness and commitment from the other side. Noticeable difficulties (complete lack of motivation) in learning foreign languages.

Research

Based on the observation of students and their products, as well as information obtained in schools, a document was created in which methods of working (activities) with students were proposed and the effectiveness of these methods was assessed (Table 1).

Table 1. Problems and implemented impacts in relation to students from Ukraine.

No.	Problem, activity	Implementing impacts	Notes
1	Identifying curricular differences in individual science subjects	Analysis of textbooks available on the Internet. Searching for a general reference of the fragments of the core curricula carried out in Poland to the scope of the Ukrainian textbook.	Due to the difficulties of a linguistic nature, a general analysis aimed at familiarising oneself with the education system of Ukraine and the material implemented at individual stages of education. Materials provided by MEiN to schools also in Ukrainian.
2	Diagnosis of students' knowledge and skills in particular science	Cross-sectional diagnostic test of individual subjects. Diagnosis changed into tasks with a low level of difficulty in the form of rebuses, cross-pictures, diagrams, and drawing tasks. Acting in connection with the need to introduce the student to classes in a given subject using simple mental operations, showing the possibility of achieving educational success, creating a good working atmosphere. It is also important to take into account information from the student himself about his or her educational path, own achievements and educational difficulties.	Resignation from, among others due to the time-consuming process and the inaccessibility of information about the education system in Ukraine at the initial stage and language barriers, as well as the different time needed for a student to join the class team, traumatic experiences of students and their families.
3	Diagnosis of linguistic / communication competences in Polish and other foreign languages. Paying attention to the simplification of the syntax of sentences and the lexical	The diagnosis was abandoned in connection with activities of this type during additional classes for these students, e.g., in Polish. It is also important to take into account information from the student himself about the language of communication in his natural surroundings and in the family home.	Using practical information, i.e. feedback obtained when enrolling the student in school or comments provided by Polish language teachers and the pedagogue adjusting the form of control (written, oral) to the student's linguistic competence.
4	Determining the interests and passions, hobbies and strengths of the child	Building motivation to work, a substitute for a sense of security, minimising educational difficulties.	Helpful based on this in lesson units, discussing the material on the subject, practical activities related to the student's hobbies.

No.	Problem, activity	Implementing impacts	Notes
5	Short, graded tasks (divided into stages), tasks with a gap or a choice from 3 proposed answers, graphic notes, worksheets based on a bilingual version and short, unambiguous commands, among others. match up in pairs, mark the correct answer	Tasks based on drawing structures, schematic with keywords in Polish and Ukrainian. Instructions addressed directly to the student, Guiding the answer with additional questions if necessary.	Taking into account the longer working time of the student related to the pace of reading and the need to analyse sentences in the Polish-Ukrainian language, arranging the answer in Ukrainian and then trying to translate it into Polish. Paying attention to learners' fatigue related to „using” several languages simultaneously, or to the health situation.
6	Using tasks by mapping and analogy, practising graphic notation in PL	Supported by a Polish student's guidance, or repeating activities while working in close contact with the Polish student.	Reasonable use of this way of work due to the need to also solve tasks of a higher level of difficulty by Polish students.
7	Practical tasks with a map, globe, microscopic observations, simple student chemical experiments, constructing nature drawings or drawing elements building individual structures	Instructions in graphical form with steps to complete a task or task by mapping activities.	Advanced elimination of the language barrier. Where the need for a single keyword in Polish was clearly indicated by the student. * Students do not pay attention to the contours of Poland's countries and neighbours. In the centre of the map they „see” Ukraine, not Poland).
8	Flashcards, Memory Polish-Ukrainian basic natural concepts	A task quite liked by the students of Ukraine.	Suggestions for slogans invented by the teacher and Polish students
9	Using communicators and dictionaries during classes	Tasks with the use of ICT, including interactive – great interest of students in such types of tasks.	Simultaneous translation is possible.
10	Tasks designed and assessed with the help of an interpreter	Commands and task content, keywords in a bilingual system	Using the system also when assessing students' works written in a mixed Polish-Ukrainian language

ADDITIONALLY Monitoring the student's work each time and motivating students more (than in standard situations), clarifying doubts, selecting the most important information, conveying reinforced non-verbal messages, emotional support, building a sense of security, showing the strengths of the student and stressing even single correct words and answers.

The primary task of the school is to ensure the full development of each pupil, therefore a number of activities were initiated to allow students from Ukraine to open up and integrate with peer groups.

Results

Effects of interactions

Case 1

At the end of the school year, a student is able to work, among others. with a short text in Polish and a film on nature with subtitles in Ukrainian. He answered bilingual short questions in Polish with interspersed words or letters in words in Ukrainian.

Case 2

At the end of the school year a student is able to work with a short text in Polish or a film about nature with subtitles in Ukrainian if it is compatible with the student's interests. It provides answers to bilingual short questions almost entirely in Polish. A declining level of engagement during classes was observed related to the knowledge of the already discussed content and the progressive writing skills in Polish. It required skipping tasks with a lower degree of difficulty in favour of tasks for higher school grades. There are no barriers to the operation of ICT equipment and displayed messages in English and Polish in accordance with the instructions provided by the teacher in Polish.

Case 3

Due to the passive attitude and blockade of the student, high teacher involvement did not translate into effects for the student throughout the education. The student did only the minimum curriculum, with a predominance of the use of Ukrainian and single words in Polish. Further integration with the environment is recommended.

Case 4

Due to the student's passive attitude and blockade, the teacher's high involvement did not translate into student outcomes throughout the course of education. A student who can use only the messages in Ukrainian, requires special psychological and pedagogical care and integration on many levels.

Discussion

As can be seen, despite the detailed plan of work with Ukrainian students and the teacher's very high commitment, the results obtained for individual students are different and inadequate to the effort put by the teacher. This confirms the hypothesis that teachers without broader support are not ready to work with students who do not speak Polish. It turned out that learning science subjects with the use of bilingual (Polish-Ukrainian) materials was too much of a challenge for students. Our results are similar to those described by Strevens (1971, 1976) or Gajo (2007a, 2007b). The teacher often used Ukrainian terms during lessons in the same way as described in the publications (Probyn, 2001, Tsui, 2004, Mohanty, 2013, Karabassova, 2020).

However, even such a procedure did not work out completely. This is probably due to the fact that the entire burden of planning and material design in bilingual education rested with the teacher. Coonan (2007) also describes similar problems. It also seems that a serious problem is the lack of preparation of teachers in the field of bilingual education (Probyn, 2006, Pena Diaz and Porto Requejo, 2008).

Summary

In Poland, small ethnic minorities living in Poland are well adapted to functioning in Polish society. However, they cultivate their separateness, mostly using the Polish language efficiently and educating their children in this area. In recent years, there has been an increase in migration movements, and therefore an increased number of foreign students in Polish schools (Pamuła-Behrens and Hennel-Brzozowska, 2017, p. 186). In the face of the difficult situation of our eastern neighbours, Polish teachers often show great commitment in the process of educating and integrating students from Ukraine. Unfortunately, they do not feel competent in matters related to working with refugee and immigrant children. Support for practical guidance for school science teachers without preparatory classes is poor. It is rather insufficient to educate disadvantaged students. The documents provided (e.g., core curricula in Ukrainian) are not always legible to teachers of Polish schools, many of whom do not know (and are not required to know) even Ukrainian or Russian. There is a lack of system solutions and specific materials that teachers could use in school practice in working with multicultural classes. It has been shown that teachers are not properly prepared to be able to work effectively in various class teams, in which Polish students require a wide adaptation of methods and forms, and additionally having Ukrainian students under their care. So, at the end, you should ask yourself whether this is probably to the detriment of all three parties (Polish and Ukrainian students and teachers). "It is necessary to prepare the education system to cope with the difficulties resulting from this phenomenon" – multiculturalism and multilingualism. (Krakowiak and Kołodziejczyk, 2017, p. 270).

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The role of the teacher in adjusting educational tools in inclusive education for children from Ukraine – case study

Abstract

In recent years, the education system in Poland has experienced education related to the introduction of teaching with the use of distance learning methods and techniques. This task was quite a challenge for teachers and students as well. When the situation has largely normalised, the education system in Poland is facing another challenge related to the increased influx of refugees from Ukraine to schools. The article describes the case studies of four students from Ukraine who came to Poland after 24. February 2022. In Poland, these students study in the classes of mainstream schools. These schools do not have specially created preparatory departments, which are established only in a select few schools in the region. The article describes good practices used in working with these students in science lessons. The amount of effort made in adjusting the methods and forms of work as well as the barriers and difficulties encountered by students and teachers at work is indicated. The effectiveness of the interventions was assessed from the perspective of the achieved results as well as from the teacher's position.

Key words: migrant education, inclusive education, education of students from Ukraine, inclusive education for children from Ukraine, case study

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Intercultural development programs and the constant change in intercultural education

The roots of intercultural education

In the 1990s, intercultural education started to appear in Polish public discourse, along with the systemic transformation and socio-cultural transitions. Nikitorowicz writes that intercultural education is a peculiar response to multicultural society, constant migrations, the flow of information, changes in the value systems of individuals and groups, the disintegration of behaviour patterns, identity dilemmas, giving importance to the cultural identity of a group, and identity ambivalence (Nikitorowicz, 2003–2004, p. 934). Intercultural education is more than education adapted for the phenomenon of multiculturalism. Multiculturalism is treated as a fact, whereas interculturalism is a task and an educational challenge (Nikitorowicz, 1999, p. 25). In terms of intercultural education, a multicultural society is a society where different national, religious, language etc. groups live side by side. Social relations are limited to reactions, being far from any constructive interactions, which is a result of numerous unverified and negative stereotypes and prejudices. Diversity in a multicultural society is often perceived as a threat, which leads to hostility and discrimination. In an intercultural society, on the other hand, interactions establish and regulate social relations and consequently intercultural communication. Existence of such a society is enabled by the intercultural competence developed by its members in the course of broadly understood education. Intercultural competence includes knowledge, skills and attitudes that facilitate establishing friendly relations with Aliens/Others. Intercultural education refers to the concept of culture and presupposes an equality of cultures. In the process of the transmission of values and behavior patterns, all the cultures undergo certain transformations and any way of learning about the Other from the perspective of one's own culture boosts one's development (Nikitorowicz, 2009, p. 290).

Intercultural education abandons the idea of the colonization of consciousness by one particular culture and finds all cultures equal (Lewowicki, 2000, p. 31).

The basic category, typical of postmodernism, in the theory of intercultural education is the irreducible difference (Lewowicki, 2000, p. 31). From the perspective of intercultural education every socio-cultural feature may be simultaneously a criterion for defining oneself and others in terms of differences, and a factor of alienation/otherness. One can distinguish the following categories of features. Biological features will include gender, age, skin colour, eye and hair colour, mental and physical abilities/disabilities. Economical features are financial status and its consequences, whereas social features include national or ethnical affiliations and their related status. Cultural features are about one's own religious and cultural identities and the autonomy associated (Golka, 2010, p. 168). Hence any educational activity should be designed with cultural and interpersonal differences in mind. In intercultural education, difference is not treated as a value in itself but as a constitutive feature of every human being and a factor influencing mutual development (Grzybowski, 2008, p. 60). Intercultural education is not about eliminating differences. It is about increasing one's awareness of existing differences as well as learning about and accepting the elements of different cultures (Lewowicki, 2000, p. 31). Intercultural education is seen as the educational meeting of cultures or as the education of conflict (Lewowicki, 2000). This refers both to a dialogue between the meeting cultures as well as creative attempts to resolve conflicts. The idea of intercultural education is based on the paradigm of coexistence which presupposes the possibility of one's personal growth as a result of the ongoing internal processes of dialogue, rapport, negotiations, and cooperation. It restores our faith in the internal power of every human being and their awareness of the needs of the Other. For an individual to stay among cultures, it requires accepting the normative function of culture, relying on one's own creative abilities, using one's own mind and heart and their creative power (Nikitorowicz, 2005, p. 26). The paradigm of coexistence constitutes the basis for intercultural education. It also determines its main goal, which is to prepare society for living in the post-modern world, where diversity is inherent (Lewowicki, 2000, p. 31). An important task of intercultural education is to develop multi-faceted identity of an individual and to stimulate the process of self-discovery, thereby implementating the postulate that the discovery of one's true identity should underlie every intentional action. Human self-awareness, sense of dignity and identity are the criteria used to evaluate Others and to show readiness for communication (Olbrycht, 2006, p. 117). Intercultural education means staying in a relationship with oneself, with one's own culture and with Others.

The process of defining intercultural education is complex. Establishing the model of intercultural education is an important educational problem and the subject of a number of studies (Ogrodzka-Mazur, 2009, p. 137). The literature on the subject is rich in descriptions of modes of intercultural education. Various elements of education are emphasized: its content, its goals, and the process itself. Local, regional or global perspectives are used. Intercultural education can be a spontaneous process, happening within a family or a local community, and not regulated

by the curriculum. Intercultural education can also be of a formal character, happening at school or in the mass media and curricularly organized by state social policy. Regardless of how it is implemented, the idea remains the same (Maj, 2005, p. 279). Considering intercultural education as a lifelong process, one can distinguish three types of intercultural education that interpenetrate and complement one another: formal intercultural education (at school), non-formal intercultural education (out of school), and informal/incidental intercultural education (spontaneous). It has become common practice to emphasize the lifelong intercultural education approach whereby intercultural education is a process of developing intercultural competence that encompasses the whole of society.

Szczurek-Boruta points to the fact that intercultural education does not go along the traditional division into primary and secondary education. The following dimension of education should be regarded as a transcultural teaching-learning process. It is a lifelong cognitive and practical experience of every human being as an individual unit as well as a member of society. This allows the participants of the teaching-learning process to acquire tools for understanding, to affect their environment, to participate and cooperate with others in every sphere of human activity (Szcurek-Boruta, 2009, p. 152). Lifelong education, as Nikitorowicz (2012) suggests, should be acknowledged as the leading strategy for education, once the changeability, dynamism and unpredictability of multicultural societies are taken into account. Lifelong education with its premise of lifelong learning allows for shaping and modifying human attitudes according to the following guidelines:

- To be yourself: learn to be yourself, know yourself; value your own sense of identity; work on the ability to manage your personal development, personal fulfillment and identity.
- To experience the presence of Others: through interactions, learn to live together with them; perfect your skills in peaceful coexistence and interaction; use cultural diversity for mutual enrichment; notice others, get to know them, cooperate, try to understand them and communicate with them.
- To learn about yourself and Others: learn about each other and be able to overcome negative emotions; learn to understand cultural diversity and to comply with social norms and the rules of culture contact.
- To cooperate: learn to work for peace preservation, and create conditions for life in peace; develop your ability to work effectively under conditions of cultural heterogeneity (Nikitorowicz, 2012, pp. 72–74).

Fulfilling the abovementioned prerequisites contributes to the construction of intercultural society. Importantly, the whole of society should participate in the process. As noted by Grzybowski, a society, where particular groups, minority groups or majority groups, work within certain boundaries to satisfy their own interests and to achieve their own goals, cannot be called “intercultural” (Grzybowski, 2009, p. 86). Following this idea, it is noteworthy that intercultural education should involve all age groups. However, as written by M. Taylor, intercultural education is

mostly concerned with the system of relations between children and young adults. The choice of these age groups is justified by the fact that it is children and young adults that will comprise future intercultural societies (Taylor, as quoted in: Grzybowski, 2009, p. 63). The statement is unquestionable when one takes into consideration the results of the empirical research on the development of negative stereotypes and prejudices among children, as well as the research results that show the level of social distance to Aliens/Others presented by children, young people and adults.

Scientific explorations have revealed that three-year-olds hold an image of the elder that is simplified and imbued with negative valuation, while among children aged between 7 and 13 the stereotypes and prejudices which prevail are based on age, ethnicity, or language⁴. The ability to notice ethnic differences develops in children at the age of 7. Therefore, it is the right time to introduce the subject into educational programs (Wygotski, 1971, p. 544). Attitude studies point to the fact that young people indicate high level of social distance in terms of nationality, ethnicity, religion. The results show that those who participate in classes designed to increase students' awareness of cultural diversity shorten their social distance toward Aliens/Others (Jasińska-Kania, Staszyńska, 2009). All things considered, abandoning the idea of designing activities for promoting equality of people and positive image of the Alien/Other may result in stereotypes and prejudices being crystallized and the level of social distance toward otherness being elevated.

Another challenge facing intercultural education is promoting educational initiatives addressed to those who have already completed their formal education. The initiatives should aim at stimulating interest in diversity, creating possibilities to overcome the limits of negative stereotypes and prejudices, and developing intercultural competence. The results of scientific research show that adults reveal a high level of social distance towards ethnically, nationally and religiously different groups. Educational activities beneficial for adults may include festivals, cultural events, discussions on multiculturalism, as well as all types of courses, trainings, and educational projects. The idea of lifelong intercultural education is difficult to employ. However, this is the direction set by the modern world.

Intercultural education through educational policies

The success of any educational concept depends on an educational policy that creates a vision of the society in which we want to live. If an education policy is already prepared for implementation, it becomes the basis for the development of an appropriate educational philosophy, the main stream which are values and attitudes teachers, as well as their skills and competences that should be shaped. Educational policy is applied at the institutional level in the form of the general concept of education within which defines the role of the school in society, the resources needed to develop and properly manage it education, specifies the content included

in the curriculum and the basics of teacher education. In recent years, intercultural education has become the main topic of debate in education circles, which resulted in a large number of publications issued by the two most important international institutions dealing with social affairs, including the development of educational policy: the United Nations and the Council of Europe (cf. paragraphs 1.3 and 2). They developed a vision social development based on human rights (UN) or human rights, democracy and the rule of law (Council of Europe), which serves as a role model for intercultural education. The text of the position of the United Nations and the Council of Europe describes and summarizes the approach to education intercultural, promoted by both institutions. The document was drawn up on the basis of analysis of various publications. Moreover, it is an attempt to adapt this approach to the needs of schools and teacher education and training institutions. Since all UN states are in favor of respecting human rights, it can be concluded that education policy should receive universal support. Nevertheless, it is full in many countries the implementation of human rights (in their UN understanding – cf. section 3.1) seems to be a questionable issue. The same applies to the fundamental principles adopted by the Council of Europe- laws humanity, democracy and the rule of law – and their interpretation in the Member States when there is a need to establish political solutions supporting intercultural education. For this reason, in countries where there is no consensus on the socio-political assumptions of intercultural education, there may be some reservations about its vision and concepts. If education is a tool enabling both the comprehensive development of the human person, as well as its participation in social life (UNESCO 1992, p.4), any major socio-political changes will inevitably trigger discussions – sometimes hot and controversial – about the validity of the foundations and main assumptions of education. Discussants may raise related issues with an understanding of humanity, an educated person, or the skills necessary for preparing young people for adult life. As a consequence, the main ones are updated components, e.g. educational goals, values, attitudes and skills, and how they are reflected in practice. Today's interest in intercultural education has its origins in the profound social changes that have taken place in Europe and the rest of the world in recent decades.

These changes manifested themselves primarily in the form of long-term and very dynamic processes socio-political, including:

- globalization of financial trading, economy, work and leisure, leading to emergence global interdependencies and unified lifestyles;
- rapid increase in mobility (personal and professional);
- the growing wave of migration, which in many countries led to the emergence of new minority groups (in addition to the existing ones).

We are currently observing the phenomenon of dynamic mixing of groups of people of different origins – national, cultural, ethnic and religious, which occurs especially in metropolitan areas. These processes can contribute to fueling all kinds of tensions and conflicts social. In metropolitan areas in Europe, it is difficult to find

a school or even a class where all students come from a homogeneous socio-cultural environment. However, even where homogeneous classes exist, such as in rural areas in some European countries, the ever-increasing and global impact of information technology is causing a collision – or at best of accident – the coexistence of different worlds and different ways of functioning and acting. It should be emphasized that these processes are only the beginning of global and long-term changes social. The foundation of intercultural education is a vision of a world where human rights are universal respected, and all are guaranteed the opportunity to benefit from the mechanisms of democratic participation and the benefits of the rule of law. The practical corollary of this kind of global vision is the indifferent and solidarity society that is able to mitigate the negative effects of excessive individualism, marginalization and social exclusion. It is a community characterized by greater social capital as well as stronger solidarity and the ability to cooperate. In such a society, democracy is not only a question of political organization or form of governance: it is a way of life or, as Dewey put it, “associate life”, based on community, communication and interdependence (Council of Europe 2003, p. 18). Education is of paramount importance to the functioning and sustainability of democracy. Sustainable economy requires employees constantly developing their competences and skills; to preserve the environment in good condition, awareness and knowledge of the interrelationships between nature and human activity; structures and institutions are needed to ensure the stability of the social situation democratic, as well as – and above all – individuals that operate in a democratic manner (Huber, 2008).

To make the vision of multicultural democratic societies a reality, education intercultural education should be made one of the main aspects of citizenship education. Taking into account the dynamically taking place social changes, intercultural education is not can no longer be considered an occasional addition to the curriculum. It should broaden and replace the monocultural and monolingual background prevailing in schools, and also lead to a change in the way thinking characteristic of the traditional model of education. For that to happen, all employees education system must work together for change and create a coherent concept of intercultural education, implemented both in the classroom and within the broadly understood school culture. The aim of intercultural education is to introduce long-term changes to schools and programs teaching, at the same time it is intended as a reference point for the development of new methods and educational practices.

In the current socio-political situation: education has reappeared in the spotlight [of public opinion] in a spectacular way (Council of Europe 2003: 53), gaining at the same time a new dimension: (...) in a world experiencing rapid changes when cultural, political, economic and social challenges are challenging traditional lifestyles, education has a key role to play in promoting social cohesion and peaceful coexistence. Today’s relationships between people are common as opposed to those established a generation ago. In the contemporary world limited by space and time, people must reach agreement by interacting, which requires showing mutual respect

and acquiring intercultural competences (Byram, 2003, p. 13). If social cohesion and peaceful coexistence are desired by societies, they should be formulated such a philosophy of intercultural education that would provide a vision of the expected future development of events and from which general educational assumptions and guidelines could be derived to assist in achieving these goals (Ball, 1990, [in:] Council of Europe 2003, p. 19).

During the six decades of its existence, the Council of Europe has developed and implemented: a model of serving education learning democracy (Council of Europe 2003, p.19), based on many principles, the most important of which are:

- value-oriented education;
- civic competences for all;
- directly practicing democracy.

Since these principles are fundamental to intercultural education, it is worth it in full cite their discussion.

The political goals of the Council of Europe are based on principles derived from three fundamental values of the Council of Europe: respect for human rights, pluralist democracy and the rule of law. Educational policy promoted by the Council of Europe serves their implementation. With regard to the overarching goal, detailed educational strategies are developed, such as: civic education and education for human rights, multilingual education, intercultural education, multi-perspective history teaching and others. The values indicated in the declarations regarding educational policy become the criterion and intention of the actions taken. Civic competences for everyone.

Living in accordance with the principles of democracy is not limited to respecting the set of values which constitute the common heritage of European societies. These values must be understood and adopted by subsequent ones generations of citizens. Therefore, educational activities of the Council of Europe – regardless of the main directions and content specific (languages, history, civic education) – always aimed at developing competences necessary for active participation of citizens in social life. These competences are necessary in strengthening and improving democracy understood as a historical process. They are part of every human being's civic culture and are acquired through a learning process that should last a lifetime.

Democracy cannot be taught to the class like other classically taught subjects. Democracy emerges from personal experiences and direct practice in everyday life. For this reason, a compulsory curriculum is imposed from above, implemented, for example, as part of upbringing civic and other lessons of this type, has a rather limited influence on shaping students' behavior democratic. Democracy education is not effective in a standardized, highly formalized educational environment. To discover and understand democratic mechanisms on your own, learners must participate in collective decision-making and organize themselves in local government structures, negotiate and communicate, present own arguments and consider positions held by others, exercise their rights and freedoms without violating the rights

and the freedom of others. In a word, it means the direct cultivation of democracy in educational institutions, which takes place through learning based on experience, active participation, belonging to different associations, collective bargaining, critical thinking, role playing, solving problems and involvement in the life of the community.

In the context of educational policy, practicing democracy directly sets specific goals: participation in educational institutions, promoting human rights in the school environment, building a democratic culture in educational institutions, promoting equality, including gender equality, and school-wide approach to delivering civic education and human rights education.

As mentioned, the United Nations and the Council of Europe are among the largest international authorities in the field of education policy. On the assumptions made by them the concept of intercultural education is based.

Being one of the recognized authorities in the field of education, the Council of Europe has taken numerous initiatives promoting intercultural education. Evolution of materials on intercultural education reflects changes in the education policy pursued by the Council (see Council of Europe 2003, p. 35, footnotes 43 and 44). The beginning of activities in this area of education dates back to the 1970s, when intercultural training for teachers was conducted, as a result of which in the 1980s a network of cooperation and exchange was established between schools, and in the next decade the European School Student Exchange program was established. In 2003, European education ministers in Athens highlighted the growing importance of intercultural education. At the same time, they underlined the important contribution of the Council of Europe to the maintenance and development of the unity and diversity of European societies, calling on it to respond to challenges arising from the diversity of our societies to focus its work program on enhancing the quality of education by making such issues as democratic learning and intercultural education key components of education system reform. They also encouraged Member States to integrate the intercultural dimension in their education policy, and considered learning to live together as the main goal of intercultural education in multicultural societies. In the Action Plan adopted at the Third Bosses Summit States and Governments of the Council of Europe, held in Warsaw in May 2005, placed a strong emphasis on the role of education in building a more human and inclusive Europe. The key directions leading to its implementation became: civic education and education for human rights, education intercultural, intercultural exchanges, as well as the promotion and protection of cultural diversity and intercultural dialogue. Several projects have been implemented since then. They concerned the religious dimension of intercultural education, the policy and practice of teaching about socio-cultural diversity, education and intercultural exchanges. The Council of Europe also prepared the *Autobiography of Intercultural Meetings*¹ - an educational package enabling the development of intercultural competences based on one's own experience.

Acquisition of intercultural competences

The European Commission, as a body implementing the current policy of the European Union, also promotes intercultural education, which is for example an integral part of the ERASMUS+ program. Experiences Lessons learned from the activities show that the acquisition of intercultural competences is a prerequisite for successful collaboration, both academically and personally. Therefore, a variety of exchanges, and as a result, the development of intercultural competences already at the level of school education, create the basis for success in the future. Also the European Year of Intercultural Dialogue (2008) was an opportunity to highlight the importance of cross- sectoral cooperation that it promotes and supports initiatives bringing together representatives of various communities and groups, and shows intercultural dialogue from many perspectives. As a result of activities undertaken in 2008, efforts were intensified to include intercultural dialogue in the main programs implemented by the European Commission.

Before discussing the structure and components of intercultural education, define the scope semantic of basic concepts characteristic for this field of education. There are few terms understood as differently as culture, diversity, otherness, differences, multiculturalism, cultural pluralism, transculturalism or interculturalism.

Culture in the broadest sense of the word can be understood as a specific type of thinking, acting and feeling one's own and other people's deeds. In its overall aspect, it includes the conscious or subconscious perception of the world and the place we and other people occupy in it. In addition, it includes beliefs, beliefs, ideologies and worldviews that we refer to to define our relationship to reality, value systems, and the concept of good and evil. Such the approach illustrates – in the context of socio-cultural differentiation – the existence of other groups about different ways of thinking, acting and experiencing. Culture as a collective phenomenon develops and changes in line with changes taking place in society; the culture of individuals develops depending on the acquired knowledge and experience.

Intercultural education deals not only with providing information about other cultures, but also everyday relationships between people that are shaped by different cultural systems. Its key task is to develop the ability to deal with all manifestations of differences resulting from the action of material, intellectual, spiritual and emotional factors. Three terms – diversity, otherness and difference – are often used as synonyms. However, their different meanings should be noticed. Diversity refers to the existence of internal differentiation within a larger group, distinguished on the basis of certain common features that characterize its members. They relate to her concepts such as neighborhood, openness, acceptance and inclusion. On the other hand, otherness implies comparing, which highlights differences and appeals to opposites. The community's emphasis on being different can lead to stigma and bias (exaltation or depreciation of subgroups), as well as prejudice, discrimination and social exclusion. It should be emphasized that cultural diversity has always

been a hallmark of most societies – both in Europe and around the world. Rarity were – if ever there were or exist – communities in which styles of thinking, acting and feeling were confined to a single and exclusive form. The belief in homogeneous societies results more from the inability to perceive the diversity that actually exists in them, and not from the actual lack of such diversity. Differentiation, although organizations and political movements have repeatedly tried to deny it. Especially this was evident in the nineteenth century, when the concept of homogeneous nations and construction dominated in Europe nation states. Resistance to diversity remains strong in some quarters and is often the case used to justify the creation of new homogeneous states, as can be seen long-term influence of the nation-state ideology. Diversity is a term that goes beyond culture, ethnicity, language or religion, and does not just apply to remote lands and cultures. It should be emphasized that the diversity is: (...) the essence of both nature and culture. It is an inseparable attribute of life, and the next generations must sustain and develop it. Since the diversity of skills and abilities lies in human nature, each society should try to use this potential and give it an appropriate place in the implemented by itself to the policy of social development (Council of Europe 2003, p. 28).

These quotes clearly show that intercultural education is embedded in a much wider concept of education for diversity. It covers many issues beyond cultural differences, e.g. socio-cultural, socio-economic, regional, ideological issues, as well as issues related to religions, views, functions of women and men in society, age and others. Diversity in the educational environment has always existed, but has often been marginalized. Disregarding diversity and highlighting differences have led and still lead to inequalities in access to education, and even discrimination.

Diversity is one of the key concepts in intercultural education. As a phenomenon it contains valuable potential decisive for further development: Diversity as a value is related to the concept of an inclusive society and the idea of providing for all residents, regardless of their differences, opportunities to participate in social life and shape their lives on equal terms, in an atmosphere of good relations between individual groups and communities and without excessive social tensions (Council of Europe 2007, p. 13).

Multiculturalism concerns the natural state of society, which is essentially diverse, namely: multilingual, multiethnic, multireligious, etc. These differences can be seen in the common space Public. Transculturalism refers to the integration of various aspects of other cultures by an individual. Increasingly stronger interpenetration of various social groups, which is especially visible today in urban areas, it influences the elimination of traditional national, ethnic, cultural, religious borders, etc. As a consequence, the identity of individual individuals may become multilayered that it can no longer be represented clearly and clearly defined category. It is also difficult for such a person to describe the incredible complexity of the feeling they feel Belonging. Interculturalism is an active dimension of diversity.

It presupposes interactions between individuals, social groups and communities: As a tool for learning democracy, intercultural education consciously creates situations of exchange, interaction and enrichment of cultures. Its aim is to support diversity and complexity in the process of cultural change. Intercultural learning is more than an encounter with a different culture and more than a culture shock. It assumes that fear of strangers is not our natural destiny, and cultural development has always been the result of contacts between different cultures. The prefix "between" suggests that this fear and historical barriers can be overcome by pointing to the existence of relationships and exchanges between cultures. At the base intercultural learning lies in the willingness to use encounters with other cultures to deepen knowledge about one's own culture, checking new forms of coexistence and cooperation with other cultures.

It is not only a matter of knowledge and skills (use of language, body language, knowledge of customs), but also a state of mind open to accepting ambiguities, different views and behaviors. It is not about agreeing, taking different values as one's own, but about perceiving people as they are, without evaluating them through the prism of their own culture.

In the educational context, it is important to see the impact of interculturalism on everyone participants of the educational process, which, in addition to providing knowledge about other cultures, facilitates better understanding of one's own culture, viewed from the perspective of different points of reference.

Traditionally, we distinguish between two approaches: multicultural education and intercultural education. Education multicultural provides information about different cultures in order to build acceptance, or at least tolerance for these cultures. Intercultural education aims to go beyond passive coexistence and shaping a lasting model of living together in a multicultural society. The means of implementation this intention is to deepen understanding, respect and dialogue between different cultural groups. It is essential that education authorities ensure that intercultural education plays its rightful place in politics education and support the implementation of its assumptions by enabling students to participate in cultural exchanges and developing intercultural competences.

Majority and minority cultures, inclusion and social exclusion The term minority is used to refer to four different types of groups:

- indigenous or indigenes peoples, descended from the indigenous peoples of the country;
- territorial minorities, i.e. groups with a long cultural tradition in a given area;
- non-territorial or nomadic minorities, that is, groups without particular attachment to a particular one territory;
- immigrants

Societal change and Multiperspectivity

The term minority culture generally refers to the culture of marginalized or disadvantaged groups that live in the shadow of majority populations with a different and the dominant cultural ideology, that is, the majority culture. Some countries, despite the presence of numerous minority populations in them, at the dawn of nation-building processes, adopted the principle of monoculturality and monolingualism, which was taken from the concept of population homogeneous, often influenced by the dominant elite. In this case, the focus was on the feeling of national unity and community, which led to the assimilation of minority populations. Perceptions and attitudes towards immigration and the immigrant are historically changing – from the requirement to conform to national standards of culture, language, views and general behavior patterns to increasing wider recognition of the right to be different, with particular attention to integration 21st century society is essentially multicultural. However, different cultures do not have the same thing chances of survival or emergence in the modern world. In the conditions of political conflicts and a constantly changing environment, they evolve and adapt, some of them characterized by greater openness to change. This can, in particular, expose minority cultures to atrophy or impoverishment as they come together As they enter an increasingly globalized world, their values and structures may be shaken. Due to the importance of cultural heritage for the survival of cultures, the important role of education must be recognized multicultural.

In any society there are a variety of ways to deal with being different and different. They reflect the degree of acceptance of an individual from a given group or the relationship between minority groups and the majority group. Bennett et al. 2004 distinguish here ethnocentric attitudes (negation, defense, minimization) and ethnorelative (acceptance, adaptation, integration). The result of adopting such attitudes by the majority groups may be for minority groups exclusion (marginalization, segregation) or inclusion (assimilation, adaptation, integration). The aim of intercultural education is to counteract ethnocentric attitudes and promote an ethnorelative approach. However, the assimilation of minority groups, although it belongs to the approach ethnorelative, cannot be counted among its goals. If we are to take human rights seriously, we must guarantee minority representatives protection and a real chance of adaptation (participation in social life while maintaining their specific characteristics) or integration (individual determination by individuals of their attitude to the cultural context).

Intercultural education requires not only the provision of information in the field of knowledge about society and culture, but also the development of competences necessary to adopt the right attitude towards “otherness” and “differences” These are competences described in social psychology and concern general but interpersonal competences are very important for success in education intercultural.

It requires the readiness to enter the world of “others” and understand it from within. Trying to understand “Others” from the perspective of their own socio-cultural environment means becoming aware of that what seems strange to us may be something absolutely normal for them. Empathy helps to understand and accept the “otherness of others” and has its own cognitive dimension and emotional.

Distancing ourselves means changing our perspective and it is about looking at our own world from the outside. It helps to realize that not everyone shares our views, which makes their opinion about us possible to us seem marked by stereotypes or prejudices. Decentralization is the ability to accept points of view other than your own and the ability to go beyond your own way of thinking. Distancing and decentration make it easier for us to communicate better with other people.

Sometimes it is difficult to deal with situations where we do not understand or obtain others unambiguous answers. In such cases, we are helped by a developed ambiguity tolerance, which lowers the level of negative emotions disturbing the communication process.

It requires formulating principles and describing the framework that shape and influence our own world view (traditions, values, opinions) and organize everyday life (customs, rituals, lifestyle). Moreover, it is the ability to compare yourself with “others” and the ability to present your own identity to “others”.

One of the prerequisites for intercultural education is openness and a willingness to enter in relationships with other people. Some people may be withdrawn and tend to step out of the shadows only when they feel accepted and welcomed with warmth. In this context, the task of intercultural education is to build tolerance, respect and trust in the group, make everyone feel accepted.

In intercultural education, conditions should be created for listening to the contrasts with each other and considering all available points of view when considering the different issues. Multi- perspectivity is closely related to decentration. Intercultural education tasks.

The group will always include dominant people and shy people who adopt an expectant attitude. The reason for the expectant attitude may be the lack of acceptance on the part of the group. The task of intercultural education is to establish a balance between these extremes: each member the groups should stay on the stage, but some have to move in and others in turn – learn to withdraw from a dominant position.

Languages play a leading role in achieving the goals of intercultural education. The mother tongue is important in the process of shaping one’s own identity and is the basis for the development of linguistic competences. For this reason, its further improvement should not be underestimated. On the other hand, the language in which it is realized plays an equally important role in school conditions is the curriculum. It helps in gaining knowledge and acquiring interpersonal competences.

Classes may be at different levels of student development in terms of sensitivity, cognitive abilities, attitudes, and language competences. Moreover, even single students can present various stages of development of individual intercultural competences.

Therefore, the task of intercultural education is to make learners aware of hidden sources ethnocentric attitudes, especially their most common causes, such as lack information and incomplete or distorted information.

Another key task of intercultural education is to show the consequences of ethnocentric attitudes, that is, perceiving other people through the prism of one's own socio-cultural experience, referring to stereotypes when formulating opinions, succumbing to prejudices and negatively treating "others". At the same time, intercultural education should ensure that students develop the necessary skills to adopt an ethnorelative attitude.

There is no single commonly accepted definition of the concept of a stereotype, as sociology and psychology or linguistics developed its own versions. For the purposes of this publication, the sociological approach seems to be the most appropriate. According to sociologists, stereotypes are separate categories of properties and behaviors, attributed to specific groups of people. The formation of stereotypes may be a consequence the action of internal stimuli, e.g. personal value system, or external stimuli, e.g. age, gender, ethnic origin, clothing, stature of the other person. As a result, in a person who is stereotyped, a chain of reactions is triggered: the expectation of a certain behavior, emotional tension, and adopting a positive (appreciation, admiration) or negative (aversion, depreciation) position. When we absorb previously unknown phenomena, expanding our knowledge and assessing new experiences, there is a need to categorize and abstract many information, including information about our own world. There is no doubt that our image of the world is subjective. Accordingly, we select, categorize and generalize what we perceive through the senses. In doing so, we develop the means of communication with the outside world, and abstraction experience helps us find ourselves in it. Cognitive psychology shows how we transform stimuli from the outside world into concepts and theorems.

We store knowledge and experiences in various ways, such as:

- framework – an abstract way of organizing knowledge;
- schemas – systematized concepts;
- scripts – specific sequences of actions;
- prototypes – examples of best practice

What we know or experience in our world: things, values, attitudes and behaviors units – it seems "normal" to us as long as we know it. When we cross the border of our own socio-cultural field of experience and encounter "otherness", we use the same categorization schemes we are used to in our own cultural circle. This means that at first glance we cannot perceive "otherness" other than: (...) through their own socio-cultural prism (Neuner, 2003, p. 42).

It should be emphasized, however, that the process of experiencing and categorizing “otherness” is only an extension the same process we go through when we experience our own world. According to constructivists (cf. Wolff, 1994; Bostock, 1998), the perception of the world around us is not it is the work of our senses, only the brain. The world in our mind is not a duplicate of our environment, but an entity that we create and test in this environment. So, during intercultural meetings, we build a transitional world in which our own world and the worlds of “others” interpenetrate. When encountering “otherness”, we first use the framework diagrams, scripts and prototypes taken from our own world.

If this approach does not help us to categorize and tame a given “otherness”, then:

- or we adjust our cognitive schemas until we manage to transform experience in a way we understand;
- either we ignore the experience and forget about it;
- or we isolate the experience as a “foreign element” and treat it as a source of disturbance or threat – if it concerns the standards we adopt, e.g. taboo.

We collect information about “others” in the objective world. This occurs as a result of observations, direct contacts or through a variety of media. But positioning (accept or reject), framing views, and adopting attitudes happens in the world transition – in the minds of learners. Stereotypes about ourselves (auto-stereotypes) and “others” (heterostereotypes) play the role of pillars in this transitional world, and the personal framework, schemas and scripts make the interaction dynamic.

Transitional worlds are unstable and prone to change. They are the area of work for education intercultural. We distinguish between two development phases of our transition worlds. In the initial phase, during the first encounters with the alien world, we are largely category- dependent taken from our world. We use them to understand and systematize “otherness”. In the second phase, as we gain more information or gain more experience in meetings, we begin to see that we can be more open and flexible in making an assessment.

In order for a change to take place, that is, a transition from the initial phase to the second phase, it is necessary to develop specific competences. The International Commission on Education for the 21st Century (Delors, 1996) launched the project We learn to live together, the goals of which are in line with those of the Council of Europe and all organizations partnerships and international institutions.

The basis of this initiative is the claim that human rights are the foundation of the common life of individuals, groups and societies. The following forms of education lead to the achievement of the project’s goals:

- social education;
- peace education;
- civic education and human rights education;
- intercultural education;
- global education;
- developing human capital.

Some of the goals included in the We learn to live together program are implemented by intercultural education:

- mutual cultural benefits;
- cultural relativism (equality of cultures, non-discrimination);
- multi-faceted identity (personal identity develops on the basis of multiple cultural experiences);
- diversity (creative use of potential diversity and respect for differences);
- interaction (collaborative learning, problem solving and intercultural conflict solving);
- emergence of new collective identities (e.g. European citizenship, global citizenship);
- cultural hybridization (developing values, attitudes and principles of social coexistence, taking into account the rules of cultural pluralism);
- interfaith dialogue (agreement between religious communities);
- collaborative learning (learning together and learning from each other, working design, etc.).

The other goals of the Learn to Live Together program are implemented in other forms of education, closely correlated with intercultural education:

- peace education aims to lay the foundations for international understanding and peaceful coexistence, is guided by the principle of mutual trust, developing methods of mediation and conflict resolution;
- civic education and human rights education develop the competences necessary for active participation, taking responsibility, cooperation and self-governance;
- social education leads to the development of interpersonal competences necessary to achieve cohesion and high social culture.

The development of intercultural training programs

Schools are a place where representatives of different cultures meet. They must become something more – centers of intercultural meetings and cooperation, and this requires the involvement of themselves and the authorities educational. Therefore, a vision of achieving this goal is necessary, based on the use of the potential of schools and resources of local communities.

Educational strategies should promote increased involvement of all participants in the process education in the implementation of inclusive practice. This means activating not only students, teachers, parents, management, but also different cultural groups. In this way, intercultural encounters and intercultural learning become both a goal and a means of internal development and the process of change. At the same time, they are a tool for building a model of civil society, where everyone has the opportunity to learn responsibility for intercultural activities (Jensen and Schnack, 1994), and participating in the life of individual communities and the entire society.

Children learn by watching and imitating adults. Therefore, teachers and school management should set an example, representing an attitude of openness to intercultural learning, so in life professional and private. Moreover, enabling conditions should be created for students and parents presenting the presence of different positions and cultures in the school community. For intercultural education to be successful, the role of teachers needs to be significantly strengthened and increase the scope of their tasks. Teachers can no longer be seen as transmitters of learning content – they must act as guides to ensure students' self-development and success. ongoing interactions. If they are to meet the specific requirements of intercultural education, no they should only be experts in their fields, but at the same time they must demonstrate greater competence in general pedagogy. Intercultural education sees teachers as an integral part of the multicultural environment. Consequently, all aspects of this sphere of education, described earlier, play an important role not only in the education of students, but also in the education and training of teachers.

As part of the Pestalozzi Program of the Council of Europe, the Concept of Competency Development was prepared, used in the development of training programs (Ferenc Arato, Pascale Mompoin-Gaillard and Josef Huber). The concept assumes:

- developing awareness and sensitivity to issues related to interculturalism and promotion empathy – the emotional dimension;
- deepening knowledge and understanding of intercultural issues – the cognitive dimension;
- developing individual practice, i.e. the effectiveness, efficiency and honesty of activities undertaken in intercultural conditions – a pragmatic dimension;
- supporting activities related to the transition from individual practice to formative activity social practice – cooperation.

In line with the position of European education ministers (Council of Europe 2003, p. 56), the following factors are decisive in the education and training of teachers in intercultural education:

- diversity and Social Sensitivity programs available to teachers, administrators, support staff, school principals and other educational staff;
- training teachers in anti-social behavior prevention and response techniques on them;
- school teachers' professional development plans, providing for training in cultural diversity and sensitivity, with an emphasis on the quality of training;
- developing intercultural competences in the process of teacher education and training, that with particular emphasis on intercultural sensitivity, communication skills, cultural awareness, the ability to provide students with a democratic and impartial educational environment;
- training teachers in developing educational materials for intercultural education – offering them methods and providing resources to develop students'

discussion, critical thinking, teamwork, conflict management, and analysis skills. phenomena from different perspectives, especially in controversial matters;

- encouraging teachers to create a safe learning environment and to be responsive in difficult situations that may arise in the informal space: verbal threats, sexual intimidation, bullying, teasing or even physical violence;
- as part of the quality assurance system, promoting reflective teachers ready for continuous professional development, and as part of the comprehensive school support system – ensuring training adapted to the local context, e.g. cultural specificity, development community or specific training needs;
- perception of the role of the teacher in the multicultural class as a teacher of human rights and values democratic, which not only transfers knowledge, but also undertakes mediation, counseling, management, partnership, mentoring, coaching, facilitation and active promotion of values and desired attitudes;
- preparing teachers to promote and evaluate the outcomes of soft civic education and intercultural and to value non-formal and informal education;
- providing teachers with access to training that prepares them to test students' needs in the field of development of social and intercultural competences;
- training teachers in the use of ICT for the purpose increasing student participation in school decision-making processes, team learning and implementation of joint activities.

Understanding the important role of intercultural education in shaping and developing an inclusive society does not automatically mean that everyone involved in education has an equal need for changes. There are many reasons for adopting a skeptical attitude. Transformations in certain countries completely changed society, they did not have such a great impact on other societies and perhaps that is why they do not feel an urgent need to change the educational paradigm. In traditionally minded and affluent social groups, a willingness to deviate from their own general assumptions education and accepting and coping with change is less visible, especially since it is rich it was always hard to share with the poor.

Carrying out changes in democratic societies requires a long and sometimes complicated process of social debates and the joint determination of new positions. But the process is there indispensable if we strive to shape attitudes of openness and readiness to learn from differences and if we want the ideal of living together in peace to become a reality. Among the professionally active teachers, many grew up and were educated in monocultural and monolingual environments, therefore the changes they encounter in the environment and everyday work

- such as the dissemination of multicultural classes, the disappearance of homogeneity and the domination of diversity
- they disturb and discourage them. Quite often the changes are accompanied by prejudices, feelings of exclusion, withdrawal from oneself, aggression, conflicts and refusal to cooperate among teachers.

Changes affect every teacher personally and therefore each of them must redefine their own professional role in education. Because teachers play such a significant role in preparing the young generation to become citizens of a world that will irrevocably become even more multicultural, a key the task is to win over their hearts and minds for intercultural education.

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Intercultural development programs and the constant change in intercultural education

Abstract

The paper examines the perception of eight successful leaders in their daily quest of weaving intercultural practices in their schools and highlights the factors which contributed to this success. The literature points out that the role of leaders is a crucial factor for improving schools. Some particular leadership practices appear to be more successful than others in dealing with these globalization effects. Intercultural education is mediated by school leadership and thus by school leaders' interpretations of diversity and intercultural education, which influence its implementation into practice. The unique conditions prevailing in each school further shape the school-based curricula regarding intercultural education. Therefore, intercultural education comes up against school politics and cultures. Research has shown that the relationship between leadership styles and employee motivation was quite high. Motivating has become a bigger problem because for modern society motivational stimuli are very diverse and each person should be treated individually. The human capital management style should be such that the manager performs the functions of directing, controlling, motivating and organizing by stimulating employees to treat the organization's goals as their own. Empirical studies showed that each of the styles influenced employee motivation, but this was not the main factor in increasing motivation. Personal development became the most valuable value among the respondents. Managers should ensure the self-fulfillment of employees in the workplace, support innovative and creative ideas and encourage participation in improving the quality of management in the enterprise. The adopted research hypotheses were confirmed – the transformational style of leadership positively motivated them,

because the employees were satisfied that they had the opportunity to self-educate with the help of the manager and participate in various types of training and workshops. Women by nature have greater soft skills, which resulted in their frequent use of the transformational style. Satisfaction of subordinates was high in the case of using the transactional style of management. The rewards offered by leaders have been one of the primary incentives. Thanks to clearly defined orders, the employees were able to perform their work diligently and reliably. The paper concludes by suggesting ways to augment research in intercultural education, thus providing a strong knowledge base for future practitioners.

Key words: school, culture, leaders, intercultural, education

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III. The pedagogy of critical thinking. Professional development of teachers for social justice and risk education*Flávia Siqueira, Agnaldo Arroio***A strategy for addressing fake news and denialism in Elementary and Secondary Schools****Introduction**

Several studies point to a growing concern with the problem of fake news after 2016, driven by political communication practices related to the Brexit campaign (Grice, 2017) and the election of Donald Trump in the United States (Coll, 2017, Hughes and Waismel-Manor, 2020). In Brazil, similar problems and effects have been associated with communication practices related to the presidential campaign of 2018 and the term of Jair Bolsonaro, as reported by several news outlets around the globe (Phillips, 2018, Cowie, 2018, Barbara, 2021, Gortázar, 2022).

During the Covid-19 pandemic (2020–2022), the spread of fake news related to the disease and vaccination has shown the harmful impacts of disinformation and misinformation on policy-making, as well as on individual and collective decision-making processes. Some studies show, for example, how disinformation and misinformation are related with vaccine hesitancy, as the ones published by Galhardi et al. (2022) and Loomba et al. (2021). Such context has also highlighted the risks of “science denialism”, “by which is meant an activity aimed at renouncing some well-justified assertion or theory in mainstream science” (Hansson, 2018, p. 2).

Although the problem of “fake news” and denialism is not new, it has been boosted by the convergence of factors such as the growing digitization of social life, changes in information search and consumption habits, the crisis of professional journalism and the rise of conservative cyber populism – factors that relate to an even broader process of platformization in digital capitalism (Braun and Eklund, 2019).

Among studies that investigate the phenomenon of information disorder, there are proposals to reduce and face the negative impacts that the circulation of lies and distorted information has on social processes and exchanges. Some of them put light on collective responses, such as accountability and regulatory actions; others propose responses that may be considered part of a more “individual” order, such as the ones related to Media and Information Literacy (MIL) – among which this

study is inserted, but without the intention of indicating any primacy of this type of action on other proposals, as if the problem of fake news were purely cognitive or intellectual. The issue of information disorder is complex and, therefore, demands multiple responses in different instances of social life.

In the Brazilian educational context, the theme of media literacy appears in the National Curricular Common Base,¹ which describes young people as “protagonists of digital culture”. The characteristics of school life and classroom space may stimulate reflections on media consumption that do not find so much strength in the daily use of digital environments. The collectivity, the contradictions and differences in the interaction process among students and teachers can open space for in-depth debates about texts and other materials found on the internet.

Based on these reflections, this study derives from the following research question: how to address the themes of fake news and science denialism with students in elementary and secondary schools? Through an approach anchored in action research, this analysis focuses on an optional course on these topics delivered to elementary and high school students at a public school in the city of São Paulo, Brazil, during the first half of 2021.

Literature review and conceptual frameworks

Several publications by Unesco (United Nations Educational Organization, Science and Culture) aimed at Media and Information Literacy (MIL) quote the Article 19 of the Universal Declaration of Human Rights: “Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers”. Thus, MIL “equips citizens with competencies needed to seek and enjoy the full benefits of this fundamental human right” (Unesco, 2011, p. 16).

In this context and according to this proposal, teachers have a central role:

[There is a] challenge to assess the relevance and the reliability of the information without any obstacles to citizens’ making full use of their rights to freedom of expression and the right to information. It is in this context that the need for Media and Information Literacy (MIL) must be viewed: it expands civic education movement that incorporates teachers as principal agents of change. (Unesco, 2013, p. 11)

MIL can equip teachers with “enhanced knowledge to empower future citizens” (Unesco, 2011, p. 20). As a result, it should be possible to provide citizens the understanding needed to assess whether media and information channels in democratic societies are effectively fulfilling their functions.

1 In portuguese: *Base Nacional Comum Curricular (BNCC)*.

In 2021, Unesco published the second edition of the *Media and Information Manual Literacy Curriculum for Educators and Learners*, which updates some topics of its previous curriculum. According to the updated proposal, MIL combines three distinct areas: media literacy, information literacy and digital literacy. “It moves from what the terminologies mean individually (...) to a unified notion that embodies elements of both information, media, and digital technologies and conveys the aims and objectives of MIL” (Unesco, 2021, p. 8). As a way of organizing these fundamental elements, Unesco proposes the following array:

INFORMATION LITERACY ¹⁶						
Define and articulate information needs	Locate and access information	Assess information	Organize information	Make ethical use of information	Communicate information	Use ICT skills for information processing
MEDIA LITERACY ²⁰						
Understand the role and functions of media, and internet communications companies in democratic societies	Understand the conditions under which media can fulfil their functions	Critically evaluate media content in the light of media functions	Engage with media for self-expression and democratic participation	Review skills (including ICTs) needed to produce user-generated content		
DIGITAL LITERACY						
Use of digital tools	Understand digital identity	Recognize digital rights	Assess AI issues	Improve how to communicate digitally	Manage digital health	Practice digital security and safety

Figure 1. Key outcomes/elements of MIL

Source: Unesco, 2021, p. 9.

A literature review carried out by Machete and Turpin (2020) points out that, although there are many studies on fake news and methods or tools to detect them, the number of works that focus on the use of MIL to help people access and critically consume online information is still limited, and the number of studies that emphasize critical thinking as a form of information literacy is even smaller. According to the authors, “critical thinking (...) provides a means to critically engage with online content, for example by looking for evidence to support claims and by evaluating the plausibility of arguments” (p. 231).

In schools, it is possible to articulate critical thinking and science by “integrating controversial, socially relevant issues with scientific content — that is, socioscientific issues (SSIs)” (Chen & Xiao, 2021). Typically, these issues involve cost-benefit assessments and risk, ethical reasoning and individual and/or collective choices. Issues related to the covid-19 pandemic have been considered as SSIs by different

studies — like the ones published by Santos, Costa and Brito (2021), Reiss (2020) and Ke et al. (2021) — an approach that may be considered a strategy of critical reading, contextualized and connected to real situations.

An approach that articulates the investigation of fake news and the study of SSIs in the classroom includes, in turn, the establishment of reading goals. As Stadler et al. point out, “understanding conflicts between sources is an inherent part of science text comprehension” (2014, p. 93), and having one or more reading goals – preparing a summary, detecting arguments and searching for specific information, for example – is fundamental to achieving such understanding. As pointed out by Kleiman (2016), there is evidence that “our processing and memory capacity improves significantly when an objective is provided for a task” (p. 32).

In this sense, we can say that the activity of classifying online content considered as fake news into more specific categories is a way of establishing reading goals and, thus, promoting understanding and a critical interpretation of the texts presented. According to Unesco (2018):

Much of the discourse on ‘fake news’ conflates two notions: misinformation and disinformation. It can be helpful, however, to propose that **misinformation** is information that is false, but the person who is disseminating it believes that it is true. **Disinformation** is information that is false, and the person who is disseminating it knows it is false. It is a deliberate, intentional lie, and points to people being actively disinforming by malicious actors. A third category could be termed **mal-information**; information, that is based on reality, but used to inflict harm on a person, organization or country. (Unesco, 2018, p. 45)

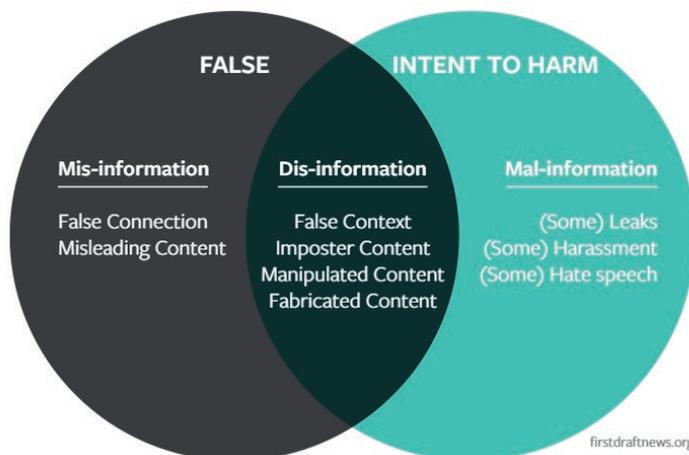


Figure 2. Information disorder: misinformation, disinformation and mal-information

Source: Unesco, 2018, p. 46.

Methodology

This study is characterized as a qualitative research approach of an exploratory nature, and one of its objectives is to know the analyzed process: the implementation of an optional course with fake news and scientific denialism as central themes. We resorted to the action research procedure, which incorporates intervention actions by the researcher. According to Tripp (2005):

I have come to favour a narrower definition such as, “Action research is a form of action inquiry that employs recognised research techniques to inform the action taken to improve practice”, and I would add that the research techniques should meet the criteria common to other kinds of academic research (ie. withstand peer-review of procedures, significance, originality, validity, etc.). (Tripp, 2005, p. 4)

One of the particularities of action research is collaboration: “it includes all those involved in various ways, and it is collaborative in its ways of working” (Tripp, 2005, p. 5).

The present research took place in a public school in a middle-class neighborhood in the city of São Paulo, Brazil, during the first half of 2021. A group of teachers and undergraduate students worked together in an optional course about fake news and denialism offered to elementary and high school students, with the title *Recognizing and fighting fake news and science denialism*.

The course integrated different areas of knowledge (Humanities and Natural Sciences) and had a partnership with an institutional program of scholarships for teaching initiation, with a group of seven Chemistry undergraduate students and two school teachers – a Chemistry teacher and a History teacher – coordinated by a University professor, from the School of Education at USP. There were 32 students enrolled in the course, ranging from the 6th year of elementary school to the 3rd grade of high school.

Due to the covid-19 pandemic, all the activities were remote, through Google Meet platform. The classes happened once a week, on Fridays, from 11 AM to 12 PM. The students were offered 10 classes, from March to June. After the class, the group of teachers had short meetings (of around 30 minutes) to share impressions and plan the following classes.

Data were collected by different instruments: video recordings of the classes and meetings, notes taken during the activities, questionnaires on the Google Forms platform sent to the students of the course, and semi-structured interviews with the teachers and undergraduates who were responsible for the classes. Ethical issues were considered during the activities.

Results

The group of teachers and undergraduate students planned the classes in order to articulate the two main themes: fake news and science denialism. Besides working with examples of fake news and also of good journalism, the central goal was to exercise critical thinking in a meaningful way, so that the students would possibly be able to apply it in different situations.

For the mobilization of scientific knowledge, we considered the concept of SSIs. The teaching team worked with issues linked to the Covid-19 pandemic: what is a virus, the differences between viruses and bacteria, how vaccines work and their importance, among others.

Table 1 shows the dates and main themes/activities of the classes.

Table 1. Classes and main themes/activities

Class	Date	Main themes/activities
1	23/04/2021	Fake news “challenge”, part 1 – Examples of fake news and how to search for information and analyze online sources.
2	30/04/2021	Fake news “challenge”, part 2 – Examples and initial discussion about intention.
3	07/05/2021	Fake news, covid-19 and vaccines – Study of <i>Revolta da Vacina</i> (Vaccine Revolt), which took place in Rio de Janeiro, Brazil, in 1904.
4	14/05/2021	Fake news, covid-19 and vaccines – How vaccines work.
5	21/05/2021	Fake news, covid-19 treatment and vaccines; differences between viruses and bacteria.
6	28/05/2021	The disinformation-misinformation ecology: disinformation, misinformation, mal-information.
7	04/06/2021	The disinformation-misinformation ecology – Activities, in which the students had to classify examples of fake news into the categories disinformation, misinformation and mal-information.
8	11/06/2021	First half: hate speech and deep fake. Second half: the “myth” of the lemon juice “alkalizing” effect.
9	18/06/2021	Fake news and how vaccines are made.
10	25/06/2021	The problems with “covid kit” ² and the importance of vaccines.

² Also known as “early treatment”, a cocktail of drugs supposedly indicated to treat and/or prevent covid-19, despite the lack of scientific evidence. The kit was the subject of journalistic articles inside and outside Brazil. For example: *My wife and I got covid-19. Our doctor prescribed a medication used to treat parasites in livestock* | By Terrence McCoy, in Rio de Janeiro, Brazil, for The Washington Post https://www.washingtonpost.com/world/the_americas/coronavirus-brazil-covid-kit/2021/02/12/8328f56a-6632-11eb-8468-21bc48f07fe5_story.html

Figure 3 shows the “dumpster of fake news”, a metaphor we used in the 6th class to debate how fake news is not always “the same thing”. The fundamental idea is that a meticulous examination of different texts and materials considered fake news will probably reveal several types of misleading content, such as misinformation, disinformation, mal-information, propaganda, deep fake, hate speech, gossip, hoaxes, jokes out of context, etc.



Figure 3. The “dumpster” of fake news

Translation of the text items shown in Figure 3: mal-information, misinformation, disinformation, hate speech, insult, hoax, rumor, propaganda.

Figure 4 was part of the presentation we used in the 8th class, about the widespread myth that lemon juice has an “alkalizing effect” that improves general health. First, the teacher talked about the acid-base scale (Figure 4), which is part of the curriculum. After that slide, the teacher showed the students a video produced by an influencer that claimed lemon juice had a good “alkalizing effect” (Figure 5), and the students were asked to classify it into one of the categories shown on the left (disinformation, misinformation, mal-information) – therefore, they had to “read” the content guided by some objectives: to figure out what was true and what was false in the statement and what were the influencer’s possible intentions with the video.

After analyzing what the influencer was saying, the way she was saying it, who she was, her possible intentions and her background, the group of students and teachers concluded that it was a case of misinformation, probably a mistake.

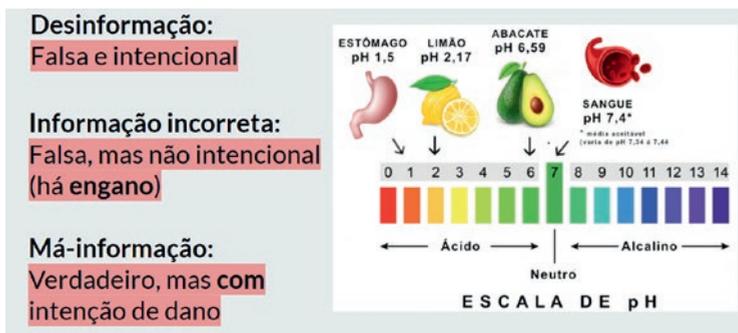


Figure 4. pH scale

Translation of the text items shown in the image: on the left, “disinformation – false and deliberate”, “misinformation – false, but unintentional (mistake)”, “mal-information – true, but with the intention to harm”. On the right, the pH scale with the examples of stomach acid, lemon, avocado and blood.

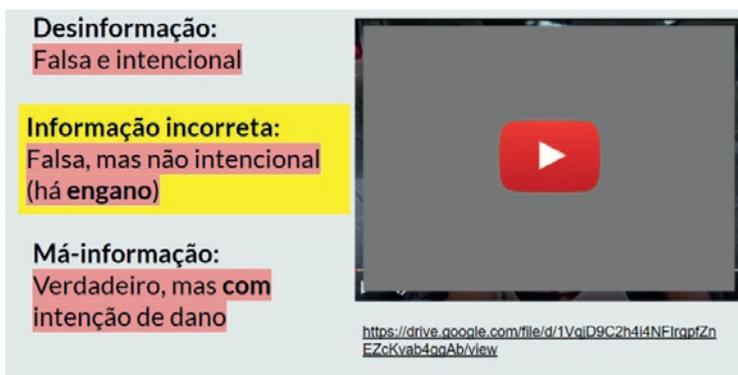


Figure 5. A case of misinformation

Regarding the interviews carried out with the group of teachers, we highlight the following comments about the experience:

a) Chemistry teacher:

I feel more prepared now [after the course] because I went through a path that was not exactly my comfort zone (...). I think it is important to classify [different types of “fake news”], put things in their proper places, provide tools for students to navigate this universe. (...) I think that [the teacher] being neutral [about “fake news”] is a mistake. You have to take a stand and say “look, we’re here because this is a problem, and we’re here to say that we can’t accept it anymore, it’s hurting us”.

b) History teacher:

I think preparing the course helped us see that it is possible, yes, to talk about this subject, which addresses important and necessary skills for the students. (...)

We managed to create an itinerary, a path, which we saw that can be replicated. (...) I think that [fighting “fake news”] has to be a role [of the teacher], yes, because it reflects on our choices, on our posture, on our education as citizens.

c) Pre-service teacher (undergraduate chemistry student) n. 1:

Just the act of trying to classify [“fake news” into categories] produces some criticism, you are trying to take elements of the text and frame them. (...) I think it’s valid even if we can’t classify properly. (...) The attempt to classify... This has everything to do with science, classifying things. So, the attempt to classify is already a critical attitude, right?

d) Pre-service teacher (undergraduate chemistry student) n. 2:

I think articulating [science and language] is better, because you can’t separate the subjects, since one connects to the other. And usually denialism comes along with “fake news”.

Discussion

From the debates and reflections carried out among the group of teachers, it became clear that a course with the goal to address fake news topics and science denialism can combine the mobilization of students’ prior knowledge, the development of research skills in the online environment and the analysis of the structure of news and different types of texts found in digital platforms. Thus, the joint work of teachers from different areas of knowledge in planning and conducting classes and activities is a positive point.

The interviews indicate some prevalent reflections and perceptions in the group. One of them is the idea that teachers need to talk about fake news in the classroom and take a stance to combat disinformation/misinformation. The subject of fake news had already appeared in other classes and textbooks, and the teachers considered the optional course as a chance to systematize an approach specifically to the topic. They also considered the idea of classifying posts and texts into more specific categories – as pointed out by Unesco (2018) – as relevant and viable for educational purposes. In all classes, the teachers presented examples and exercises of interpretation, guided by reading goals such as locating scientific information and the main arguments, recognizing the author’s intentions, detecting errors and contradictions and, finally, classifying the content or its parts in one or more of the categories presented.

The course brought the opportunity to mobilize knowledge built at school (in the different disciplines and stages) for reflection and information checking activities – as highlighted, for example, by the 8th class, when the relatively simple knowledge about acid and base made it possible to understand why the statement that ingesting lemon juice (acid) would turn the blood alkaline makes no sense. It was possible to articulate different aspects of MIL and scientific literacy – in particular,

critical reading and the use of scientific knowledge in a contextualized way and connected to a concrete situation, in line with the definition of SSIs (Chen & Xiao, 2021).

The need to establish a common ground exists in all teaching-learning contexts. However, this experience also points to the high importance of the teacher's role as a curator (Garcia and Czeszak, 2019) of materials and examples studied in class – especially in an optional course with students of so many different ages and grades.

In the critical reading exercises done in real-time, a detailed approach to the examples studied – at times approaching the material in parts – seemed to have a positive effect. Classes in which the examples were approached slowly so that teachers and students could carry out a more detailed reading of the content, inspired more students to speak up. It was possible to highlight the components of the discursive structure of fake news while resuming the necessary knowledge to understand different issues.

Not simplifying the problem of fake news, therefore, is a fundamental aspect. As we are dealing with a complex problem, it is important to present it as such from the beginning, so that there are no expectations of getting ready-made formulas to solve it. Given the complex scenario of how information and disinformation/misinformation circulate nowadays (Braun and Eklund, 2019), we must combat our tendency to think that there are established and absolutely reliable spaces where “the truth” will always be found.

These results show that this kind of practice involving teachers and students is a way to increase their knowledge and understanding of the media and education relationship “to prepare them in appropriate methodologies in order for the citizens to understand the deeper significance of information, media and being informed, and also to assist people in using information in a more efficient way, preserving the critical and ethical aspects” Arroio (2017, p. 417).

Conclusion

Addressing the issues of fake news and denialism involves cooperation between teachers from different fields and backgrounds, in order to articulate the analysis of the language and discourse structure with the mobilization of scientific knowledge.

This articulation, together with the use of reading goals – here, aimed at classifying examples of fake news into more specific categories in the ecology of disinformation – has shown to be a possible path for the development of critical thinking among students, possibly adaptable to other contexts.

According to the results, the training program on disinformation and scientific denialism contributed to the development of students' media skills, who were able to articulate the conceptual contents about science with contemporary issues that circulate in social media. But it also shows a contribution to the media skills of teachers in service for the development of Media and Information Literacy.

In relation to undergraduate students, it was an important experience in the pre-service training of future teachers, since these themes are not explicitly found as part of the formal curricula of teacher training. In this way, projects like this one of initiation to teaching can effectively contribute so that this professional can better deal with such themes in their future teaching practices related to the fight against fake news, but above all a more critical training to deal with contemporary media.

In general, the partnership between the school and the university with its multiple participants (teachers in service, pre-service teachers, and students) proved to be a good approach for the insertion of the theme of Media and Information Literacy in the practices of teachers.

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A strategy for addressing fake news and denialism in Elementary and Secondary Schools

Abstract

Several organizations and researchers in the field of media and education point out to the need to address the issues of fake news and denialism in basic education – themes that have been highlighted in different recent publications and guides for teachers and students, such as the Media and Information Literacy Curriculum for Educators and Learners (Unesco, 2021). During the first half of 2021, it was monitored and supported an optional course on these topics delivered to elementary and high school students at a public school in the city of São Paulo, Brazil. For this proposal it was possible to integrate teachers from school, undergraduate and graduate students from different fields – in this case, Humanities and Natural Sciences – to articulate the analysis of fake news’ discourse and language structure with the mobilization of scientific knowledge that is already part of the educational program. This articulation, together with setting reading goals – aimed at classifying different media content into more specific categories in the disinformation-misinformation ecology –, was considered by the teachers as a viable method to structure activities in order to develop critical thinking among students. As categories of fake news, we followed the proposal of Unesco’s book Journalism, fake news & disinformation: handbook for journalism education and training – most media content considered “fake news” may be classified as misinformation, disinformation or mal-information (Unesco, 2018). As for the mobilization of scientific knowledge, we considered the concept of Socioscientific Issues (SSI): science-based issues that are socially relevant (Chen & Xiao, 2021). The teaching team worked with SSI linked to the Covid-19 pandemic, vaccines, and, in one of the classes, the “myth” – widespread in the media and among digital influencers – that lemon juice has an “alkalizing effect” and improves general health. This strategy was considered adequate for the course’s purpose and possibly adaptable to other contexts.

Key words: fake news; denialism; Elementary School; Secondary School; media literacy

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Neohumanism or how to educate in love

Introduction

Sunrise International Preschool is a small institution located in Hellerup, close to Copenhagen the capital of Denmark. Our house is divided in two groups with a total of 35 children from ages comprehended between 14 months and 5 years old. Also, our team is composed of five teachers who, with the students, offer more than twenty nationalities building an international environment. It was founded in 1980 by a group of families who were inspired by the Neo-humanistic education as a playhouse in the area of Østerbro, in Copenhagen. Additionally, as a result of developing and receiving a higher number of students in 2004 it moved to a larger building in its actual location in the area of Hellerup. The school offers neohumanistic education, sharing this pedagogy with several institutions presented in more than fifty countries. Just in Europe this philosophy is present in Finland, The United Kingdom, Romania, Albania, The Netherlands, Iceland, Malta and ours in Denmark.

History and values

Neo-humanism is part of a global network called "Ananda Marka Gurukula", who is present in different educational levels like teacher formation or higher education like institutes and universities around the world. This organization was founded in 1955 by Shrii Prabhat Rainjan Sarkar, who wanted to guide humanity in the path of self-realization through the adaptation of Tantra Yoga into a scientific and rational philosophy. Eventually some schools who followed these values were founded in his home country, India. However, it was in 1982 when he propounded and publish the philosophy of Neohumanism determining the beginning of its international development.

This pedagogy is also based on several values of humanism but applied in a more expanded and wider range. Despite considering it as a starting point, Neo humanism also mentions some of their limitations like separating humans from the rest of creation or the limitation in terms of sentiment (Jacobson, 2020). Shrii PR Sarkar in its work *Neo humanism: The Liberation of Intellect*, defines this idea of growing from humanism:

“When the underlying spirit of humanism is extended to everything animate and inanimate, in this universe, I have designated this as Neohumanism. This Neohumanism will elevate humanism to universalism, the cult of love for all created being of this universe.”

This love for all created beings can be observed in children in a wide variety of expressions, all of them driven by the innate curiosity of the human being. Some examples of this idea that have been appreciated in our school are:

- Walls: whenever they bump against the wall or the door even if they start crying, one of the first things they do is say sorry to it.
- Whales: one of the themes is the ocean so we have been playing sounds of whales and dolphins and reading stories about them. When it is time for free play and they are asked what do they want to do they want to listen to the whales while being focused on reading a book about them. They say they are trying to talk more with them.
- Forest trip: when we go to the forest that is 10 minutes walking from the school it takes us more than half an hour. We will stop every few minutes because they will find an insect, plant or object that will catch their attention and we will start to discuss about it.

In other words, one key element of Neohumanism is relationships, with us and with the rest of the world. In order to achieve this objective of guiding humanity towards universalism a vast awareness of the world is required. If we express values that are shallow without depth we will generate humans with the same characteristics, that are the reason of most of the conflicts throughout our history (Bussey, 2012). This awareness needs to be offered in a multidimensional approach, considering all the living beings like plants, animals, and other humans. For accomplishing the two first dimensions at our institution we focused on analyse what surrounds the child. Some examples are cultivating their own plants, providing magnifying glasses for observing the garden and forest. However, these methods can only be used for the nature that is closer to us. When we want to explore realities that are further from them in space or time our main resources are literacy and new technologies. Storytelling has a very important role in our daily routine, since it enables us to explore a wider range of realities, like sea creatures, dinosaurs, arctic animals... Thanks to the progress of new technologies we are able to visit several places to see or listen to them. For example, by using Google Earth we look for penguins in the South Pole, or study all the different life forms present in the Great Coral Reef.

On the other hand, when we aim at becoming aware of the human dimension, interculturalism and being an international institution are decisive. It is necessary to consider the difference between multicultural and intercultural education. In the first case the diversity of cultures in our society simply co-exists. However, when pursuing intercultural education there is an effort in cultivating a deeper understanding and respect for the variety of cultures in order to generate inclusion (Zambet, 2017). This last concept is closer to the core values of love and respect for everybody, and everything offered by this pedagogy. In Neohumanistic institutions this characteristic offers a double function.

The first and more discernible is offer our students a wider perspective of the world around them and all the cultures, nationalities, religions, and ethnicities that cohabit it. We try to achieve this expanded view with varied resources and dynamics, I will explain some of them from those who are applied on a daily basis to events and activities that occur on specific moments of the year. The most used resource is literacy, our school offers a wide range of books that are rotating everyday and tell stories from around the world. Some examples are:

- *“Dragon Dance”* by Joan Holub and Benrei Huang
- *“Just a minute”* by Yuyi Morales
- *“Lighting a Lamp. A Divali Story”* by Jonny Zucker and Jan Barger
- *“Mama Panya’s Pancakes. A village tale from Kenya”* by Mary and Rich Chamberin and Julia Cairns
- *“My first Ramadan”, “My First Kwanza”* by Karen Katz
- *“Rebecca’s Passover”* by Adèle Geras and Sheila Moxley

Apart of having stories about some cultures or religions in particular, we also offer stories whose characters vary from one another, in their skin tone, language, nationality, body shape... Actually, this type is especially interesting for our students because they can identify easier themselves and their friends all together living the same adventure. Some of these books are:

- *“All kinds of Families”* by Rachel Fuller
- *“All kinds of People”* by Emma Damon
- *“Children around the world”* by Donata Montanari
- *“Is There Really a Human RACE?”* By Jamie Lee Curtis and Laura Cornell
- *“Say Hello”* by Rachel Isadora
- *“We’re all wonders”* by R.J. Palacio

Another method developed for supporting this diversity is just talking about it. Asking where they come from or how to say some words in their mother tongue seems to have a double positive result. For the one who is being asked is a way to show interest towards their culture and feel valued, and for the rest is always very interesting to hear a different language besides English, they even incorporate these other words in their vocabulary. In our institution these respect and interest towards others can be appreciated in all the groups. For example, the group of two and three years old they all know where everybody, including the teachers, come from. In the

group of older children, they are able also to use expressions in different languages, especially how to say hello. During the themes worked throughout the year we also incorporate the cultures presented in our school for encouraging the learning process by offering a more personal relation with what it is being learnt. For example, when studying the oceans since we have children who are from Australia, we had especial activities about the Great Coral Reef. In addition to the dynamics mentioned above every year we held in November the culture month. There we focus on the world and its cultures and nationalities becoming the principal element of our daily routine. Some of the activities developed during that period are:

- Identifying different countries in the world map
- Art around the world: we chose an artist from a different country, this year was Antoni Gaudí, from Spain and we see their work and try to recreate it
- Comparing the climate on each country, especially the differences between where we live in Denmark, and where we come from.
- Food that my family cooks
- Legends, myths, and stories that we read in my country
- Magic carpet: we travel around the world to visit the countries where they come from, and we ask how we say hello and what do they do (usually they say something related to food)
- My mummy or daddy come to talks about my country
- The tree of flags

At the end of the month, we celebrate the “Culture Day” where all the families are invited to prepare activities and bring food from their home country. Sadly, due to the Corona virus we have not been able to celebrate it in the last years.

Although the project is focused on the children and their families, teachers also have an important role in these themes. For example, some of our teachers are from Argentina and Spain so they taught some dances and words from their home countries. This year we had interns working with us, one of them was Muslim so it was very interesting to observe how our students will ask her about her hijab, or even ask her why and how she prays.

Several of the activities mentioned above allow the child to develop an introspective analysis based on the question “where do I come from?”, and at the same time it permits to compare themselves with other cultures in order to broaden their world view. By doing this they will eventually have a deeper understanding of themselves, showing the second main benefit of intercultural education. This introspective analysis is always accompanied with their daily dose of meditation, one of the pillars of Neo humanism. There are several benefits of meditation in early ages, besides what is mentioned above. It also helps the child to understand better their feelings, as well as managing their stress by learning breathing techniques (Avadhuta, 2020; Jacobson, 2020).

Circle of Love Curriculum

As a consequent product from the idea of devotion towards all created beings, in neohumanistic education its curriculum is based on the "Circle of Love". In other words, all the elements and aspects learnt will somehow be incrustated in the cycle of creation. All this curriculum is enclosed in a sequence of themes that progress during the scholar year. These academic units are usually related to the environment, so we reinforce the idea of parting from the child's perspective. For example, most of our themes are connected with the seasons of the year so our students can explore deeply the changes that are happening around them. Each academic unit offers a multidimensional approach by combining several aspects like physical, emotional, intellectual, intuitive, imaginative, and spiritual. Having the child as the centre of their own learning experience is one of the main values of Neohumanism and the method we are employing for that is learning through guided discovery. As its own name says it consist of preparing different situations that allow the child to explore and research its own knowledge, so it will be only limited by their imagination. For example, in winter (theme Ice Age) we will offer them snow and ice so they can play with it. Just by themselves the two years old discovered several characteristics of it like colour, shape, smell, taste, temperature...

The Circle of Love is considered as a form of holistic education whose main objective is to help the child through its harmonious development in several aspects like body, emotions, and cognitive skills. By employing the principles of yoga, it stimulates the growth of a healthy, integrated and happy human (Pelanda & Perozzo, 2011). The main technique we employ is included in the Morning Circle. It is composed by morning songs, action songs, exercises, warm ups and stretches, yoga, marching or parade movements, Sanskrit slokas reciting, Prabhat Samgiita, Kiirtan, meditation (Anandarama, 2020). The rest of our routine is composed of a mix of outdoors and indoors activities focusing on exploring and discover their own interest by preparing different corners (Rolfe, 2005). When we want to introduce new elements to them for exploring, storytelling is key. However, even in this type of activities they have literally the main role, we always design the storytelling in a way that allows them to actively participate in it. By doing this we improve their learning process and their acquisition of new concepts (Tamminga, 2022)

Teachers

Teachers role in Neohumanist education is focused on offering inspiration, installing moral values and creating a learning environment that will enable the children to express themselves and develop fully. In neohumanism the learning process, especially in early ages, is considered as spontaneous scientists who collect data and test their several hypothesis that eventually will make them generate their own conclusion (Devapriya, 2009). Far from the traditional passive role that has been

given to them, children under the neohumanistic education play an active role on creating their own knowledge. As a consequence, teachers tend to have a more passive role, like a supporter towards their students. These roles can be appreciated on our institution at all ages. For example, this autumn, the group of two and three years old realized that the leaves of the trees were changing colours, but they did not understand why. They ask the teachers and their families, but they did not know either. One of them propose the first hypothesis, someone was painting them, after some debate they decided that it was actually a dinosaur who was coming at night to paint the leaves at the school garden. They wanted to verify this, so they tried to paint some leaves by themselves to see if they look the same. The teachers gave them the materials and they paint them, but they realized that those leaves do not look the same. After several hypothesis and experiments they discover the seasons and autumn with the help of the elder kids. Teachers in a neohumanistic school are expected to be closer to a supporter and a consultor. But they are also required to display some specific characteristics that will help the development of their students, such as:

- Developing relationships based on mutual affection
- Showing respect and engendering it in others
- Being a role model for their students
- Promoting love and passion for learning
- Being perceptive and intuitive in discovering the needs and talents of each child
- Showing kindness, generosity, patience, humility and selflessness
- Inspiring students

Conclusion and final recommendations

Neohumanism despite being a pedagogy present in several countries around the world and being known internationally for more than forty years, apparently does not have any sort of traditional literature. This lack of research and data collection can be the essential negative point of it. The number of students and size of the institution varies in each country, offering a vast range of possibilities for analysis in order to stablish a deeper and contrasted theoretical framework. Consequently, comparing results is a complex function that is not being addressed in our institution, limiting its evaluation. Throughout this article we have shown some of the several positive aspects from this pedagogy, proving to be potentially a key element to consider in order to prevent future conflicts. However, a deeper and wider research should take place concerning this pedagogy and its beneficial consequences in an individual and collective level.

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Neohumanism or how to educate in love

Abstract

The purpose of this article is to show how we are educating in love and respect at Sunrise International Preschool through neohumanistic pedagogy. Consequently, this article is mainly focused on describing different experiences and values pursued at this institution in order to

illustrate this concept of “educating in love”. However, a theory part composed by its values, origins and history will be also included as an introductory approach to the neohumanistic pedagogy, without really deepening into them due to the broadness and complexity that it holds. Our institution is located in Hellerup, Denmark. As an effect of our international characteristic respect and love for other cultures is a key aspect in our daily routine, beginning by selflove. These concepts applied on a bigger scale, can be determinant to prevent and avoid any form of violence or conflict presented in our society.

Key words: *neohumanism, education in love, intercultural education, preschoolers*

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Learning greek as a mother language: research at modern school textbooks about family issues in modern greek primary education

Introduction

Primary school textbooks are approved teaching aids which are in book form and are used by school students as they meet the requirements of the Analytical Program. School textbooks define the content of instruction and the pedagogical scope of value systems that outline the mindset. From researches that have been carried out, it appears that the time spent by the students with the textbook is greater than the time of the teacher's interpersonal relationships with the students.¹ Also, research data shows that teachers use the textbook as a basic tool for their teaching.

Learning in Greek educational system relies on the text book instead of the teachers' and students' interaction and there is no experiential learning in most of the studies in the Public School in Greece for learning Greek as Mother tongue. Faithful adherence to the "material" of teaching is proverbial in Greek Education. Recently, school textbooks, focus to the important role of a changing society in the educational process and have been the subject of systematic research and study either through institutions or through individual researchers on an international and national scale.²

1 Kefallinaiou, Eugenia. *Modern Greek Alphabets 1771–1981*. Athens: Paraskinio Publications, 1995

2 Kapsalis – Charalambous, 1995, pp. 113–120. and Vambukas, M. *Introduction to Psychopedagogical research and methodology*. Athens: Grigoris Publications, 1991 and Papadopoulou, Sm. 2004, *The socioemotional teaching of language through the realistic children's fiction books': an example on the subject of Divorce* (in Greek), Athens Gutenberg.

Historical frame

The Ministry of National Education and Religious Affairs in 2003 introduced innovations, among which are the Interdisciplinary Unified Curriculum Framework (D.E.P.P.S) and the interdisciplinary approach to knowledge. At D.E.P.P.S. for the teaching of the Greek Language, Literature was included, where the general objectives are focused on experiential speech and the linguistic means of literary works. While the subsequent Analytical Study Programs (A.P.S.) were drawn up in the period 1999–2003 with the aim of modernizing the content of the studies.³ At A.P.S. for the Greek Language Course, Literature as a separate course is included where the general goal is to acquaint students with national and world literature.

The Ministry of Education with its representative bodies (IEP), in its effort to upgrade the quality of education, included in its planning the writing of Anthologies of Literary Texts,⁴ for primary school, in order to replace the three volumes of the old Anthologies. The first book written was the 3rd issue for the 5th and 6th grade in 2001, while in 2006 the 1st issue was written for the 1st and 2nd grade and the 2nd issue for the 3rd and 4th grade. The new Anthologies aim to bring the student into contact with texts that were selected based on specially developed specifications, with a common denominator of certain concepts and values, such as love, honesty, strong character, family, language, national consciousness, orthodoxy, the acceptance of otherness, the universality of Hellenism as well as its current possibilities.⁵

Purpose and objectives of the research

The purpose of this work is to capture the image of the family as it is projected through the analysis of the interpersonal relationships of the family members. The work focuses on the contents of the school textbooks “Anthologies of Literary Texts” of the elementary school which were released in the school year 2006–2007.

As a working hypothesis it is defined that since all texts function as carriers of ideologies, attitudes and are a basic means for the formation of perceptions and

3 Kopidakis, Michalis. HISTORY OF THE GREEK LANGUAGE. Athens: National Bank Educational Foundation Publications, 2010

4 Ministry of National Education and Religious Affairs – Pedagogical Institute, “Interdisciplinary Greek Language Curriculum Framework for Primary School, INTRODUCTORY NOTE BY THE PRESIDENT OF THE PEDAGOGICAL INSTITUTE”, 2003, pp. 1–2. <http://ebooks.edu.gr/info/cps/prologos.pdf> (accessed 27/08/2020)

5 GOVERNMENT 303B/13-03-2003 “SUBJECT-BASED UNIFORM FRAMEWORK OF STUDY PROGRAMS (D.E.P.S.) and DETAILED STUDY PROGRAMS (A.P.S.) OF COMPULSORY EDUCATION”, pp. 3745–3777. In: <http://www.pi-schools.gr/download/programs/depps/fek303.pdf> (accessed 27/08/2020). Also Kataki, Harris. The three identities of the Greek family. Athena: Kedros publications, 1994

attitudes on the part of students, they can project and bring the student into contact with the value of the family as well as the interpersonal relationships that develop among its members.

The following scientific questions were formulated from the above working case:

- How often is the institution of the family found in the contents of the Anthologies?
- What forms of family are presented in the Anthologies?
- Which family model is shown in the Anthologies?
- Which interpersonal relationship, between family members, is found most often?

In the context of this research, we will analyze the issues that reflect the institution of the family, either directly or indirectly.⁶ The research is a content analysis of the school textbooks of the Anthologies of Literary Texts of primary education.

RESEARCH DURATION: 14 months (2017–2019)

Research methodology

The research method used for this work is the content analysis method. The use of content analysis was dictated by the research material itself, i.e. books, because they are means of communication that lend themselves to analysis.⁷

Also, a key parameter for the implementation of content analysis is the determination of the classification unit. A taxonomy is the part of the content that is placed in a specific category depending on the purposes of the research being conducted.⁸

The semantic unit was chosen as the unit of classification, which is included in each of the individual units of the program of the Anthologies manuals. The part of the material that was analyzed and in which the meanings and messages of the course content were sought, was the subject of processing which is a subset of the units and is the subject of didactic treatment in a two-hour didactic.

6 Meraklis, Michalis. Greek folklore, volume A, Social. Formation. Athens: Odysseus Publications, 1984. See and Bonidis, Kyriakos. The content of the school textbook as an object of research – Long-term examination of the relevant research and methodological observations. Athens: Metaichmio Publications, 2004.

7 Vambukas Michalis, "Introduction to Psychopedagogical research and methodology", Ed. Grigoris, Athens, 1991, pp. 263–281.

8 Falias, 1993, p. 206. • Diakogeorgiou, Archontoula. FROM PATRIOTIC KNOWLEDGE TO THE STUDY OF THE ENVIRONMENT, Content analysis of the books "We and the world" of grades A-B-C-D of primary school. Rhodes: Panteion University of Social and Political Sciences, Department of Political Science and History, 1999. At: <http://thesis.ekt.gr/thesis-BookReader/id/11978#page/104/mode/2up> (accessed 28/08/2020).

Subcategories of study

From the analysis of the content of the 214 processing topics of the basic program that are registered as teaching subjects in the three issues of the Anthologies of Literary Texts, five individual categories of interpersonal relationships between family members emerged.

The first category that emerged, based on the data analyzed from the Anthologies of Literary Texts, is “Mother-Child Relationships The second category that emerged during the analysis of the data is “Parent-Child Relationships The third category formed during the process of analyzing the material is “Relationships between father and children. The fourth category formed is “Relationships between grandparents and their grandchildren”.

Identifying our topic for investigation

Family is defined as the group of people who are related by blood and usually reside under the same roof. The family has always been one of the most important institutions of human society where various interpersonal relationships are formed between its members. The institution of the family is ancient and was a milestone in the history of humanity, because it took the first shape of social life. The Greek family has been formed on the monogamous institution and comes at the same time from a centuries-old patriarchal tradition.⁹ The structure of the traditional family was preserved longer and more coherently especially in rural areas. However, with urbanism, immigration, low fertility, the professional employment of women, there have been radical changes in the structure, organization and functioning of the family.¹⁰

In the three issues of the new Primary School Anthologies the institution of the family has a strong presence in the texts as in the first issue the family is presented with 29 (46.8%) topics out of a total of 62 topics to be processed, in the second issue the family is presented with 27 (45.76%) subjects out of a total of 59 subjects to be processed, while in the 3rd issue the family is presented with 44 (47.3%) subjects out of a total of 93 subjects to be processed. In this way, we find that the family endures over time and remains a constant of Greek society.¹¹

The family in its nuclear form is presented with the greatest frequency in all three issues. In contrast to the model of the traditional extended family where we find that it is absent, while whenever we have reference to the extended family it

9 Meraklis, 1984, p. 47.

10 Myrizakis, 1981, p. 204.

11 Myrizakis Ioannis, “The elderly in Greece”, Review of Social Research, vol. 42, 1981. See also in: Filias, Vassilis. Introduction to social research methodology and techniques. Athens: Gutenberg Publications, 1993. Also in: Francopoulou, Irini. Education and its constitutional protection. Athens: Sakkoulas Publications, 1986.

is incomplete in terms of composition. Thus, we find that the traditional extended family structure, which was maintained longer and more cohesively, has now been replaced by the traditional family form.

As a model family, the Anthologies of Greek Literature for Children show the typical family in a small-membered form, because as mentioned above in the second part, the composition of the nuclear family is presented in all three issues mostly with small members. Parents with one or two children are mainly presented, while there are few references to families with three and many children. Motherhood is not presented as a value, as there are very few references to families with three and many children, despite the great demographic problem the country is facing.¹²

There are no references to single-parent families nor to children growing up out of wedlock, models which are widely found in today's Greek society. While other family types are not found in the Anthologies despite the fact that same-sex couples can enter into a cohabitation agreement and adopt children in today's Greek society. Also, no references are made to orphaned children or childless couples. In addition, the phenomenon of divorce, which shows increasing trends in our time, is not mentioned.

In the interpersonal relationships between family members in the first and third issue, the references to the relationship between mother and child predominate with percentages of 31% and 38.64% respectively. While also in the second issue, references to the relationship between mother and child are in second place with a rate of 29.63%. Thus, we find that in the anthologies the close relationship that exists throughout time between mother and child is more often displayed.

In the second place of references, in terms of interpersonal relationships, are the relationships between parents and children. More specifically in the first and third issues they are in second place with percentages of 24.15% and (25%) respectively. While in the first issue, references to the relationships between parents and children predominate with a rate of 29.63%.

In the third place of references are the relations between father and child. More specifically, in the second and third issues they are in third place with 18.52% and 22.73% respectively, while in the first issue they are in fourth place with 13.8%. In the relations between father and child, in the Anthologies, the change that has taken place in today's Greek society is reflected to a certain extent, as the father today participates more actively in the upbringing of the children, in contrast to the past when it was the sole responsibility of the mother.

There are few references to the relationships between grandparents and grandchildren. More specifically, in the first and second issues they are in the penultimate position with 17.25% and 14.82% respectively, while in the third issue they are in the last position with 4.54%. Thus we notice that the traditional extended family is

12 At: <https://www.cnn.gr/ellada/story/201619/dimografiko-provlima-molis-8-ekatommyria-o-plithysmos-stin-ellada-eos-to-2050> (accessed 27/07/2019). See also Georgiou – Nielsen, Myrto. *The family in elementary school textbooks*. Athens: Kedros Publications, 1980

not presented in the Anthologies as the grandparents, as reflected in the texts, do not intervene in the family but their role is determined by their relationship with the grandchildren.

In the last place with the fewest mentions are sibling relationships. More specifically, in the third issue it is in the penultimate position with a percentage of 9.09%, while in the first and second issues they are in the last position with percentages of 13.8% and 11.1% respectively.

Findings

Attempting a review of the results of previous research with the results of the present research we find that:

- The institution of the family is a timeless value which is a constant of Greek Society as well as in today's as well as in the oldest school textbooks the family remains a basic and primary value.
- In contrast to the earlier school textbooks which presented the traditional extended family, today's Anthologies present the typical Greek family in a small-membered form.
- The interpersonal relationship between mother and child remains dominant in both old and current school textbooks.
- There are no issues of sharing modern categories of real life problems and problem solving in family where the adults decide: issues such as this of health, friendship and loneliness, jealousy between brothers and sisters or conflicts between members of the family, the different recognition of a boy or a girl as the chosen one and other stereotypes. These could be a research that can give as a sequence of this and in progress other results.¹³

Conclusions

The new Greek Anthologies of Literary Texts satisfactorily present the institution of the family as well as the interpersonal relationships that develop between family members. However, today's Anthologies, which were written twenty years ago, need renewal to be able to present to students today's social reality, regarding the institution of the family.¹⁴ Thus, it is proposed to enrich the Anthologies with texts that will present the new forms of family encountered in Greek society, orphaned children, the phenomenon of divorce so that they respond to the family reality of each child.

¹³ Papadopoulou, Smaragda. Discussing Moral Issues of Pain Language With Children, *Open Journal for Studies in Philosophy* (Vol. 2, No. 2) Page: 47–52, 2018.

¹⁴ Frederickou, Alexandra. Jenny behind the glass. REPRESENTATIONS OF THE LEAVES IN PRIMARY SCHOOL LANGUAGE TEACHING MANUALS. Athens: Greek Letters Publications, 1995.

It is also suggested to enrich the Anthologies with texts which will multifacetedly present interpersonal relationships between family members, gender and age relationships, social data of each nation in order to respond to children's experiences and not present only a beautified version of family relationships that do not reflect the current version of reality and the needs of modern Greek society in comparison of these from other countries or continents.

INTERPERSONAL RELATIONSHIPS	DIRECT REPORT	INDIRECT REFERENCE	TOTAL	PERCENTAGE
MOTHER CHILDREN	9	12	19	38,64%
PARENTS CHILDREN	2	10	12	25%
FATHER CHILDREN	1	10	12	22,73%
GRANDPARENTS GRANDCHILDREN	3	2	5	11,36%
BROTHERS	1	4	5	11,36%
TOTAL	8	35	43	100%

INDICATIVE TABLE 1. Distribution of interpersonal relationships between family members in the Anthology "With calculation and with a dream"

Source: Anthology of Literary Texts for the 5th and 6th Grades "With rationality and with a dream"



RESEARCH INDICATORS GRAPH. Percentage of interpersonal relationships in the Anthology "With a thought and a dream"

Source: Anthology of Literary Texts for the 5th and 6th Grades "In rationality and with dreaming"

In conclusion, through Literature, students have the opportunity to learn about the institution of the family, which is a timeless value of the utmost importance for humans, through great literary texts that contribute to the all-round development of children.

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Learning greek as a mother language: research at modern school textbooks about family issues in modern greek primary education

Abstract

This research of teaching materials in Modern Greek Language education of primary public schools records and studies the mother tongue of Greek related to the family issues in the contents of the elementary school curriculum. It is an analysis of the content of the language books and literature for children as an anthology for learning reading. Content analysis which was used for this attempt is a method which concerns less the tone of the text and more the ideas expressed. This research method examined the frequency at which the concept of the family is found, the forms and patterns of family shown, as well as interpersonal relationships between its members to find the concept of family as it appears at the text books in relation with contemporary needs and situations of Greek Society.

Key words: Modern Greek Language Education, Primary Public Schools, Language Books and Literature, Family issues, School Curricula

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IV. Animators in the local environment – examples of integration activities.
How to educate people to stop violence against *other*?

Małgorzata Krzeczowska, Agata Augustinovič, Nijolė Cibulskaitė

What if... – planning and implementing lesson scenarios during online school practise

Introduction

Teaching and learning are processes that affect one's future. Teaching is a beautiful, interesting, demanding, and very difficult task, especially for young teachers. The teacher plays an extremely important role in influencing the quality of the education process (Caires et al., 2012; Aglazor, 2017).

In the literature, science teaching can be defined in terms of the knowledge that teachers use in their teaching (Guskey, 1989). Each teacher must have subject-matter knowledge (CK), general pedagogical knowledge (PK), and pedagogical content knowledge (PCK) (Schulman, 1986; Ball, 2000; Bucat, 2005; Abell, 2008). Formal (substantive, methodical, and organizational) preparation and teaching practice are required from each teacher, including the pre-service teachers training students.

During substantive preparation, all content and issues to be discussed during a lesson should be determined together with their purposes and order, keeping in mind the principles of teaching. Methodical preparation requires finding an answer to the question of how the particular lesson should be carried out – which teaching methods and didactic (teaching) aids should be applied. The actions of the teacher and student must be determined together with forms and methods of control and homework. On the other hand, organizational preparation is related to the preparation of the workplace and the necessary didactic (teaching) aids (Krzeczowska, 2020).

Teaching is a much more difficult task. It requires different types of method, techniques, and strategies depending on the school subject, the nature of the task, learning objectives, pupils' abilities, and students' entering behaviours. Teachers know that each lesson must be properly organized and well planned. Planning helps make your lessons clear, brief, and well-timed, so that students can be active and interested. Each lesson should be carried out according to a certain task plan called the lesson plan. When planning and implementing the teaching process, it is worthwhile that the teacher is aware of the basic teaching principles.

According to researchers, teaching strategies are important for an effective educational process (Sancar, Atal and Deryakulu, 2021). The teacher should be characterized by a flexible work style that changes and adjusts the methods of work and the scope of the material to the needs and interests of the student. The teacher's role is to facilitate the acquisition of knowledge by students, and when selecting teaching methods and didactic resources, they must remember the diversity of learning styles, way of thinking, and student personalities (Junior, 2020).

The pre-service teachers training – JU case study

The Faculty of Chemistry of Jagiellonian University in Kraków offers the opportunity to obtain the qualification to teach chemistry in school by starting students' participation in pre-service training. Figure 1 shows all the supplementary and compulsory courses that should be conducted during the first and second cycle study programme.

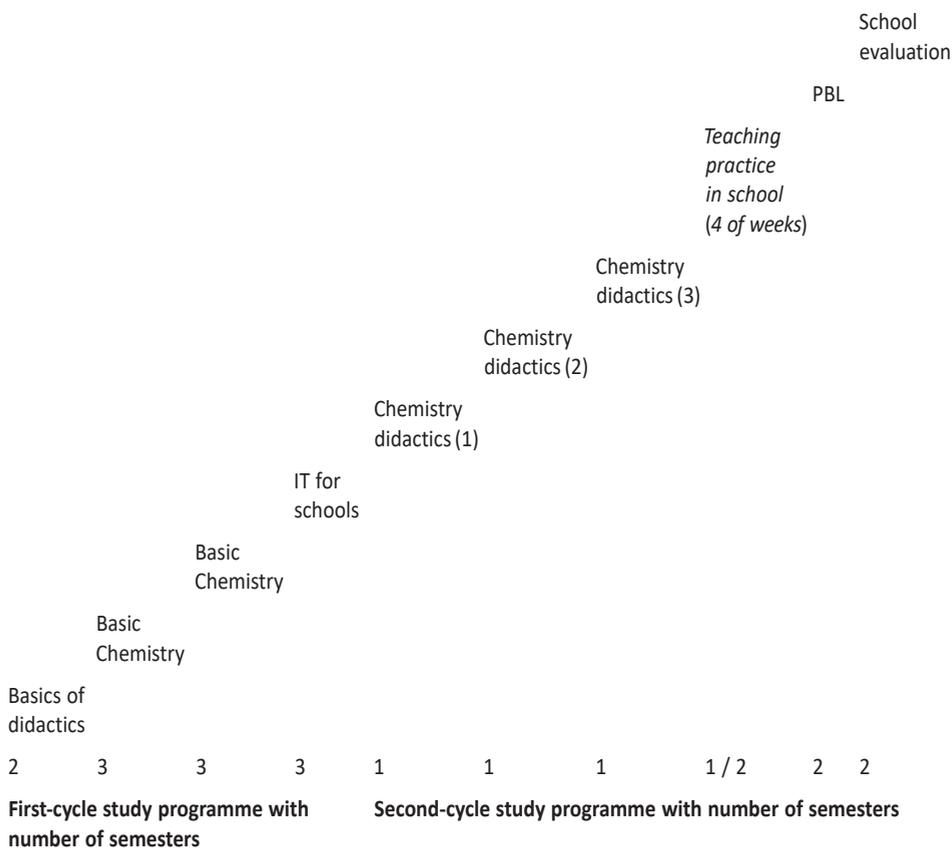


Figure 1. Details of the pre-service chemistry teachers' training programme

The practice of teaching in school is a crucial part of the pre-service teacher training. As Chong and Low (2009) reported, teaching practice is effective in students' decision to become a teacher or not; After teaching practice, students (future teachers) decided whether or not to pursue the teaching profession. Kirbulut and Bektas (2011) suggested that an answer be found to the following questions. How do you know if your lesson was good? – How do you make plans to improve your teaching? Reflection is needed.

The practice of teaching in school must be preceded by good theoretical preparation. Students learn about teaching methods, strategies, and rules, as well as didactic tools. Planning a lesson, formulating tasks, preparing didactic tools, and writing the outline of the lesson are the next topics of discussion in the students meeting.

An exemplary lesson plan form (outline/scenario) with some comments is presented in Appendix No. 1. This form (outline) is based on some didactic sources from the literature (Burewicz and Gulińska, 2002; Kruszewski, 2004; Bereźnicki, 2007).

Purpose of the study

One of many important questions in the teaching process which university students asked themselves is how to design a lesson to use it for effective education and relieve students of boredom?

The objectives of this article were to:

- examine the didactic situations used in the lesson, allowing for the proper involvement of the school student.
- identify different forms of summarizing lessons and homework;
- analyze the implications of the teaching and learning strategies aiming to promote questioning during lessons;
- identify a different theme of the lessons taking into account the possibility of making students interested in the lesson.

The main research questions of this project were:

- What strategies and teaching practices were used to promote school student questioning and engagement in order to ensure the proper teaching and learning process?
- How was the fact of distance learning influenced the methods of lesson recapitulation and homework forms?

Research methodology

1. Methods

The research method is a simple quantitative analysis of the content of the documents that allows obtaining information about quality of activities carried out by school students during the lesson (e.g Krippendorff, 1980; and Weber, 1990; Erlingsson and Brysiewicz, 2017).

2. Participants

The research was conducted on a randomly selected sample of all pre-service teachers training participants.

The participants in this study are 15 university students who enroll in various teacher education courses. During March 2021 to June 2021 students were escorted by university supervisor, visited the school virtually, met the school supervisor for the first time, and conducted virtually their own lessons.

It should be strongly emphasized that the students were not prepared to conduct online lessons in advance.

3. Context

The 15 students go to upper secondary school to virtually practice chemistry teaching under the supervision of a school supervisor and a university supervisor. Each student conducts virtually two lessons: the first at the basic level and the second at the level with extended chemistry program. The online lessons were held in a fully synchronous format. Among 30 lessons, 4 lessons represent revision lessons. The general idea for this is presented in Figure 2.



Figure 2. Three main parts of the chemistry teaching practice

During the 'preparation of lesson' part, the student prepares a detailed lesson plan using the format of the lesson plan that appeared above. This plan is sent to a school supervisor. While the student conducts the lesson, the rest of the group fills in the observation sheet. During observation of the lesson, a school supervisor and a university supervisor also fill out a special observation sheet. Each lesson is followed by a discussion phase.

4. Data collection

During March 2021 to June 2021, 15 students conducted virtually two lessons, for which 30 detailed lesson plans were implemented.

5. Data analysis

Research materials consist of 30 lesson scenarios.

To recognize difficulties in planning and conducting a chemistry lesson at school and to recognize areas requiring support and further development, students' outlines of

chemistry lessons with a detailed lesson plan (scenario) were analyzed. Each scenario was coded before the analysis process. The scenario analysis was performed by a person who did not participate in the lessons of the students. Five subject areas (defined categories of analysis) have been selected for analysis, which are presented in Figure 3.

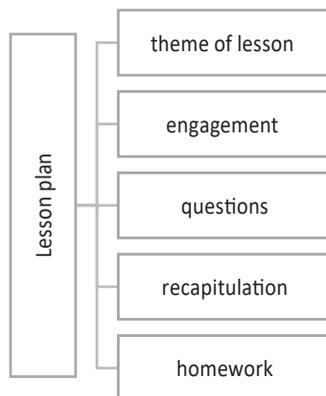


Figure 3. Chosen categories from the lesson plan

Results and discussions

1. The lesson theme (the lesson title)

The title of the lesson expresses the main general purpose of the lesson in relation to the content of the learning and teaching process. The title is the main and overarching theme of the lesson. What is the purpose of a theme? A good theme captures the interest of the student and is related to the main topic. Furthermore, the correct formulation of the theme also determines the important idea of the teacher about the lesson and the effects of work. Iqbal, Siddiqie and Mazid (2021) recommended that the grammatical form of the topic be diverse as it counteracts monotony and positively influences student activity. There is a dependence of the theme form on the dominant teaching method used during the lesson. The subject in the form of a declarative sentence or pronounced without a verdict most often corresponds to the passive method (teacher-centred method). The theme in the form of an interrogative sentence is typical for problem lessons, as it contains an issue that needs to be solved.

The authors looked at the theme lesson from different perspectives: affirmative or questioning sentence? The theme of the lesson is given at the beginning of the lesson, at the end, or during the lesson? The theme of the lesson comes directly from the curriculum, or the student provided his own topic? The results are presented in Table 1.

Table 1. Characterization of the themes of the lessons.

Total number of themes N=30	3 questions (2 problem questions) / 27 affirmative sentences
	among 27 affirmative sentences, 15 come directly from the curriculum, the student provided his own topic for 12 lessons; 1 of 3 questions comes directly from the curriculum.
	27 themes appear at the beginning of the lesson, 2 at the end, and 1 during the lesson.
Number of students, themes N=14	university supervisor, subjective assessment of the relevance of the lesson topic to its actual course: half of the topics are relevant to the course of the lesson; question was properly formulated, but covers only the experimental part of the lesson.

The lessons are based on the content of the curriculum. Students do not have experience creating their own interesting lesson theme and may not want to make a mistake. Formulating an interesting lesson theme also requires more time and a creative approach. It is possible that they attended their schools for lessons the subjects of which came from the curriculum; maybe they participated in lessons that did not have interesting topics or they just did not pay much attention to it. The main themes of the lessons were given at the beginning of the lesson. It is possible that it is related to the logical arrangement of the given form of the lesson scenario. A deviation from this rule may occur in a problem lesson when at the beginning of the lesson a problem is determined that the school students are to solve and at the end of the lesson the topic is formulated, most often in the form of a single sentence, which is typical for this type of lesson.

2. Engagement

The introduction to the lesson is one of the possibilities of engagement. Teachers used a proper introduction to inculcate interest, enthusiasm, and curiosity among his students for accepting the new lesson, and to make the student accept and adopt a new lesson, the following methods can be used. Participation of school students during the lesson as a key competency of the teacher.

Bolliger and Martin (2018) distinguished between three different levels of student engagement: a) school student – school student engagement: This includes activities such as discussion boards and other various ways of sharing experiences and resources between students; b) school student – teacher engagement: This focuses on communication between the teacher and the student in the school, which is an important predictor of student success and achievement; c) school students – content engagement: This consists of the organization of instructional materials and planned activities, which is another component of participation crucial to student success.

The teacher should refer to the notice around us; give examples from everyday life. The usefulness of knowledge in everyday life should be shown to introduce the

topic of the lesson. We know that the brain likes challenges; emotional bonds appear. It is a good starting point to present a problem and involve school students to find a solution to the problem. The proposals for school student engagement found in lesson scenarios are presented in Figure 4.

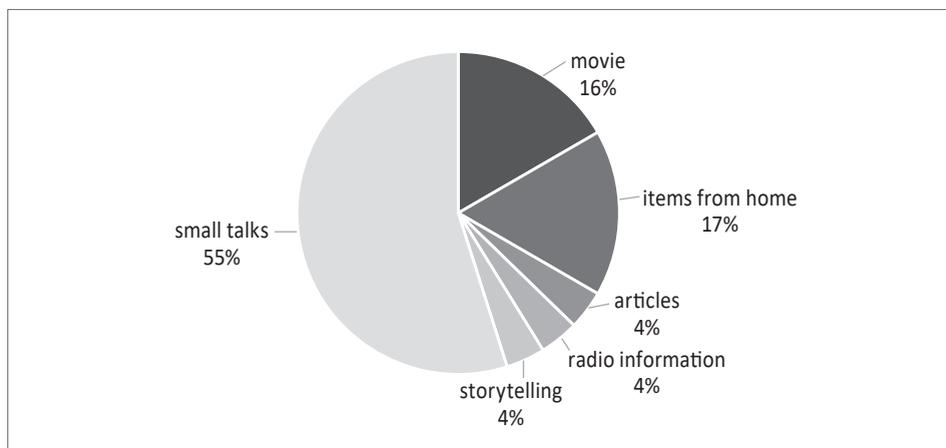


Figure 4. Different ways of engaging school students and the frequency of their appearance

The dominant form of interaction was small talks. The analysis of the lesson scenarios shows that interesting questions were used during the discussion. The next paragraph covers the topic of asking questions which play an important role in the teaching-learning process; stimulate students to be active during lessons (Chin, 2004). University students also used items from home to start an engaging discussion, as well as movies or sometimes only movie parts. Information from radio and television was used to illustrate the usefulness of knowledge and engage students in finding solutions. All proposals allow for the implementation of contextual learning (Pekdag and Le Maréchal, 2010; Christensson and Jesper, 2014). It is worth emphasizing that elements of storytelling have appeared (Collins, 1999).

3. Questions

Today, education underscores the value of asking good questions. An effective question is one way to engage students. In our opinion, a good teacher asks good questions of his students. The character of questions directed to students and the way the questions are asked played an important role in a properly planned lesson (Aizikovitsh-Udi and Star, 2011). Asking questions maintains communication between students and between the student and the teacher. Communication during the lesson should be two-way and influenced by appropriately formulated questions. School students are more likely to understand new material if they ask questions. The teacher must give school students the opportunity to ask questions. A study found that when elementary school students were taught to ask questions during

science lessons, they could discuss what they had learned on a more complex level (Spenser, 2017). Teach students to ask questions so that they understand the material at a level that goes beyond mere memorization.

What interest us? How many questions appeared in the lesson outline (scenario)? Which interrogative particles were used in the questions? Was the question supposed to support the student’s statement? Was the question a concluding question?

Figure 5 presents different question particles and their frequency of occurrence among the total of 286 questions.

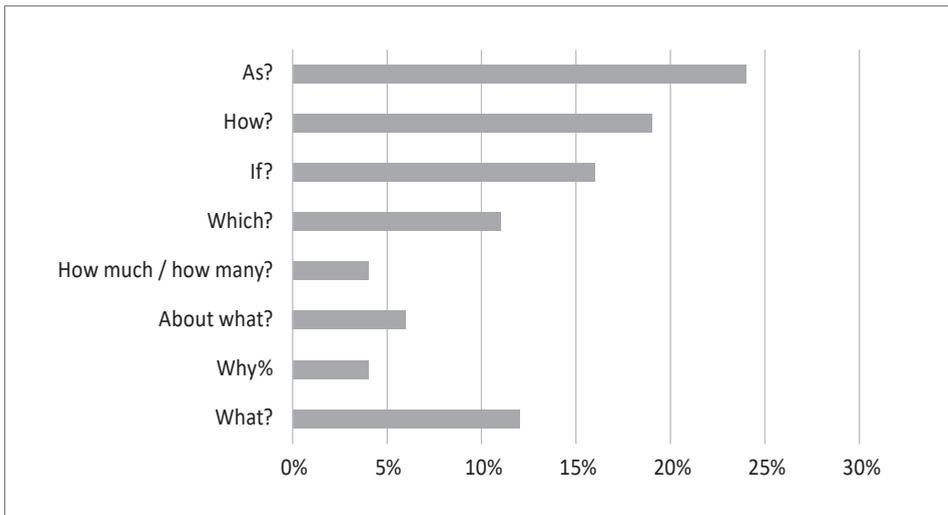


Figure 5. Frequency of occurrence of question particles

Some selected questions are presented in Table 2 below; in particular, those whose question particle changes in the English translation.

Table 2. Chosen examples of questions.

The interrogative particle used in the question	Chosen examples
As? (on the graph)	What would be the result of the task if / what will be your first step / what was the result / what feature decides / how can this be done?
How?	How can this be solved / How often does this happen / How else can it be done?
If? (on the graph)	Do you know any other examples / do you know any other ways to get this substance / whether you really can use this substance / is that a good example / has anyone already solved / is the answer?
What?	What can prevent it / what are you doing now / what changed / what is incomprehensible / what you liked best / what do you see / what do you hear

Although the questions of why the particle only account for 4% of all the questions, it is nice that the questions with the particle 'as' and 'how' appeared in almost half of the total number of questions. These questions provoke thought and develop the ability to apply concepts in unusual situations. Conclusive questions yes or no (16%) were usually used in situations where the university student wanted to end a certain part of the lesson and wanted to move on to the next part.

Prospective teachers asked mainly procedural and factual questions to make sure that they were doing the right thing as expected by the teacher. In our opinion, such a situation does not arouse curiosity or increase interest in the topic of the lesson.

The authors underlined that during lessons some interesting questions appeared that were not included in the lesson scenario: What have you learned by solving this problem? What do you need to solve this problem? What makes you think that way? What will change when...? Or the same statements: It is interesting that you saw it this way... It is interesting that you noticed... The ad hoc questions created by university students (teachers) were not only to sustain the discussion, but also to stimulate critical thinking.

Students want to discuss how to maintain two-way communication, stimulate critical thinking in school students, and use their creativity. However, the lack of face-to-face interaction with the student as a teacher and the increased response time to answer questions can be challenges for online learners and teachers (Adnan, 2020).

Chin (2004) proposed: Teaching students categories of question types can make them aware that different types of questions elicit different thinking processes that help build answers in different ways, which can lead to insight.

4. Recapitulation

The summary part of the lesson is needed. The lesson must be recapitulated to consolidate the new knowledge taught to the students in their minds. Here, the teacher will recapitulate the lesson by giving a task and asking some questions to the students. Recapitulation exercise should be done so that whatever has been taught to the students until now can be retained in their brains. These tasks bring attention in the class, give motivation to students, helps understand the student limitation, helps the teacher to know in which part student could not understand or what teacher has to teach again, helps to start new topic by relating their previous knowledge or recall the previous knowledge.

The total number of tasks during the recapitulation part was N=36%. 25% of the tasks represented closed tasks in a form: true or false, but the rest are open tasks. Figure 6 shows different forms of tasks and their frequency of occurrence.

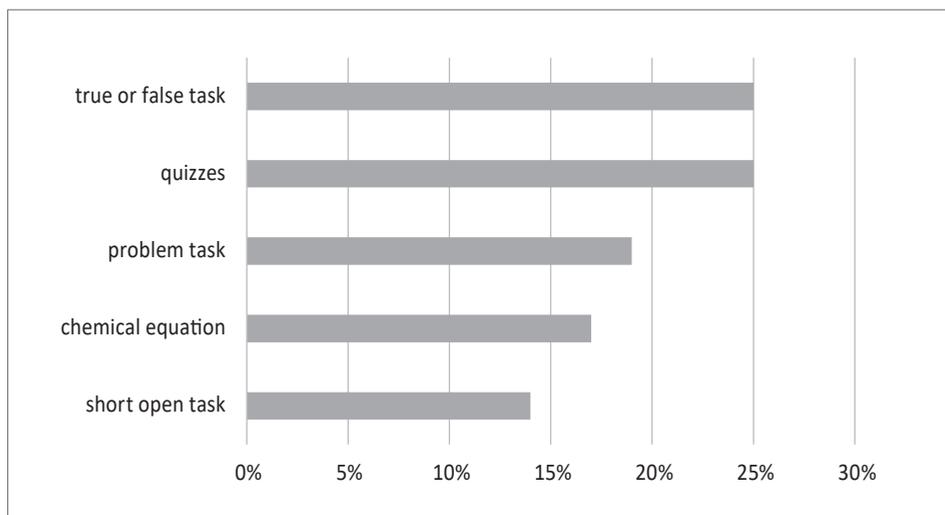


Figure 6. Frequency of occurrence of different forms of tasks

In the case of online learning, the use of gamification elements can maintain the student's attention and concentration, as well as for the purpose of explaining, organizing, and clarifying. Usually a few minutes are allowed for recapitulation; hence, the choice of true or false tasks seems very reasonable. Recapitulation must be based on simple and concrete questions to quickly assess the understanding of the most important concepts. When analyzing the results, it can be seen that the students used types of tasks that can be successfully completed and discussed during online lessons. If they proposed open tasks, the tasks were concrete and short.

Among the total number of questions that appeared in 30 analysed lesson scenarios, 9% of the tasks were used during recapitulation. There was no question why; most were questions with a particle which. This fact can be an indicator of a good use of time for recapitulation.

5. Homework

The last but very important part of the lesson is homework. Home assignments should be given to students related to that lesson. Why do homework? Cooper, Robinson, and Patall (2006) wrote homework teaches students to work independently. Homework teaches students the importance of planning, staying organized, and taking action. Moreover, a well-designed homework task can strengthen classroom learning by posing challenges to the student, who will thus gain better understanding of the essence of the matter and further develop their ability to apply theoretically gained knowledge in practice (Marković, Randjelović and Trivi, 2010).

Many university students prepared their own tasks for homework; only 34% of the tasks were taken from the workbook. In most cases (92%) tasks were open tasks: not only, for example, write chemical formula, write specific physical-chemical

properties, solve calculating tasks, but also tasks that require critical thinking and deep understanding of the topic. Explain this situation, analyse this situation, compare, design an experiment allowing, write an explanation of your choice, here are some example commands for tasks. The use of open tasks for homework is justified – school students have much more time to think about the problem and find a solution. However, open-ended tasks show the teacher how students cope with the application of the acquired knowledge in the lesson. Open-ended questions create a habit of thinking, and questions must be individualized according to the students' abilities, from simple to complex. The closed tasks used represented two forms: true or false and matching (Boyd, 2012).

Task commands were analyzed in the context of the taxonomy of Niemierko's learning goals (Niemierko, 1999). Niemierko recommended four levels for learning objectives: A, memorizing information; B, understanding information; C, applying issues in typical situations; D, applying issues in new or problem situations. The results are presented in Figure 7.

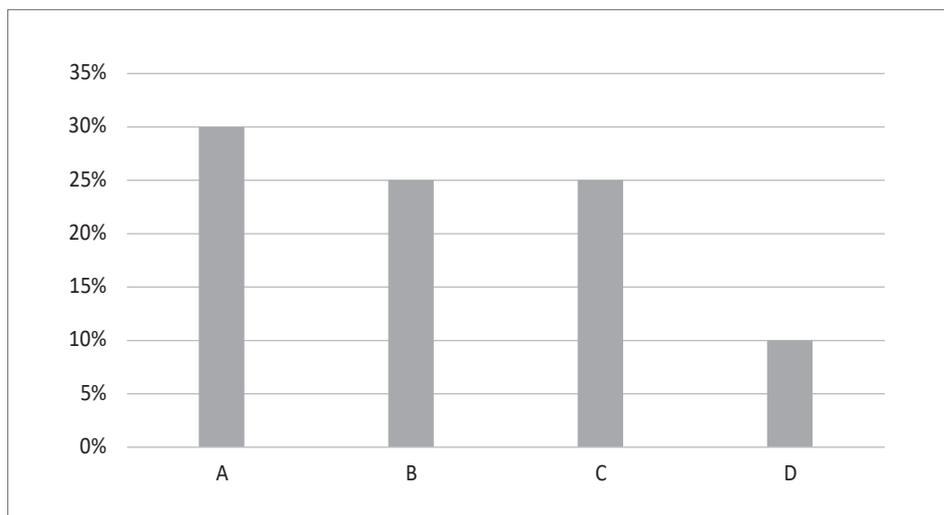


Figure 7. Frequency of occurrence of commands tasks in the taxonomy of learning objectives

The results obtained clearly underline the importance of testing reasoning skills and using the acquired knowledge in various situations.

Conclusions

It is obvious that teaching an online class is different from teaching in reality. The lack of face-to-face interaction with students and teachers, increased response time for engagement, time for answering questions, time for solving problems can be challenges for young teachers (Adnan, 2020). The conduct of online lessons was

a surprise for the students; no one was prepared for this. Students had to create their own online work model based on self-reflection, developed intuitively and often using the trial and error method. How to start cognitive processes? How do we involve the student in the lesson? These questions have completely different meanings in distance learning.

The main objective of this study was to recognize difficulties in planning and conducting a chemistry lesson at school and to recognize areas requiring support in the next part of the pre-service teachers training. Issues that require support include developing the ability to ask questions, construct both low-order and higher-order questions, formulate interesting lesson themes, learn new forms of engaging students, and recapitulating (Brown, 2021). Perhaps because school practice took place remotely, the students could not fully demonstrate their skills. It is also important to use new ways of communication and new ways of distribution of knowledge. All these activities should be carried out in a conscious manner. Important for improving the effectiveness of education is also that future teachers are aware of the many blocking factors for learning.

Additional information:

The analysis of the lesson plans was carried out by Agata Augustynovič as part of the distance internship at the Faculty of Chemistry Jagiellonian University in Kraków.

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Appendix No. 1.

An exemplary lesson plan form (outline/scenario) with some comments

1. General Information

- a) The lesson theme
- b) Chemistry program carried out in school
- c) Level (primary, secondary)
- d) Type of lesson (current, revision)
- e) Time allocated to the implementation of the material contained in the outline

2. Objectives:

- a) Teaching and educational activities (we pay attention to the remaining messages from previous teaching levels, we correlate with other school subjects, and cross-curricular skills, key competencies)
 - Introducing students to...
 - Developing skills (performing experiments, making observations, drawing conclusions, etc...)
 - Introducing students to the new method of work...
 - Developing the ability to work in groups...
 - Awareness of dangers, dangers, etc.
- b) Operational – specifically what a student should know after a given lesson; written with measurable verbs, containing all the material of the lesson; some can be done in the form of homework

3. Teaching Methods:

- a) Verbal:
 - Stating: talk, story, lecture, description
 - Searching for discussion, working with the text, case method, role method, calculation exercises, didactic games, etc.
- b) Viewing: demonstrations (of experiments, charts, models, transparencies, multimedia presentations, didactic films, visiting museums, etc.)
- c) Practical: independent experimental work of students, modeling (models of molecules building)

4. Teaching Aids: All things/materials students need to conduct the lesson

5. The course of the lesson:

- a) **Related part**
 - Treated as a reminder of the issues (e.g. homework control, questions to the student, tasks for a piece of paper)
- b) **The main part**
 - Introduction to the topic, which makes students interested in the topic (element of the 5E model)
 - The course of the lessons
 - proper selection of the quantity and quality of the material;
 - logical order;
 - description of teacher and student activities (teaching methods/teaching principles)
 - a marked note (i.e. you know from the outline what the student will have in the notebook after the lesson)
 - correctly described chemical experiments;
 - all teaching material (e.g. properties, definitions, applications, written equations, solved tasks, etc.)
- c) **Summary (recapitulation)**
 - summarizing and organizing the most important content from a given lesson;
 - check the achievement of goals;
 - variety of forms, e.g., rebus, logograph, tasks in the student's worksheet,
- d) **Homework**
 - the entire content of the task with a solution and a short justification of the goal.

What if... – planning and implementing lesson scenarios during online school practise

Abstract

Active participation in school practice is a solid foundation for future teaching. A case study was used in which 15 preservice chemistry teachers from Jagiellonian University were involved. The purpose of this study was to find some difficulties in planning and conducting

a chemistry lesson at school and to recognize areas requiring support and further development. Formal documents – lesson scenarios were used to obtain the quantitative data.

Based on these scenarios, students conducted virtually their own lessons at school. The results revealed that the understanding of some elements of PCK-topic specific knowledge and PCK-pedagogical knowledge was poor; it should be developed and completed during the next courses of pre-service teachers training.

Key words: chemistry education, school practise, lesson scenario, online lesson

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Depression as a consequence of applying a “hard” model of raising based on stereotyping in contemporary society

Introduction

Nowadays, social self-awareness is increasing in mental health issues. Until a few decades ago, this aspect was neglected by the majority of society. Today, knowledge in this field is changing, which is related to the development of sciences in the field of psychology, neurobiology and medicine, among others. Particular attention should be paid to one of the diseases which is depression. Due to the increasingly frequent scope of its diagnosis in recent years, it is called the disease of the 21st century. There is an interesting aspect in society regarding men and their prevalence of depression. Based on stereotypes and the resulting pattern of masculinity, men are considered to be people who are not, or should not be, exposed to this type of disease. As a result, male depression is socially ignored and considered taboo in some cultures. However, recent research shows that men are equally at risk of depression and represent a significant proportion of diagnosed sufferers worldwide. In the article, the author will refer in particular to the stereotype regarding the mental health of men and their tendency to depression. It is a particularly important mental illness in the social dimension, due to its dynamic spread and the increased number of diagnoses. The article aims to identify and emphasize depression as a particularly dangerous disease that affects men, contrary to popular stereotypes. The author in the article will analyze the actual state of depression among men based on the scientific literature on this issue, and will also indicate the factors that may lead to the occurrence of this disease. In the further part of the article, the author will analyze the phenomenon of stereotyping the occurrence of mental illnesses in men, with particular emphasis on depression, and the actual state of the disease, based on the literature and scientific research. The author will also analyze the factors influencing the occurrence of depression among men, basing on selected models of raising.

Stereotypical child raising based on “suppression of emotions”

In search of the best options and methods of raising our children, we use various guides, books and lectures that can help us in this process. There are many raising methods that postulate the emergence of specific behaviors of children in specific age groups. Scientists, people specializing in raising children, create newer and more sophisticated methods, based on new research results in the field of such sciences as pedagogy, psychology, sociology and many others. Despite the aforementioned achievements and modern methods, it still seems that it is quite common to use one method of raising, which, despite the passage of time, is still present in the process of raising, especially boys. It is about the so-called “hard” raising. It is difficult to find the exact source of this approach in society, but we can try to answer the question: Why is this method still so common? Many researchers see the causes in the turbulent and at the same time tragic events in the 20th century. Not only the events of the first half of the 20th century – World War I and II, but also the post-war period, when a totalitarian regime was in force in Poland and other countries of the Eastern Bloc. The constant threat, the inability to make independent decisions, and finally the declaration of martial law in the early 1980s, created a social need to be ready for new, inevitable threats. For this reason, some parents made efforts to raise their children so that they were ready to fight, in defense not only of their lives but also of their country. And this is what the ‘hard’ raising method is best suited to. People who remember that time were brought up in a similar way, which makes them almost automatically apply this method to their own children. They come from the assumption handed down from generation to generation; if I was brought up in this way and I am, in my own opinion, a person who can constitute an authority for our child, then this is the correct and appropriate method of education. In this matter, however, it does not take into account, and even denies, what the development of sciences in the field of pedagogy, psychology, sociology or neurodidactics has changed in the perception of raising children. Before deciding to raise children with an appropriate system or method, parents should read and consider not only what benefits will bring, but also what risks it can lead to. This is especially important when it comes to the “hard” method of raising, which carries risks for the child and creates the basis for problems that may worsen in his adult life (Cochran; Rabinowitz, 2003).

However, in order to better understand the problems and threats resulting from the use of the “hard” method of raising, it is necessary to precisely define on what grounds it is based and what are its main purposes. The purpose of this method of education is to shape a man with certain characteristics, teach him the appropriate behavior and way of thinking, so that he becomes someone described as a “real” man (Genuchi; Mitsunaga, 2015). True in the sense of the people who are raising him. There is no room for variety here, and a man should have specific features. If he does not have them, then he is not a man. This lack of diversity in the image

of masculinity is passed down to the child. This image builds in the mind of the child the initial and immediately deep social divisions. On the group of “real” men which he is represent and on the rest who have different characteristics or values. The child begins to divide society by differentiating between men. This division can lead to the deepening of the set boundary, emphasizing the differences and the belief that there is only one correct model of masculinity. A man should be strong, not only physically but also mentally. Moreover, it should be characterized by such features as independence, self-control and rational thinking in crisis situations. He should not feel fear of anything, because fear or anxiety is considered a sign of weakness. A man should also be predisposed to engage in extremely risky behaviors. In today’s world, these behaviors are often unnecessary, but rather have the character of proving that a person does not feel fear. Men brought up in this way often draw clear boundaries between the sexes and try to emphasize and deepen them. It emanates male features, and avoids anything that is associated, according to him, with female features (Napierała, 2020).

Parents raise boys to believe that they cannot show emotions because this is not a trait of a “real” man. It is a sign of weakness or awkwardness in a man. The model assumes that the child should not reveal his emotions, he should suppress them. When a child comes to their parents sad because something has gone wrong in their lives, the parents’ answer is to say that they should stop crying. They are telling the same child that his emotions are bad at that moment and he shouldn’t repeat them, he shouldn’t feel them. In the next, similar situations, the child will no longer cry and show emotions, which the parents may be happy about this because they managed to meet one of the assumed parenting goals: they made their child stop showing his emotions. However, in this situation the child makes a key change from the perspective of raising, he does not eliminate his emotions, as assumed by the model of raising, but will start to suppress them. It will stop manifesting them, which does not mean that these emotions will disappear, they will still remain in this person (Maślowski, 2021).

One more thing will also change at the moment that will affect the whole relational life of the child. When a child comes to a parent in great sorrow, he naturally wants to be comforted, to ease the pain he is experiencing at the moment. By his reaction, the parent makes you understand that the emotions you feel are wrong. Thus, the child analyzes this situation and draws the conclusion that the parent does not support him in this difficult situation, that he cannot count on his support in crisis situations. In the first years of its life, a child relies only on its caregiver and when there is an appropriate response in a crisis situation, the need for security is satisfied. But meeting this need by parents is only possible if the caregiver responds to the emotional needs of the child. In the first years of his life, a child sometimes even non-verbally shows us the need to be cared for. He does it by crying, stretching out his hands, running up and hugging the parent, holding his hand or maintaining eye contact (Lenkiewicz, 2022). The child, not getting what it needs, automatically

locks it. It limits the establishment of intimate social relationships. because he is convinced that no one will understand his feelings and will not be able to help him (Czarnecka, 2021).

The method of “hard” raising a child as a cause of depression

The described model of raising shows how harmful it can be for a child on many levels of his life. As an adult, he may not be able to share his emotions, understand them and define them. There are also relational problems, problems with making closer friendships and a sense of trust in other people. The replaced factors may influence the occurrence of mental illnesses in a given person, especially depression (Flynn, Hollenstein, Mackey, 2010). An interesting aspect is that the spread of depression among men and women differs. Not only in terms of frequency, but also in terms of symptoms, their severity, and the treatment process and effectiveness.

Research on depression among men was not initiated until the end of the 20th century, which makes it a little known topic. One of the first studies that began to show a significant differentiation in the incidence and course of depression between women and men was carried out in the 1980s in Sweden. One of the country's islands has experienced rapid and negative social changes, including an increase in unemployment and migration, as well as a decline in living standards. These variables have caused behavioral changes in society, increased sales of sedatives, psychiatric hospitalizations, and increased trial frequency suicidal. Due to social changes, the Swedish Committee for the Prevention and Treatment of Depression, PTD created special programs that were to diagnose and treat depression in advance. The ongoing programs turned out to be a great success as the number of suicides decreased in the course of their duration. Eventually, the programs were discontinued, resulting in a resumption of increased suicide rates. The suicide data was later compared in three time intervals: before, during and after the programs were implemented, but the research group was divided according to gender. It turned out that only women were affected by the decreased suicide rate during the program. The male suicide rate was the same in all three time periods. The reason for these differences was due to the fact that a significant proportion of men did not use specialized programs. The programs were resumed in the 1990s and indicated the same frequency of their use in terms of gender as the previous ones (Chodkiewicz, 2016).

Studies show that depression in men is much more difficult to diagnose and cure than in women. Research conducted in Sweden showed that men, being depressed, attempt suicide 3 to 4 times more often than women. Men exhibit depression in a different way than women. In women, the most common depressive symptoms are: depressed mood, headaches, constant pessimism, feelings of guilt and resignation, problems with concentration (National Institute of Mental Health, 2009). Different symptoms were observed in studies conducted among depressed men. Among men, there may be highly aggressive behavior, very often it occurs towards the closest

people. In the early stages, they may not necessarily be perceived by other people, but may take the form of hidden actions. These may be activities that are intended to evoke negative emotions in another person in the initial phase. At this point, the depressed person loses his negative emotions and temporarily improves his mood. At the same time, it is one of the symptoms that which leads to the second important condition among men suffering from depression, namely interpersonal conflicts. In addition, you can often observe narcissistic behavior, as well as resorting to substitute measures that are supposed to bring temporary relief and make them forget about their problems. The most common of these substances are various stimulants, usually alcohol, but there are also drugs (Rabinowitz; Cochran, 2008). Depressed men often engage in risky behaviors, such as fast driving or practicing highly extreme sports.

The spectrum of causes of depression among men is very wide, but loneliness, divorce or professional problems are the most frequently indicated. It seems that the reason may also be fulfilling a multitude of social roles at the same time. In the stereotypical family model, it is the man who is to be her "head" on which she relies on many aspects of her life. Among other things, men should have to earn enough to secure family financially. Still a very popular view is that men should earn more than women. Such a view forces men to set specific requirements towards themselves, and when they are unable to fulfill them, they become frustrated and, as a result, reduce their self-esteem as a man.

Increasingly, research recognizes another cause of depression in men, which is the time before and after the partner gives birth to a child. Although there is not much research on this topic, this problem affects nearly 10% of fathers from the first trimester of their partner's pregnancy to the year after childbirth. The highest rate of depression in women in the perinatal period occurs up to three months after childbirth, while in men this time is shifted and occurs from 3 to 6 months after childbirth. Studies show that this time is not accidental, because if a woman develops depression in the first three months, the chances of developing this disease in her partner increase by about 50% (Sokół-Szawłowska, 2020). Among the factors influencing the occurrence of depression in this situation, studies indicate, among others, reduced or disappearance of sexual life. Men who become fathers for the first time are much more likely to suffer from perinatal depression, often fear that they are not prepared to fulfill their new role and doubt their abilities. Men who have experienced depression in their lifetime are at greater risk. Another extremely important aspect that causes depression among men is the relationship with the partner. Often, when a woman gives birth, she pays full attention to the baby and less attention to her partner. This can educate the partner to feel ignored and sometimes even rejected. There is also an increase in the amount of time devoted to the baby during the postpartum period, which also includes activities during the night hours, which can reduce work efficiency, which can increase the level of frustration caused by the new role of fatherhood. In the postpartum period, there are rapid

changes that force a change in existing habits, behavior and lifestyle. The added fatigue of a newborn that requires attention may, in extreme cases, lead to symptoms of aggression (Ochwat, 2019)

Men in the stereotypical model of masculinity want to participate and solve all problems related to family and professional life. Due to the tendency to suppress emotions, they do not share their problems, which also results in the fact that they are unable to ask anyone for help in a crisis situation. Each challenge is accompanied by a high level of stress caused by the necessity to go beyond the standard framework of conduct. This is associated with leaving their safety zone and facing the problem, the natural reaction is stress, which is to mobilize to do the task. However, if men will have the goal of solving all problems and doing them without the help of others, they will remain under severe stress on their own (Kaczmarzyk, 2020).

More recent studies on depression and the gender gap in its prevalence today report different results than those obtained in Sweden in the 1980s and 1990s. In 2019, a report by the World Health Organization was published on the number of suicides in European Union countries. The female suicide rate in Poland was 3,4 per 100.000 people. The surprising data concern the suicide rate among Polish men, as it is 23,9 per 100.000 people. The organization publishing the report also indicated that in highly developed and developing countries, men are three times more likely to commit suicide than women (World Health Organization, 2021).

An important and one of the most important differences between women and men in a state of depression is the willingness to seek help or specialist support. Men are much less likely than women to admit that they are depressed. Men do not admit this thought and hide their condition from others. That is why noticing and diagnosing the occurrence of this disease is difficult, not only by the closest people, but also by general practitioners. Men very rarely due to mental problems compared to women who diagnose their emotional state more often and do not want to hide it before others.

In 2012, numerous interviews were conducted with men who made suicide attempts. They were asked how they felt before taking such a step. Before making the decision to take their own life, the men admitted that they experienced prolonged suffering and mental pain for a long time. Similar symptoms also occur among women who attempt suicide. But the main difference in this study was that men, at all costs, did not make it known. They tried not to tell anyone about it, concealed their true feelings and masked them with outbursts of anger or aggression (Napierała, 2020).

Summary

Depression is a disease that is diagnosed more and more often in today's world. It is estimated that currently around 350 million people suffer from it worldwide, of which 1.5 million in Poland. Year by year data are more and more disturbing, and

the incidence rate is increasing by about 15% during the year. The last two years, the time of the pandemic, when the number of depression incidence rates have increased significantly, negative impact and the effects of this period of time will be felt by the society in this regard for many years to come.

The discussed cases, interviews and statistical data show how serious and real a threat is depression among men. This problem shouldn't be taboo. On the contrary, it should be a topic that society talks about, and education in this area is also essential. Increased knowledge can help you better capture symptoms that may indicate this disease. This will help men understand and accept that they are not immune to depression and that they are at high risk in some situations.

The basic methods that will help us determine whether a person may have depressive symptoms is, first of all, talking to them. Maintaining good relationships based on trust and empathy. Listening carefully to the other person, inquiring when in doubt, and making sure we understand what is communicated appropriately. Because it is precisely creating and maintaining relationships that is the basic and one of the most important methods that can prevent the emergence of a depressive illness (Wilhelm, 2009). Close relationships with another person make us able to meet one of the basic needs of every human being, which is security. Showing concern and warm towards men can break a key barrier in their lives, especially if they were raised according to a "hard" method, namely forbidding them from talking about their feelings, emotional states, what they do not like or what they are afraid. Men should take care of their mental health, should treat each other with respect and be understanding for themselves when something goes wrong in their life. In this aspect, it is also important to rest, find time for yourself, to realize your hobbies. When we are very exhausted, we lack patience and find it difficult to maintain good relationships with other people. Austrian psychiatrist Viktor Frankl introduced the term dereflexia in the second half of the 20th century, paying attention to other factors of life while being depressed. It is a method of creating an environment in which a person engages in activities that benefit others. Frankl based on his research, he proved that such a method has better emotional effects for this person than if it worked for the benefit of itself (Frankl, 2019).

Based on the above data, an important conclusion can be drawn: men are also at risk of developing depression. This is a real threat for them, which, according to statistics, is getting stronger day by day. In order to help men in a better and more complete way, we should break the taboo related to the topic of depression. Let's talk about it and extended our knowledge in this field, because only in this way can we help each other.

However, in order for men to be aware of the real danger of depression, they need to know what they are feeling. They should understand their emotions and that the occurrence of specific feelings in a given situation is natural for every human being. For this to be possible, they cannot suppress their emotions and deny their existence. As a result of being raised up according to the "hard" model in childhood,

they will not be able to define their emotional states in adulthood. It can be seen that already in the childhood stage, parents are authority and have an undefined influence on the possibility of developing mental illnesses in their own children, such as, for example, depression.

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Depression as a consequence of applying a “hard” model of raising based on stereotyping in contemporary society

Abstract

With the passage of time, with the changes taking place in the modern world, with the expansion of knowledge, technological advances, and rapid social changes, our society must make the right choices. We have to adapt to the requirements of the new times and new technologies, but we must also pay attention to the threats arising from the above-mentioned factors. As a result, we should modify our behavior on an ongoing basis and not trust stereotypes uncritically. Reproduced stereotypes are not verified, they structure themselves in society and influence the perception of specific areas of life. I suggest paying attention to the stereotypes about men, because their lives seem to be particularly strongly affected by them.

Key words: “hard” raising, masculinity, depression, relationships, empathy

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Klaudia Węc

Cultural activity of the subject in the perspective of psychoanalytic pedagogy

Introduction

Activation, or activity as a form of representation of subjective action, which has become the leading topic of the conducted deliberations, on the one hand sets the field of obviousness, on the other hand it should arouse reflection allowing to avoid trivialization and at the same time reduction of meaning, or, as Zbigniew Kwieciński says, zeroing the meaning (Kwieciński, 2004).

For this reason, it becomes necessary to explain the difference between understanding what the activity of the subject is in his existence and the activities activating this subject in the space of educational activities embedded in the framework of animation and creation of these activities. Undoubtedly, being an active subject carries as many expectations as fears of the effects of what the subject himself can offer us and what he will want to impose on *the Other*¹ in the area of building relationships – or as we could say with Lacan – in the perspective of generating a desire for *the Other*. The considerations within which I build the discourse proposed here refers to the oscillation between **the assumed sense of the functional perception of activity**, in relation to which the Self (ego) of the subject is entangled in demanding another (similar to us man), **and the (non)sense generated by the system** as a mirage posing the subject to the question of the lack² that he experiences or would like him to experience.

1 In Lacan's terminology, the „other” written with a lowercase letter is an ordinary, subject-like human (familiar) person, and another written with a capital letter is the one that is significant (essential), because it determines the direction of the subject's desire. In this sense, the Other is a function, not a specific person, and is associated with many meanings, referring to something objectively existing in the symbolic sphere outside the subject, but which affects the subject (Węc 2012).

2 In Lacan's concept, the basis for considering the importance of problematizing the issue „becomes the „raison d'être of the subject” – determining the knowledge of the Other's

The cognitive perspective I propose is embedded in the discourse of Lacanian psychoanalysis, which I use as a kind of linguistic and interpretative tool. I find particular significance for pedagogy in Lacan's understanding of the subject and the figure of *the Other*, which allows us to look at the educational process from the perspective of the difference between adaptation to reality, assimilation of reality and construction of this reality. Therefore, using the praxis constituted by psychoanalysis, I recognize that adaptation limits both the development of the subject and his activity also in the process of shaping his individual and social identity. In this sense, the question of the emancipation of the subject, which is a representation of the activity we demand, concerns giving the subject the right to: choice, freedom, worldview, word, sexuality, constructing his own development in the sense that is important to the subject, and of course the right to subjective activity or (un)activity, which I will not call passivity here.

Psychoanalysis is also important because it shows certain dependencies in educational or institutional relationships that result from the individual history of the subject (Lacan, 2015), which may have an impact on the formation of conflicts between these relationships. Of course, I must stipulate that I do not demand that psychoanalysis become a pedagogical method, because its value is to show a specific practice that formulates a comprehensive knowledge about the constitution of the subject and its potential limitations. Therefore, my goal will not be to determine a specific epistemological scheme, but to activate a certain phenomenological sensitivity, which will allow me to look at the subject of the pupil from the perspective of his otherness, presence or subjective relationship towards *the Other*. This is possible because psychoanalysis allows us to approach pedagogical discourse in relation to praxis, which is defined by non-rational forms and forms of activity based on the affective behavior of the subject. From the perspective of cultural value determining thinking about the activity of the subject, we can refer to the thought of Theodor Adorno, who sees in psychoanalysis an opportunity to maintain the "critique of instrumental reason" and to make Freud's theory a tool that triggers self-reflection abolishing the strength and intensity of the mechanisms of enslaving the subject also by rationalizing his activity (Adorno, 1986). Referring to the psychoanalytic interpretation, it can be assumed that different categories of rationality are possible only if they take into account the existing sphere of (in)rationality, which for the

own desire and desire of the Other to place his lack in the emerging difference and to shape his own development strategy towards him, also resistant to the manipulation of the Other. Pedagogy, which willingly reaches for the moral law while claiming the right to establish its own discourse as a potential carrier of „assumed knowledge“, must also address the question of desire, which in its inadequacy reveals the place of lack, present in the subject. The solution to the dilemma caused by the presence of lack and the problem of „coping“ with the Other – shows the paradoxical construction of the interweaving between impossibility and necessity at the same time what becomes a claim to the position of the subject towards his activity and existential passivity (Węc 2015).

subject may be the result of an action resulting from the orders of the *Unconscious*, *Imaginary* or *Real*. And here we are dealing with Lacan's concept of three psychic orders, where the *Imaginary* order is the place of reaching meaning, the *Symbolic* order is the field of ambiguity, and the *Real* is the place of everything that is impossible to conceive.

Another interpretative horizon important for the conducted reflections is the social context of psychoanalysis, which, for example, in Habermas' interpretation allows us to see in psychoanalysis a theory not only concerning the autonomous subject, but sees it from the perspective of a tool leading from ideology and social repression to the freedom of the subject (Habermas, 1999, 2002). This means that where psychoanalysis uses language, Habermas sees interpersonal communication understood as a practical discourse.

What defines meaning for educators concerns the research field, which becomes the speaking of the subject, which thanks to psychoanalysis allows you to better understand yourself and direct your own life. This is also noted by Fromm, who considers psychoanalysis to be an empirical method of revealing the unconscious desires of the subject, hidden under the mask of rationalization, revealing the character and various unconscious motivations of actions pretending to be the truth (Fromm, 1998). Freud's well-known formula *where the id was, there will be the ego* is an indication of the direction of thinking about a man who cares about his own development, a man who understands his own limitations and knows how to abolish these limitations (Freud, 2007). Paraphrasing this metaphor, we get a statement where the affect was, there will be activity, because Freud's belief in reason, by means of which the Unconscious can reveal itself in the conscious, and what was irrational becomes an instrument of human liberation. Ultimately, this principle leads to the formulation of a new dimension of truth and freedom of man, who knows himself in a new way – rejecting the certainty of his own consciousness.

The ontological status of the subject in relation to the cultural determination of meaningful activity

Returning to the plane of pedagogical discourse inspired by the psychoanalytic understanding of the subject and the figure of the Other in their mutual relationship – it becomes necessary to resolve the conflict between the emancipatory interest of the subject and the instrumental reason dominant in the educational space of the functioning of this subject.

In this sense, from the perspective of ontological, epistemological but also functional assumptions generated by the assumed knowledge of the subject and the expectation of *the Other* – the game is about the way of constructing the system of upbringing as a place of Heidegger's being-in-dawn (*Dasein*) (Heidegger, 1995) activating the desire of the subject in relation to *the Other*.

At the opposite pole, we are dealing with the generation of an action consistent with the assumptions of the system or the expectations of some other – to which the subject is obliged to adapt. Not without significance here is also the issue of thinking about the identity of the subject who, due to the dynamics of cultural, philosophical and ideological changes, has acquired a specific status in relation to social expectations and technological progress appropriating the space previously reserved for *the Other*. The dynamics of the changes we are witnessing should trigger a pedagogical reflection on the current perception, as well as the reception of fundamental categories that allow us to understand what identity is today and what is its embedding in the sources of subjectivity. The main problem is the change in the functionality of the mental orders of the *Symbolic, Imaginary and Real*, which Lacan formulated precisely in the aspect of the existence of the subject and its oscillation between activity and (non)activity. Basically, it is about the type of activity of the subject, starting from linguistic activity and ending with activity embedded in looking at the image, which effectively displaces language from the everyday functioning of the subject. The question remains open: are we as educators aware of the consequences behind this change?

The exemplification of these ontological and phenomenological representations is not accidental and is to lead to the emergence of cultural phenomena representing the spectrum of this kind of hermeneutics allowing to take into account the contemporary understanding of man as an entity entangled in technological progress. For this reason, we are faced with the need to reformulate the subjective cognitive interest and to re-verify the role of emancipation not only as an inalienable right, but above all as an obligation of the individual, determining his place in the world and for the world. The main reason determining this necessity results from the fact that *the Other* loses to technological progress appropriating all the activity of the subject. Nor can we underestimate the fact that, despite all these functional differences, we are still dealing with a subject who is invariably entangled in his own family history, existential fears, or individual complexes resulting from inadequacy towards the surrounding reality and uncertain relationships with *the Other* (Węc, 2018). Paradoxically, for our considerations, the problem becomes the external activity of the subject, which – covering the internal activity – does not allow us to perceive his existential rift, which is increasingly destructive for him. Taking into account this interpretative horizon, it becomes necessary to answer the question: will organizing at all costs the activity of a child or a young person exclude spontaneous internal activity necessary for the balanced development of the subject? As educators and educators, we also face this dilemma: how can we avoid making activity an ideology?

Between the activity of the subject and the action of *the Other*

The adopted cognitive perspective also introduces a tension between the idea of education understood as the coexistence of *the Other* (educator) with the subject (pupil) and the action triggered by another (man (not) significant for the subject)

appropriating education for the purpose of adaptation to some system subordinated to the structure determined by the ideological or programmatic framework desired at the moment³. In this sense, this choice extends between activating the desire of the subject and generating its demand for another fulfilling the promise of structural effectiveness of the system giving the subject some profits. Meanwhile, the affirmative goal for *the Other* (educator) can be the realization of the imperative that gives the subject the right to freedom and independence, but only by appealing to his existential responsibility – of course as a form of subjective activation through *the Other*. The essence of the matter lies in the fact that the assumed knowledge of *the Other* postulated here, triggering the desire of the subject, will trigger an action that we can identify with the pedagogically expected activity. The point is that the pedagogical discourse rooted in the language of Lacan's psychoanalysis introduces the pursuit of a situation in which the teacher (as *the Other*) becomes the assumed subject of knowledge, to which the desire of the pupil (subject) is directed as a result of launching the analytical process of transfer. In this sense, we are also faced with the dilemma that any assumed knowledge" is not able to fulfill human existence due to the fact that the reality "assumed" by it, as well as the "assumed" subject of knowledge, are entangled in a game where the first violin belongs to *the Self*. What seems to be the most important concerns the presence of the subject as an assumed object of educational interactions. The subject assumed in this way (formatted and expected) is either an organism striving for homeostasis promoted by humanistic trends called naïve by Lech Witkowski, or a "regulatory structure" that is affected by external stimuli that are influenced by external stimuli conditioned by behavioral social engineering. The pedagogical directions listed here presuppose the existence of a subject ready for self-realization by updating oneself and for the authentic experience of one's own growth and development. This expectation is one of the directions of building relationships in education constituting the question: Is the desire of the subject to be directed to the teacher as the Other, or to the knowledge of which he is a representative? The problem is when the teacher for any reason finds himself outside the knowledge, representing only a systemic interest (e.g. by verifying the effect of education) or a strictly defined cultural order determined by an ideologically determined worldview excluding otherness. The activation of psychoanalytical competences of teachers in the field of the phenomenon of building the transfer process will enable the creation of a new type of interpersonal relationships of an educational nature, enabling the introduction of clinical categories for pedagogy, which show a different plane of influence contained in the space of intersubjectivity. (Węc, 2012: 16).

3 Of course, we can argue about the understanding of education in the context of the axiological understanding of educational action, or the universal conceptual category adopted in pedagogy. The key item that explains this oscillation to us in the perspective of cognition and action (as a practice) is Dorota Klus-Stańska's book *Paradigms of Didactics*. (Klus-Stańska 2018).

Meanwhile, at the other pole of pedagogical thinking, instrumental educational goals are generated, subordinated to the expectation of the subject's activity by searching for ways for the subject to take action in response to the proposal of another in terms of systemic functionality and usefulness. Undoubtedly, this kind of educational activity leads us to a positivist, albeit seemingly humanistic, pro-social attitude towards the subject, generating the expectation that the meaning of action constitutes the assumed knowledge that is outside the subject and the Other. It is also important that the knowledge we use in this case is determined by the flagship postulates of self-development, self-realization and self-actualization, which inevitably become a manifesto of endless activity for the subject, with which he will not necessarily want to undertake. It also seems that the chance to solve the dilemma resulting from waiting for subjective activity is rather the question of the **subject's passivity and often the resistance of the subject to forms of activity** imposed on him by *others*, which are alien to him or with which he does not want to identify.

Ultimately, the contextuality of the modern world again confronts us with the question of the meaning of education, the role of socialization and our subjective meanings that allow us to see, interpret but also create or adapt the world in which we live. This task does not seem easy, because thanks to what we consider to be subjective freedom and the pluralization and multiplicity of our experiences, the contemporary subject faces dilemmas that at least put him in the embarrassing situation of understanding *the Other* and the choices that he must consequently make. In this context, the choice that the subject must make becomes a fundamental problem. In the perspective of the issues we are interested in, it is a choice between **activity and (non)activity** – not necessarily meaning passivity.

However, we must assume that the understanding of what activity is also not unambiguous and depends on whether we are talking about it from the perspective of the subject's action or from the perspective of *the Other's* expectation of the subject. The point is that the postulated and expected activity must concern both the subject and *the Other*, who does not limit his activity to planning, initiating or animating activities outside of his own involvement. In this relationship, *the Other*, as an educator, must also activate the desire for the subject (the pupil) that this relationship may acquire authenticity by constituting the community in one space of coexistence. And in this way *the Other* does not lose his subject, and the subject is at the same time the Other, against whom the one activates the desire. It could be said that from the perspective of psychoanalytic understanding, **it is the most desirable form of activity that activates the subject to act in relation to the Other through the pulsating oscillation of being together-in the world**. What seems significant in the discussions conducted here is the assumption that we are dealing with a certain (significant) questioning of the construction of "modern education", leading to the weakening of fundamental concepts that allow understanding: subject, reason, truth, responsibility, or sovereignty. The tension between discourses on tradition and modernity on such important issues as education, socialization,

education and, of course, activity, which is important from the perspective of our considerations, becomes palpable. In this case, the dispute will concern what forms of activity of the subject are known in the circle of interest of educators. Are they only those that are socially accepted, propagated and induced, or created? Are there also those that we do not accept, that we are ashamed of, that we do not want to undertake, and those that we do not want to notice?

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Cultural activity of the subject in the perspective of psychoanalytic pedagogy

Abstract

The article concerns the interpretation of the subject's activity in the light of Jacques Lacan's psychoanalysis. The main goal is to show the difference between the educational process understood in three cognitive perspectives: as adaptation to reality, assimilation of reality

and construction of reality. The deliberations are conducted in the perspective of emancipatory discourse defining the field of development of the subject along with the right to resist the transmissiveness of culture distorting its identity.

Key words: activity, subject, culture, psychoanalysis, Jacques Lacan

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*John Oversby***Providing the basics for life in humanitarian aid – science education knowledge****Introduction**

Humanitarian aid has some basic requirements, initially to support life, but then to promote good health, including mental health. Different groups may need different levels of humanitarian aid but there are fundamental requirements for survival, leading on to care for a healthy life. These are: shelter; water; food, agricultural crisis, sanitation, medical care, children's aid; and refugee aid.

Shelter

Shelter is one of the most important aspects of humanitarian aid. It is often needed when helping people displaced by events such as natural disasters and war. The UN Refugee Agency (<https://www.unhcr.org/uk/>) is a major distributor of shelters such as tents and plastic sheeting, though their official stance is that they want to avoid camps unless necessary. When creating camps, they have to consider how to keep the environment safe from fires and disease. A major need in conflict areas is the need for shelter from rain, cold weather and excessive sun. In the present Ukrainian war, for example, systematic devastating damage to residential buildings is designed to remove the possibilities for shelter, particularly for civilians. Soldiers are generally younger and fitter than the general population, so humanitarian aid can focus on the more vulnerable, the older and very young people, those with underlying medical conditions, those with acute illnesses, and the wounded. Insulation of buildings in the first place to keep the environment warm is a major concern. However, insulation of individuals, such as wearing appropriate clothing to reduce heat loss, is also very important, not least because those fleeing their home are unlikely to have taken care to pick up the best clothing. This aspect is related to science education of heat flows. Being wet through being exposed to the weather increases heat loss driven by evaporation on the body surface. Clothing that is water repellent rather

than water absorbent can keep the body dry although internal sweating can also cause many problems for survival. Additionally, how heat loss is increased by wind on wet clothes is a feature of evaporation.

Water

It doesn't take people long to get sick or die due to a lack of clean water, two to three days from some estimates (e.g. Medical News Today, 2019). According to a 2019 WHO report, a staggering 1 in 3 people cannot access safe water. Women are the most affected by water crises. They are usually the ones responsible for collecting water for the community, which ends up taking up all their time. This keeps women (and their families) caught in the cycle of poverty. Humanitarian aid includes funds for water systems, filters, and more. This is an example of how meeting an immediate need – safe water – can create better conditions for long-term improvements.

Humans (Medical News Today, 2019) can only survive a short amount of time without water because the body needs it for almost every process, including:

- regulating body temperature through sweating and breathing
- aiding in digestion by forming saliva and breaking down food
- moistening mucous membranes
- helping to balance the pH of the body, especially blood
- lubricating joints and the spinal cord
- helping the brain make and use certain hormones
- helping transport toxins out of the cells
- eliminating waste through the urine and breath
- delivering oxygen throughout the body

Food

Food insecurity is a global issue. Issues like population displacement, climate change, and armed conflict contribute to the problem. In fact, people from conflict-affected countries are three times more likely to suffer from undernourishment. Survival without food and water is unlikely to be more than 3 days, while adequately hydrated fit people can last two to three months without food. None of this data comes from planned experiments, which would be unethical of course, but it comes from famine situations which sadly abound throughout the world.

Evidence from the liberation of concentration camps at the end of The Second World War suggests that grossly undernourished humans cannot immediately be given a normal diet (Daly S, 2020)

“They were put on a rich diet and began to recover and put weight on but then they died suddenly.” – Laurie Pettit

Refeeding syndrome for many centuries was an unknown entity and remained somewhat of a myth until the liberation of the Nazi concentration camps in 1945; it is also possibly the least talked about cause of fatality in the Second World War. Soviet soldiers upon the liberation of WWII camps were met by thousands of men, women and children who had been in a state of medical starvation for months on end. The well-meaning soldiers – met at the gates of the camps by POWs with their ribs and sternum protruding from their bodies and chests and obviously in need of medical care – took food such as biscuits and chocolate bars from their own government-issued ration supplies and gave them to the prisoners, not knowing that it would lead to their almost immediate death. It is estimated that 500 POWs from Auschwitz concentration camp and as many as 14,000 from the Belsen concentration camp – most famously known as the site where Anne Frank’s family died upon capture – died of refeeding syndrome.’

Mehanna *et al.* (2008) note that refeeding can cause serious and often fatal shifts in electrolyte and hormonal balances in malnourished patients. Many syllabuses deal with types of food but I have not seen any inclusion of this information in biology curricula.

Agricultural crisis

Problems with agriculture are closely linked to food insecurity, though aid looks different when it is focused on the farmers themselves. Famines are a big cause of dysfunctionality as well as disruptions due to conflict, and diseases that affect crops. Using a 2010 FAO project in Sri Lanka as an example, humanitarian aid for farmers can include vegetable seed kits, home garden kits, barbed wire, water pumps, and livestock. In the Ukraine, which has historically been a great producer of what and cooking oils, the conflict is damaging agriculture, as much from preventing farmers from looking after their crops, as from crop damage by artillery blasts. The Food and Agricultural Organisation of the United Nations (2021) provides more detail.

Sanitation

Access to safe water and sanitation are closely linked. WASH – which stands for “water, sanitation, and hygiene” is an essential public health issue in the Sustainable Development Goals (European Commission n.d.). According to the WHO report mentioned above, 2 billion people do not have access to basic sanitation. This matters because inadequate sanitation is linked to diseases like intestinal worms and diarrhoeal deaths. Good sanitation systems, toilets, and hygiene education are a few examples of sanitation-focused humanitarian aid. The place of disease is covered in many syllabuses.

Medical care

Medical care includes a wide variety of activities, such as pledging funds, materials, and personnel. The Covid-19 pandemic triggered a wave of promises and programs, such as a \$2 billion coordinated response plan from the UN. The success of humanitarian aid in the face of such a severe emergency remains to be seen. Organisations such as Médecins Sans Frontières provide humanitarian aid in a non-partisan way.

Children's aid

In times of trouble, children are extremely vulnerable. Their human rights are often ignored or outright violated. Because of their lack of influence and power, they need adults to speak up for them. In Yemen, which has been suffering one of the world's worst humanitarian crises for years, almost 2.3 million children younger than 5 are at risk of acute malnutrition. Organizations like UNICEF, the largest children's aid organization, focus on providing children with shelter, meals, medicine, and more. UNICEF provide much more information. Providing this information can give hope rather than hopelessness.

Refugee care

Refugees are vulnerable to just about every humanitarian issue on this list, making them a high priority for aid organizations. The International Rescue Committee has been responding to crises for 80 years. They assist in healthcare, education, and economic well-being. Because women and girls are especially vulnerable, many programs focus on them.

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Providing the basics for life in humanitarian aid – science education knowledge

Abstract

Humanitarian aid is essential to preserve life and maintain healthy living. In this article, I focus on aspects of humanitarian aid and link them to the common features of science education in the secondary school. These features are: shelter; water, food, agricultural crisis, sanitation, medical care, children's aid; and refugee aid. How these essentials for survival link to the science curriculum (11–18 years) is described.

Key words: humanitarian aid, science education, knowledge

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Can VR replace an axe and a hammer? Research of a new methodology of conducting hands-on activities

Teaching to create, whenever possible, is a challenge for any teacher.

Pilar Lacasa

Introduction

A concept to learn by playing video games arouses enthusiasm since the early 70s (Zhen, 2021), which is not surprising at all, considering how efficient such a method can be. Along with the development of new technologies, more and more possibilities to implement modern learning methods occurs. In this article, I would like to show the potential that they carry for both students and teachers. Furthermore, I will emphasize one of the newest phenomena in the game industry – VR – and present a project of implementing an educational survival game prototype for the Oculus headset.¹ A research preceding the implementation process is also depicted in the article. I based the application design on a simple shelter-building scenario that covers one hour of technology classes and, at the time of writing this text, the game was already tested by small a group of Polish students.

Educational potential of video games

The first-ever-made educational video game – *Logo* – was released in the year 1970 and was meant to teach the basics of programming. By typing specific commands, players could move a turtle around the screen and draw shapes, which became more and more complex, as the player keeps progressing. *Logo* remains in use at today's schools.

While coding seems like an obvious subject to teach with games, the scope of matters covered by this method is a lot wider. Let us take a look at what makes games a unique medium. Following P. Lacasa:

¹ The game design is adjusted to the polish educational system and technology curriculum prepared for grade schools.

video games are considered interactive art forms; in this sense, they are going to be different from other media. They are experiences that require activity on the part of participants. We could also refer to the difference between reading about the hero and being the hero. [...] The classroom walls are broken, and work takes place in contexts that are much closer to everyday reality. (Lacasa, 2013, p. 137)

It might seem that anything can be learned, when adopting such an approach. It is true – the wide area of subjects taught with games is documented by many researchers like K. Franceschi, R.M. Lee, S.H. Zankis, and D. Hinds, who conducted a social experiment with the participation of university students (Franceschi, Lee, Zankis, and Hinds, 2009), or the abovementioned Lacasa who organized many workshops for elementary school children (2013).

It is not only a matter of the in-game content corresponding to the curriculum. Above that, the whole process of learning changes as children no longer follow a strict teacher's instruction. They are given the freedom to interact with a game in their own way, make their own decisions, and face the consequences. It boosts students' engagement greatly,² as well as creates conditions much closer to real-life than traditional school exercises.³ Thanks to that, kids learn the value of effort put to complete each activity. As mentioned in *Gamifikacja w edukacji: przegląd wymagań dla platformy gamifikacyjnej*⁴:

In a natural way, video games build the awareness of an awaiting task, possible to complete (adjusted to player's knowledge and skills). According to that, the gamification of the educational process should be supported by implementing such tasks, awarding the effort, and avoiding punishment for failure.⁵ (Wawrzyniak and Marszałkowski, 2015)

Main differences between the classic and modern school

It is worth mentioning that a school environment (buildings, facilities, interior design, etc.) has remained the same since the XIX century and so today's children find it extremely difficult to adapt themselves to it. When the last bell rings, they immediately come back to our current world – the media world. The gap between students and teachers expands, as school is becoming less and less appealing with each following year. In addition to an unfriendly environment, there is a lack of connection between children's interests and the curriculum. As a consequence, a strong disjunction between school life and everyday life arises. All the knowledge and skills

2 According to Engaging Group E-Learning in Virtual Worlds (Franceschi, Lee, Zankis, and Hinds, 2009): "team competitions involving virtual constructions can be so engaging that students start to ignore their other classes".

3 According to *Gamifikacja w edukacji: przegląd wymagań dla platformy gamifikacyjnej* (Wawrzyniak and Marszałkowski, 2015).

4 *Gamification in education: overview of the requirements for a gamification platform.*

5 Author's own translation.

gained in classes are used to pass exams, while the solutions for ordinary problems are found online. Unless teachers start to perceive technology as an educational aid, the issues with reaching students will deepen.

The up-to-date teaching-learning process has crossed the concept of the traditional, omniscient teacher, and developed a model of mutual learning. The aforementioned freedom of interaction in games allows everyone to find their own solutions. This leads to a simple conclusion – no teacher will find them all. Not only an element of surprise occurs during a lesson, but also the student's motivation and self-esteem rise with each new path that they discover.

A classic way of acquiring skills starts with a theoretical explanation and is followed by gradually more demanding exercises. It seems logical, however very often children are left alone with the most difficult ones (so-called homework). It happens because the curriculum scope intended to cover during one class is frequently too wide, and teachers have to rush with an explanation. But sometimes there is no one to explain the subject once again at home, and kids end up not finishing their assignments. This problem does not exist when considering video games or educational applications. Every gamer perfectly knows the feeling of being stuck consequently, the community has developed a few methods of approaching it. Searching for the solution online is probably the easiest way. Many developers implement hints or tutorials available at any needed moment, in which the player can search for the tips themselves. If a kid prefers to keep trying on their own, it is a decision – not a must.

Practical group projects are the most interesting and engaging learning method, but they are also the most time-consuming. For that reason, teachers usually dedicate more than one lesson to accomplish them. It creates a few technical problems for students: to progress with the project they should be identically prepared for each class (i.e., remember to take necessary materials); during manual works, like creating posters, or building mockups, some parts are easily destroyed when they need to be stored in school. Once again, the modern technology could be a perfect solution, considering that:

virtual worlds are persistent in that they continue to exist between the times of users' interactions. This means that the results of a shared endeavor, such as building and furnishing a virtual house, will be there the next time the parties log on. (Franceschi, Lee, Zanakis, and Hinds, 2009)

There is one last difference to mention:

students in virtual learning environments have to be organized and must manage their time in order to succeed [...], while students in the traditional learning environment rely heavily on the instructor for organization and time management, which affects their performance on collaborative tasks. (Franceschi, Lee, Zanakis, and Hinds, 2009)

It seems only logical when we consider once again that the media world is the natural environment for kids.

VR enrichments

I have mentioned that games create conditions closer to real-life than traditional classes. With VR technology this aspect can be raised to a whole new level. Imagine replacing all theory-based lessons with hands-on activities, during which a teacher could concentrate completely on students' work, and would not have to worry about safety issues. To say that such classes will be much more efficient and interesting is indisputable. The blockbuster of this thesis refers to the immersion level experienced by players. While PC and console games raise immersion mainly with addictive gameplay, VR creates it instantly when one enters the virtual world. As J. Guja and A. Żądło state in their recent article's manuscript: *Jak zrobić (VR)ażenie będąc awatarem? W stronę antropologii Virtual Reality: "VR technology aims for integration: the cyberbody is supposed to be «my» body in the truest sense of this word⁶ (2021)". In conjunction with Kolb's experiential learning theory stating that "knowledge results from the combination of grasping and transforming experience (1984)" one could not think of a better solution to bring back the practical exercises to schools.*

Due to the recent outbreak of the Covid-19 pandemic, teachers were forced to adjust their previous methods to e-learning. Many of them have never before conducted online classes, and they are lost as no training was provided by the educational authorities. While foreign teachers explore the potential of the new circumstances,⁷ Polish educators are going out of their way to stick to the familiar methods: a lecture evolved into e-lecture, exercise pdfs replaced exercise books, etc. The situation is identical as a few years ago when new interactable boards were installed in schools – until now, most teachers use them either as a regular board for writing or as a projector screen. Remote learning brings in the most fitting conditions to plan the group projects, though! I already described why and how are virtual worlds better suited for cooperation and practical work than a traditional classroom. Group work in VR however, is not only the closest to a real-life project, not only allows parties to save the progress without the fear of getting parts of it destroyed or lost but above all fulfills the need for social interaction during the lockdown. I will, once again, dish up Guja's and Żądło's contemplation:

we have years of experience in video games and Second Life but contact in VR is a bit different. Although we meet each other as avatars, we perceive the place of meeting as a physical environment. VR engages the body: mirrors our gestures and facial expression in a better or worse way. Our avatars are no longer puppets which we control with pads or mouse – we literally «embody» the cyberskin.⁸ (2021)

6 Author's own translation.

7 The best example is a math lesson conducted in *Half-Life: Alyx*: <https://www.youtube.com/watch?v=R3g9jrjOZs>

8 Author's own translation.

As humans, we intuitively feel that such embodiment is way more profitable as a learning experience than a classic, “book-reading” approach. But why? According to Brown’s studies (2011) integrating the visual, audience and kinetic senses lead to a better learning process. The same conclusion drew M. Tadayon and R. Afhami from their research on doodling⁹ (2016). Blending more senses brings positive effects due to activation of both brain hemispheres. In *Brain-Based Teaching: Does It Really Work?* (2012) C.F. Calhoun provides a detailed description of a method called *whole brain teaching* and mentions a lot of researches conducted on the subject but the overall conclusion is very simple: the more parts of the brain are active, the more efficient the learning process becomes.

Another asset of applying VR as an educational aid is a matter of the necessary storing space. It is most safe to keep the headsets in their original boxes whose dimensions, for Quest 2, equal to 43×20×13 cm. What it means in practice is that to store 25 VRs, a space of less than 0,3 m³ is needed so basically, one cupboard can contain a set of comprehensive, modern tools for the whole class.

VR drawbacks

Despite all the advantages discussed in the previous paragraphs, certain VR limitations have to be mentioned, especially when considering elementary education. Though it might seem like the first counter-argument for the presented learning method should be the headset price, those became fairly affordable recently: at the time of writing this article, the standalone Oculus Quest 2 can be bought for 330€. Even when the Quest’s price is multiplied by the average number of students per class (roughly 25), the costs of providing a school with headsets is approximately half the budget needed to build and furnish a basal technical workshop, and almost three times lower when considering adding the modern equipment¹⁰ (i.e., 3D printers) (Papież, 2020).

Considerable space is required for the play itself. However, an area spacious enough to provide comfortable conditions for the whole class to use VR already exists at schools and is called a gymnasium. Since Oculus Quest 2 is a standalone headset, gyms can be very easily adapted for its usage. On the other hand, carrying out such adaptation before each class may be too time-consuming so school authorities should consider assigning a specific person responsible for it. A timing issue is not only setting up the headset but also the children’s pace of putting it on (especially during the first usage). Most probably, half of the initial VR lesson

9 Unconscious drawing of patterns and shapes.

10 According to B. Papież’s engineering thesis *Modern school technical lab* (2020), the cost of workshop equipment with sartorial and heavy treatment tools amounts to a bit more than 16 000€. As an additional aids Papież lists a 3D printer, a milling plotter, six Arduinos, six sets of LEGO MINDSTORMS EV3, and a specialistic software that raise the price to over 22 000€.

should be a free-play, dedicated to letting the students familiarize themselves with the equipment, to speed up the process during following classes. Likewise, time to save the progress and take the set off at the end of each lesson should be calculated in the teacher's plan.

Another issue is the headsets' weight – those might be too heavy for the youngest or smallest kids to use. It might come as an obstacle because Polish students start technology classes at the age of 9–10.¹¹ Some students may need to buy a special silicone face cover (what is recommended for all pupils due to hygienic matters) that brings the additional cost of 13–20€.

One of the undeniable biggest issues with implementing modern methods in schools is providing proper training for all teachers. Not everyone is familiar (or eager to familiarize himself) with the newest technology, and so the process will surely take time. During my pedagogical internship, I faced many teachers' opinions stating that the longer break from technology kids have, the better for them. One of the educators even elaborated on the prohibition of bringing phones to school as the best idea the authorities could think of. Showing such teachers that today's students live in a different world, will definitely be the greatest challenge of bringing VRs to schools.

Besides all mentioned problems, there are undoubtedly many which I cannot foresee right now. That is why I decided to test my game's prototype on a small group of students, and discuss the situation from their and their teacher's perspective. All drawn conclusions are described at the end of the next article's section.

Project description

The game was developed by two AGH¹² students: Alex Świątkowski, article's author and game designer, and Kamil Szczerbik – Unity and C# developer. The whole project originated with assist of EduVRlab.¹³

Considering the potential and possibilities of virtual technology in the realm of education, we dedicated ourselves to creating a video game which would substitute for traditional technical labs. We initially went through a selection of a proper game genre¹⁴ and, ultimately, have chosen so-called *wilderness survival*, whose core gameplay chiefly consisted of crafting utility items. We aimed to inspire a feeling of 'consciousness' and technological culture in today's children with said culture referring to awareness of how the most basic of tools are built and the way they work.

11 In compliance to the curriculum from the year 2020.

12 AGH Univeristy of Science and Technology in Cracow

13 An interdepartmental research unit working on the AGH's Faculty of Humanities <http://eduvrlab.agh.edu.pl/>

14 The analysis consisted of testing 5 popular survival video games in the realm of implemented mechanics (especially their educational potential) and the range of passed knowledge.

Research Methods

The objectives of the research varied according to the specific stage within the game development. One of the first and most significant goals was to gather information and observations from the user group in regards to their needs and expectations of their currently ongoing technology classes. Acquired information contributed to the creation of the design of *user experience*¹⁵ which met expectations of teachers and students.

Major role was played by three types of research described in detail in following chapters:

- In-depth interviews
- Task-based usability tests
- Focus group interview

In-depth interviews

In the selection of this method, we intended to obtain a meticulous analysis of every subject that arose during the research, and so we settled for a method that enabled our respondents to answer freely within their sphere of knowledge. Research in a form of a discourse facilitated modification and allowed us to adjust questions to every respondent. We also had chances to deepen the conversation, which in turn was pivotal in the completion and expansion of the already obtained information as well as in ascertaining that everybody understood the discussed issue.

Sample group

We applied *nonprobability sampling* to our research and by determining adequate criteria we divided the sample group into three subgroups:

1. Children attending primary school, grades 4–6, who make up the target audience of the application. We conducted 6 interviews with them;
2. Technology teachers, who have been teaching students for at least 5 years. The prototype is designed to help them with the realization of the school curriculum. We conducted 5 interviews with this group.
3. Participants of survival camps, who have the elementary knowledge of survival and possible means of obtaining such knowledge. We conducted interviews with 3 such people.

We arranged a set of 10 questions for each group with the aforementioned objectives in mind and results of our analysis of survival games. The analysis of the data acquired from the interviews served as the basis of answering the question “will the game be an useful educational aid?” Additionally, we acquired information

¹⁵ “The person’s receipt and reactions which are a result of using, or predicted using, of a product, service, or system.” (Mościchowska and Rogoś-Turek, 2015) – author’s own translation.

on key needs and expectations of both students and teachers in the realm of the technology lessons. Moreover, we identified the students' preferences in regards to video games. The following chapter contains the results and interpretation of the data gathered during the interviews.

Description of the research and result analysis

The interviews were conducted by Alex Świątkowski and Kamil Szczerbik. Due to the form of the research being qualitative, during the analysis of the given answers we mostly focused on emotions (both teachers' and students') related to the currently held technology lessons, brought up subjects, and their usefulness in everyday life. We also mentioned the topic of the conditions prevalent in schools and the effectiveness of applied teaching methods.

To conclude the respondents' answers, we formulated conclusions after conducting every individual interview then we have extracted regularly occurring patterns.

Respondents' Answers

Students

The majority of the children paid attention to the unsatisfactory level of the lessons and the low quantity of useful topics as well as practical projects, what proves the necessity of introducing the new didactic solutions in contemporary schools.

The part of the discussion concerning video games revealed that the students' preferences are equally divided in terms of both single/multiplayer gameplay and the difficulty level: some children prefer challenges while others feel discouraged by them. Everyone proclaimed indifference or outright negativity towards the complex narration. Half of the children noticed unfair randomness of algorithms or events. While listing features of their favorite games the students frequently mentioned the freedom of building and crafting.

Teachers

According to the teachers, most of the students do not exhibit any interest in technology classes, unless when it comes to obtaining the bicycle card.¹⁶ All the interlocutors emphasized the lack of proper conditions to conduct technology lessons, which often take place in the computer room. Because of that (safety reasons), the students do not use such basic tools as power drill, soldering iron, etc. There is also a lack of didactic resources and materials necessary for projects – a situation in which a student or a teacher has to fund the materials occurs on a daily basis. Each and every respondent was aware that the main interests of their student concern

¹⁶ Montessori school being the exception, as their primary purpose is to spark interest in the realm of the subject at hand.

new technologies, yet modern didactic resources such as interactive whiteboards or smartphone applications are used very sporadically throughout the lessons.

Interviews Conclusions

In accordance to the previous chapters, hands-on activities could return to schools thanks to the introduction of the game as a new educational aid. Application of modern technologies would evoke motivation and interest in the subject of the lesson. Additionally, underlining their usefulness in the extracurricular, after school life.

The project

The design of the application was based on the idea of user-centered design – “Consider the user on every step during the creation of your product.” (Garrett, 2010)

On the first stage of the game-design process, I came up with a scenario for a technology lesson during which the pupils got acquainted with the methodology of constructing a wooden log house. While composing the scenario, I purposefully have chosen a topic impossible to carry out in schools, yet still present in the curriculum. The definitive selection of content enabled us to compose a GDD (*Game Design Document*), which is a document incorporating all, design decisions of the project regarding game mechanics, aesthetics, and relevant features. We referenced the document during each following step of building the game, starting from establishing the three, core mechanics: *crafting*, wood cutting, and building.

Tool *crafting* is predominantly inspired by the mechanics used in *The Forest*. It consists in filing in a semi-transparent model with adequate materials.

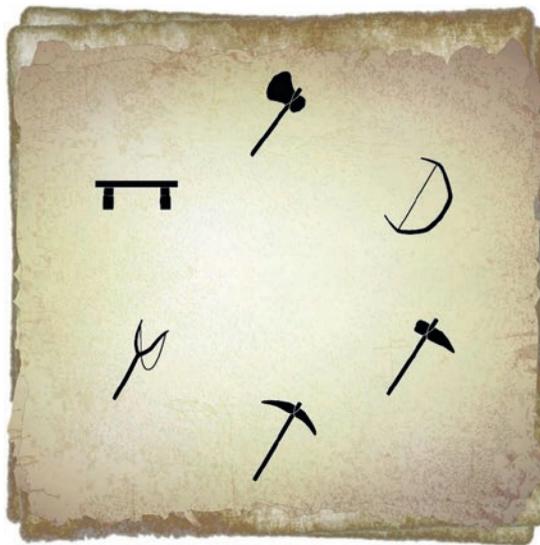


Figure 1. Item-select menu.



Figure 2. Bow – 3D model

Such a choice allows to maintain the game's dynamics whilst familiarizing the player with the elements and materials constituting the necessary tool.

Wood-cutting mechanic was designed from scratch with our focus set on maintaining realism. To imitate the strength needed to ram an axe into a tree, we used previously measured speed at which the tools 'sinks into' the tree model and we assigned an appropriate amount of 'health points' to it, so that a player has to hit the tree a number of times. Thanks to that, the effort put into the action of cutting wood gave extra realism to the whole process, which is very satisfactory within itself.

The implementation of a buildable shelter in the prototype of the game is very linear. Due to time constraints, only one shelter type is available, creation of which starts with assembling of the wall made out of logs and pegs. The construction, then, automatically erects itself on a previously designated location and subsequent walls attach themselves to it immediately after formation. The entire process rendered time-consuming and, as such, not really engaging. Due to that, a new building mechanic shall be one of the first adjustments to the next versions of the game.

When all functionalities had been ready, we added boards with instructions informing players about tools they should use to acquire relevant materials. Apart from the obvious practicality, a tutorial in this form corresponds with teaching methods stating that a student should be able to freely access the theoretical knowledge throughout the whole execution of a given task.



Figure 3. Shelter – 3D model

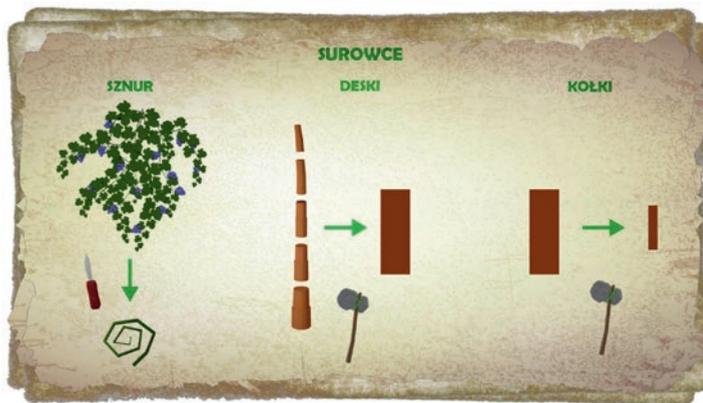


Figure 4. One of the four instruction boards.

Testing the game



Figure 5. A screenprint portraying a scene used in the testing of the prototype.

When the prototype was ready, we checked its educational capabilities by conducting short usability tests with a group of 9 students and their teacher.

Usability tests method revolves around user-based interface testing in accordance with a previously prepared task scenario. A respondent executes a given task while simultaneously sharing their observations with a moderator, who supervises the whole meeting. The sessions are usually recorded but they may also be observed by a different researcher or even a client located in a separate room. [...] Utility tests constitute a perfect manner of comprehension of the way users perceive and use the system. These tests are a source of considerable knowledge related to an interactive product, so necessary in the verification and improvement of possible solutions.¹⁷ (Mościchowska and Rogoś-Turek, 2015)

Such tests are used in checking e.g.: whether or not navigating the interface is troublesome for the users, if the activity of the system (e.g.: loading time) does not disturb the natural flow of interactions, or even whether or not the user is aware what the product is used for and what actions can be taken while using it.

Testing procedures

In order to conduct the testing, we invited the students to the lab. Tester's main objective was to acquire the knowledge of the methodology of constructing a log house. Testing itself was carried out in accordance to the scenario presented below:

1. Introduction of the theory

The introduction consisted of an explanation of the house-building process, review of the use of the VR headset and individual tasks to be performed by students.

¹⁷ Author's own translation.

2. Game tests

- a) The game was tested simultaneously by two people at the same time;
- b) The students started the game with one tool only – a pocket knife;
- c) Each participant had 30 minutes to:
 - i) Prepare a tool using the basic *crafting* mechanic (an axe and a hammer);
 - ii) Get familiarized with the shelter-building mechanics and create as much of the construction as possible.

3. Mockup

To examine the effectiveness of the application in the didactic spectrum, we decided to prepare a task evaluating students' comprehension of the subject. Their job was to construct a 1:10 mockup of a house presented in the game. The students were handed in a set of wooden rolls and pegs as well as necessary tools (handsaws, hammers). They had 2,5 h to finish the task.

4. Focus group

After the testing was done, we took 30 minutes to perform a focus group interview with all of the students and their teacher. Such method usually takes up to two hours, however I decided to cut the time due to the students' age. I have chosen this specific method because, as opposed to individual interviews, FGI is characterized by a group discourse which supports the creative output of the respondents. As such we have obtained what was not only an honest opinion of the students, but also a plethora of ideas concerning the future development of the game. It allowed us to confront the design decisions taken after the interviews and apply necessary adjustments to the prototype.

Focus Groups are described chiefly by their group manner of discussions. Several people participate in the interview instead of a one, as opposed to in-depth interviews. Group dynamics are present, which greatly influences the results in a negative and positive way. Focus Groups are perfect for talking with groups of respondents, e.g.: with students from the same class or employees working during the same shift, especially when familiarizing yourself with such groups is crucial. Focuses are great in fields which encourage discussion, like education, for example.¹⁸ (Mościchowska and Rogoś-Turek, 2015)

Focus Group Interview required writing a separate scenario defining the framework of the discussion with the participants. Initially, we checked the students' comprehension level of the material and asked them about their general feelings and opinions concerning the VR headset. We discussed several aspects of the game, including but not limited to controls and planned functionalities of the game. The last part of the discussion dealt with the participants' ideas for the future application of the VR technologies in schools and the difficulties such technologies could bring or eliminate.

18 Author's own translation.

Test Conclusions

The students have perfectly mastered the prepared material concerning the methodology of building log houses, despite the fact that they have not perceived the game as 'educational'. The objective and certain tasks that they had to perform were clear to them on every step throughout the meeting. The students found the tasks simple but extremely time-consuming.

When it comes to the technical aspect of the application, it was received very positively. Thanks to implementing teleportation instead of smooth movement, we eliminated the discomfort caused by the simulation sickness. Interface was deemed very clear and intuitive. Basing the mechanics on already known, popular productions allowed to minimize the time necessary for familiarizing oneself with the application in favor of time dedicated to learning.

The technical aspect of the utilized hardware posed a slight problem. The students often stood backwards the motion detectors which caused breaks in sensing the location of the controllers. The cable connecting the goggles to the computer proved to be the biggest impediment, although this can be eliminated by using a standalone headset. Ensuring the proper functioning of the set called for conducting an individual calibration for each participant. Measuring the position of the floor was the main problem, due to which some of the pupils had difficulties with picking up the items from a ground level.

During the focus group interview, the participants gave many ideas for conducting topics with the help of VR technology, i.a. during subjects like physics, chemistry, geography, music, and especially PE. Both the conception of teaching technology with this method and the proposition to introduce a multiplayer mode were met with great enthusiasm. The participants listed examples of didactic functions e.g., the option to make notes during the game. The teacher who participated in the tests noted, aside from the aforementioned advantages, several potential issues regarding the introduction of VR to school like storing and amount of necessary hardware, the purchase of appropriate computers, and time necessary for putting on goggles before class. As can be seen, some of the potential issues were foreseen correctly, and for almost all of them a corresponding solution was already provided in a first article section. Moreover, hearing about those obstacles, students proposed to use VR during the extracurricular classes, which are significantly longer and have a smaller attendance in comparison to the regular lessons. A valuable teacher's remark stated that if the hardware were to be supplied to the students by the school, it would lower the feeling of exclusion in the less well-off children.

The participants shared loads of suggestions concerning the future development of the game, not only submitting propositions of new assets, but also gameplay improvement. They listed ideas for new interactions with objects already existing within the game. An interesting conception was adding roleplay elements and minigames. The students enthusiastically approached the subject of implementation of

a map and an assets creation kit. The teacher emphasized the didactic role of such solutions e.g., during teaching Blender in eighth grade. The participants suggested introducing various gameplay modes as well (they mostly referenced those known from Minecraft). All students unanimously agreed that it is necessary to port the game to PC or mobile because they 'don't have VR set but would like to play the game at home'.

Conclusions

We managed to design and implement a survival video game prototype which, to a great extent, may contribute to improving the quality of teaching methods used in schools. The application was met with positive feedback both from the students and their teacher. Moreover, it caught the children's interest thanks to the applied technological solutions.

The conclusions stemming from the analysis of the currently popular games of the genre allowed us to effectively use the medium's potential in the realm of practical skills additionally boosted with the use of VR technologies. We based some implemented functionalities on known solutions thanks to which the testers could fully focus on mastering the prepared material, without wasting time on mastering the game.

The conducted research showed that there is a huge need for implementation of new teaching methods in schools (not only when it comes to technical subjects). The interviewees underlined the huge issue of lack of resources and financial means necessary to conduct lessons in a proper manner. The application tests showed that these shortages may be at least partially covered thanks to the introduction of our game to schools. The participants mentioned the immense potential of the VR technology and described the directions the prototype might take to develop, as well as necessary adjustments close to their needs. One of the most important observations was the lack of accessibility.¹⁹ It is one of the issues that we will take care of first and foremost, with an emphasis on enabling players to map the buttons on their controllers on their own, and softening the assets' colors. A further necessary modification will be the implementation of a multiplayer mode, which will enable students to work in groups and porting the game to PC, thanks to which every student will be able to play the game at home. The last modification to be implemented in the near future will be an achievement system, which will serve as a motivation for further education through playing.

Students' reaction to the prototype proved just how creative the youth can be upon experiencing new technologies. During 30-minute tests, the children not only managed to complete assigned tasks but also learned how to use implemented

¹⁹ The colours used in the game were so garish for a suffering-from-daltonism student that they caused an eye strain.

functions to create their own minigames. It is exactly the engagement in learning process that is currently lacking at schools. Moreover, as mentioned in the first section: an interesting lesson is an efficient lesson. While playing with VR, all senses (excluding olfaction) are active. It is physically demanding, dynamic, and carries a huge load of didactic capability. During the FGI, the proposal of developing a kit for creating self-made content sparked a lot of enthusiasm. Such a program would allow the application to be used interdisciplinarily and not only by the technology teachers. Considering the extremely positive reception of the prototype, it is the objective we desire to pursue in the near future.

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Can VR replace an axe and a hammer? Research of a new methodology of conducting hands-on activities

Abstract

The purpose of the below article is to show the potential of new technologies applied as educational aids, emphasizing VR technology. The text is an elaboration on differences between traditional and modern learning methods, as well as expected drawbacks and advantages of implementing VR as teaching resource in Polish elementary schools.

The article's second section presents the development of an educational game prototype, designed to compromise the overall lack of technical resources and a proper workshop. It describes the most important research preceding implementation (in-depth interviews), design brief phrased based on the interviews, mechanics from the prototype, and task-based usability tests organized once it was completed. The testing session is summarized by a focus group interview with students who tested the game and their technology teacher. This project not only draws out the urgent need of revamping the current teaching methods, but above all provides an easy and relatively cheap way of achieving it.

Key words: VR, education, games, technology, survival, Unity

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Synthesis of the HOMEOCSS Project – the influence of representations in a controversial debate about homeopathy

Introduction

The main objective of the HOMEOCSS project is to promote a dialogue between science and society, so that citizens can form an informed opinion on a scientific subject that is the subject of debate in our society, namely homeopathy. This research work is in line with the theory of the new sociology of science which emerged in the 1970s and argues that sociology has *“the right to take over the field of scientific knowledge and to challenge philosophy and epistemology’s monopoly on the analysis of scientific knowledge and scholarly knowledge”* (Bloor, 1976). This new field of sociology, studying communication and information between science and society, developed notably with the work of Callon and Latour (Callon & Latour, 1979). The HOMEOCSS project draws on the contributions of this scientific field to examine the controversy surrounding homeopathy. The researchers involved in this project establish a link between the representations of the actors in the controversy, the circulation of controversial knowledge produced and its appropriation, and the paradigmatic positioning of each individual in the face of this controversy.

Homeopathy has been and still is very controversial in the public sphere. Indeed, through its history, “homeopathy has always oscillated between contestation and integration. Homeopathy was discovered between the 18th and 19th centuries by a German physician Samuel Hahnemann. From the first half of the 19th century, the success of this non-conventional medicine was controversial and limited. Homeopathy developed throughout Europe and in France mainly in Paris and the major provincial cities [...]” (Faure, 2002). On the other hand, “Homeopathy is surrounded by mysticism and beliefs, which discredits it in the eyes of some and makes it a success with others. Indeed, homeopathy goes far beyond simple medical issues” (Bariety, 1970).

Homeopathy is based on the principle of similitude, stated by Hahnemann in 1810: “In order to cure in a gentle, prompt, certain and lasting manner, it is necessary to choose in each case of illness a medicine, which can of itself cause suffering similar to that which it is intended to cure” (Poitevin & Sarembaud, 2011). Following a specific and thorough examination, including a long interrogation as well as a clinical examination of his patient, the homeopathic doctor must theoretically identify the globality of the clinical picture to enable him to prescribe the appropriate homeopathic treatment or treatments. To avoid the toxicity of the products used, the second principle of homeopathy is the infinitesimal dilution and dynamisation of these medicines. These are prepared through a succession of dilutions/dynamisations of a given substance. However, the principle of dynamisation, which consists of a strong agitation of each new dilution and which would have the objective of conveying information, is questioned by the detractors of homeopathy who consider that it is without scientific basis. Furthermore, the term “medicine” seems to be questioned in this context by the detractors of homeopathy, in view of the absence of active substances. Hahnemann was accused by his peers (“profiteer”, “swindler”). The new therapy was accused of “many shocking contradictions” and “many palpable absurdities” and the report stated that “reason and experience are therefore united in rejecting such a system with all the forces of intelligence” (Bariety, 1970). The scandal of the water memory affair or Benveniste affair in the late 1980s and 1990s discredited the work of the immunologist Jacques Benveniste and his team at INSERM. In 2004, the Académie de Médecine once again condemned a “method devised 200 years ago, based on non-scientific foundations”. This affair, which began with the publication of a series of articles in the journal *Nature*, has made it possible to analyse the dynamics of the controversy process, ‘namely the succession of three phases of confinement, deconfinement and reconfinement of the debate’ (Ragouet, 2014).

The scientific controversy has continued in this context from 2009 to the present day involving different teams in favour of high dilutions, notably Professor Luc Montagnier and his collaborators (Montagnier et al., 2009; Henry et al., 2016), Nobel Prize winner for the discovery of HIV. However, other studies have pointed to the lack of effectiveness of homeopathy (Lauche et al., 2015; Hawke et al., 2018) and the Académie des Sciences has not considered the work of Luc Montagnier’s team to be scientifically valid. A number of doctors and scientists consider that the controversy no longer exists in the scientific sphere, while others believe that it remains relevant.

Since 2018, news in France have called into question the scientific nature of homeopathy, involving the Academies of Medicine and Pharmacy, the High Authority for Health and health professionals from various groups. Confrontations on the subject have been developing significantly on social networks (in particular Twitter) and in the media (newspapers, radio, television) since the beginning of 2019, notably through opposing collectives: “Fakemed” versus “a collective for the defence of homeopathy” grouping together associations of doctors, patients and industrialists

of homeopathic medicines. The “Fakemed” group wants to oppose a “conglomerate of unions and learned societies of homeopathy supported by the pharmaceutical laboratories”, and questions the scientific nature of homeopathy. They equate it at best with a placebo effect, based in particular on the latest Australian study compiling data in this sense (NHMRC, 2013) as well as on the report of the Scientific Council of the European Academies of Sciences (EASAC, 2017). The others want to defend the scientific integrity of homeopathy, believing that it must be studied within an appropriate frame of reference. They base their argument on the latest Swiss study (Bornhoft & Matthiessen, 2011) and on the EPI 3 study conducted from 2006 to 2010 (Grimaldi-Bensouda et al., 2016), for example.

It is in this context, in September 2018, that the HOMEOCSS project was born (HOMEopathy Object of Controversy in the Societal Sphere). Its objective is to look at the socio-scientific controversy surrounding homeopathy. To do this, a multidisciplinary team of researchers from the Information and Communication Sciences, Education Sciences, Neurosciences, Social Psychology and Pharmacy are embarking on the analysis.

Controversy can be defined as a communication situation with a triadic structure (Lemieux, 2007). Indeed, the controversy is a dispute between two parties, staged before an audience, a third party playing the role of judge. Both parties are given the same right to put forward their arguments to convince the public of the truth of their thesis. Controversy has its roots far from the general public, as controversy is originally a debate of ideas between two opposing parties with peer status. But sometimes, the scientific controversy sees its audience widen to a public of laymen, of non-experts, passing from the status of scientific controversy to that of societal controversy. Thus, in the case of homeopathy, two arenas are at the heart of the controversy, the academic and media arenas.

The analysis of the controversy surrounding homeopathy makes it possible to distinguish the role of the different actors in society involved in this debate, which is both scientific and societal. In order to encompass all of these actors, the HOMEOCSS project is composed of different objects of study (OBJ): the school public (high school students, college students), the media (traditional and digital), the medical profession, scientists and the general public. How do these different actors participate in the controversy? What are the reasons and motivations that push these individuals to be more or less in favour or against homeopathy? Through HOMEOCSS, we sought to understand the representations associated with homeopathy, we wanted to grasp the positions of each individual and identify the factors of influence. Social representations, defined as “*an organised and structured set of information, beliefs, opinions and attitudes*” (Abric, 2001), help to understand what guides each person towards a choice in favour or against an object. They also make it possible to define the ‘central role of communication in the emergence, deployment and stabilisation of controversies’ (Badouart & Mabi, 2015). This analysis of representations is based on the sciences of education and the sciences of information and communication,

which come together to define an individual's social representations as the product of three components: values, practices and the knowledge/knowledge that structures them (Moscovici, 2013; Clément, 2006).

The HOMEOCSS project started in September 2018 and ended in January 2022. The first year was dedicated to the development of the methodology and the first data collection. During the second year, the researchers finalised this data collection and started the first phase of analysis, which was completed in the third year of the project. Finally, in the year 2021–2022, a conceptual mapping of the controversy was developed. Mapping a controversy, as the authors of the European MACOSPOL project initiated by Bruno Latour (MACOSPOL, 2009) explain, 'is *not to look at it in an ideal of perfect objectivity but to adapt a second-order objectivity, i.e. to present all the positions [...]*'. This mapping of the controversy surrounding homeopathy can be seen at the following address: <https://view.genial.ly/613f4a04ce4d4f0d78ec350f>

Methodology

The various actors in the homeopathy controversy studied were grouped into study objects. Below are the six objects of study that were finally selected and whose methodological details can be found in the collective work entitled "Homeopathy in question" (Di Scala, 2020a):

- The object of study 1 (OBJ1) corresponds to the school and university sphere. Several members of the HOMEOCSS project have divided their efforts to study the representations of homeopathy among secondary school students (Sandrine Esquirol-Paquerot and Robert Andres) as well as among several student groups, distinguished by their level of study and especially by their field of study. Dalila Kessouar and Emmanuella Di Scala, on the one hand, compared students in Medicine, Psychology and Life Sciences. Narjiss Mekaoui El Idrissi, Marie-Stéphanie Abouna and Pascal Bourgeois, on the other hand, focused on STAPS (Sciences and Techniques of Physical and Sports Activities) students. A single questionnaire was used to collect the representations of homeopathy among these different audiences, making it possible to compare the results obtained between the different levels and courses.
- Study object 3 (OBJ3) corresponds to the media sphere. Guy Lévêque was interested in the treatment of homeopathy in several press media with very different editorial lines: a generalist daily newspaper – *Le Monde*, a monthly popular science magazine – *Sciences et Vie*, and a monthly magazine categorised as "women's press" – *Top Santé*. To complete this study, Sophie Demonceaux analysed the digital, online version of *Top Santé*. In addition, she looked at the controversy surrounding homeopathy on the Internet and more particularly on *Twitter* and on the discussion forum of the *Doctissimo* website, which specialises in health information. In the case of the written press, the research consisted of counting and analysing the articles published on the subject of

homeopathy, their symmetrical or dissymmetrical orientation, diachronically, over a more or less long period and more particularly during certain years when a particular event re-launched the attention paid to homeopathy. In particular, in 2018, the doctors of the Fakemed collective launched an article in *Le Figaro* against the reimbursement of homeopathy. On the internet, research has focused more on the conflicting relations between pro-homeopathy and anti-homeopathy, on their rhetoric and their communication strategies.

- Study object 5 (OBJ5) corresponds to the academic sphere. Emmanuella Di Scala studied the representation of homeopathy among researchers involved in scientific research, with various profiles, some of whom are or have been involved in research on homeopathy, others who have never worked on homeopathy and have research subjects in the field of biology/health or medicine. For the collection of data, the life story was favoured in order to collect the representation of homeopathy among these researchers in as much detail as possible.
- Study object 6 (OBJ6) corresponds to the medical sphere. Two members of the HOMEOCSS project studied the representations of homeopathy among pharmacists on the one hand (Prisca Bouillé) and among doctors on the other (Sébastien Malpel). The doctors who took part in the study again had very varied profiles: some were homeopaths, others were not, they were generalists or specialists, practising in a practice or in hospital. The pharmacists had probably more similar profiles, most of them were dispensing pharmacists and all of them, whatever their opinion of homeopathy, sold it in their pharmacy. In both cases, a mixed-method approach was used: a similar questionnaire was developed and distributed via the internet, and the data collection was completed by semi-structured interviews.
- Study objects 2 and 7 (OBJ2/OBJ7) correspond to the general public. Mohamed Djouani sought to collect the representations of homeopathy among patients with the most varied profiles possible. To do this, he drew up a questionnaire which he distributed on the Internet in several ways. In particular, he contacted an association of patients in favour of homeopathy (OBJ2), and he also received responses from numerous people mobilised against homeopathy, who were members or sympathisers of the Fakemed collective. In addition to these two distinct groups from opposing collectives, there were responses from patients with more heterogeneous profiles (OBJ7).

Study object 4, not mentioned above, corresponds to the involvement of field actors in the form of participatory research so that both pro- and anti-homeopathy actors can take part in the research by giving their opinions and positions. This was achieved by involving researchers in favour and against homeopathy in the construction of the theoretical framework on the controversial notion of homeopathy (Di Scala, 2020a), or by asking each stakeholder to give their opinion on the proposals for improving science-society communication (Di Scala, 2020b).

Apart from the media study, which used its own methodological approach, focusing on the thematic and lexical analysis of the corpus, the other studies used a rather similar analysis methodology, based partly on the use of the free software IRaMuteq-R (version 0.7 alpha 2). This tool most often allowed the analysis of the representations by means of a similarity analysis (ADS), which makes it possible to highlight the central core of a representation, as well as the peripheral elements that complete this representation. To this was sometimes added a factorial correspondence analysis (FCA), which allowed a better understanding of the roots of the representation and the main factors that oppose the groups studied. Other statistical tools were sometimes used in addition, such as Chi2 tests, correlation tests or principal component analyses (PCA) to try to identify factors linked to a certain position with regard to homeopathy. In addition, the analysis of representations was often illustrated by conceptual maps, which make it possible to identify a logical structure in the corpus (responses to questionnaires or interviews).

Summary of results

The following results emerged from the analyses of each of the identified study objects:

School audience (OBJ1)

Analysis of the representations of secondary school pupils (Esquirol-Paquerot et al., in submission), via a questionnaire, has made it possible to identify that homeopathy is defined by its descriptive aspect: a marble used to treat. A number of students do not really know what homeopathy is, although it appears that girls look for more information about it than boys. Care and the medical aspect emerge from this representation in its normative dimension, without the associated notions of proper action *versus* placebo effect being known and identified at this age.

The analysis of the representations of high school students (Esquirol-Paquerot et al., in submission), via the same questionnaire, made it possible to identify that homeopathy is also defined by its descriptive and functional aspects: effectiveness based on the use of plants, or no effectiveness. Students who believe that there is an efficacy associate homeopathy with herbal medicine. As in secondary school, it appears that girls seek more information on this subject than boys. Furthermore, the analysis shows that homeopathy is evaluated either as an alternative medicine for those who believe it is effective, or as a placebo for those who believe it is not effective. The notion of placebo effect is not particularly formulated by the high school students, who are probably not familiar with it. The term alternative medicine is still associated with herbal medicine.

The analysis of the representations of students of life and earth sciences, medicine, psychology (Kessouar & Di Scala, 2020), and sport (Mekouei et al., in submission), through the same questionnaire, allowed us to identify that the concept of homeopathy is defined by its descriptive and functional aspects: either homeopathy

possesses an efficacy based on the use of herbs or diluted substances, or it does not possess any efficacy. On the other hand, the analysis shows that homeopathy is evaluated as being either a placebo acting through the placebo effect (for those who do not see efficacy) or as a medicine without side effects acting through its own action (for those who see efficacy). Nevertheless, a distinction is observed according to the study pathway:

- Medical students either see homeopathy as effective and based on a dilution of active substances, or they do not see it as effective. Homeopathy is not the same as phytotherapy.
- Students of life and earth sciences either see homeopathy as effective and based on a dilution of active substances or as phytotherapy, or they do not see it as effective.
- Students of psychology either see homeopathy as effective and based on an essentially herbal action, thus being assimilated to phytotherapy, or they do not see it as effective. Very few mention a lack of effectiveness.
- Sports students see homeopathy as effective and based on an essentially herbal action, thus often being equated with herbal medicine. None will mention a lack of effectiveness.

Media sphere (OBJ3)

With regard to the press media (Lévêque & Demonceaux, in submission), this is an inventory of what three media say: a daily newspaper *Le Monde*, a monthly popular science magazine for the general public *Science et Vie*, and a monthly women's health magazine *Top Santé*. This study is an inventory and not a comparison of the history of the delisting of homeopathic granules (analysis of articles for the period 2018 and 2019). The magazine *Le Monde* seems to react in the immediacy on medicine, science and health economics. Symmetrical information can be observed. The magazine *Science et Vie* presents scientific/chemical information without complacency with regard to very/overly diluted active products, tempered by a societal openness of free choice. Readers can choose their type of medicine with full knowledge of the facts. *Top Santé* magazine offers its readers a wide range of information on conventional and non-conventional medicine to help them make the right choice to stay healthy. These press media present symmetrical, non-militant arguments that inform on the scientific, medical, societal and economic levels.

The majority of Internet health users visiting the Doctissimo "Homeopathy" forum are individuals in favour of homeopathy in search of help and practical advice (Demonceaux, 2022). However, an analysis of the posts on this forum has shown that anti-homeopaths regularly make inroads. The exchanges are more like a fight than a debate. A dialogue of the deaf is established between pro-homeopathy people who base their arguments on personal experience, testimonies and beliefs, and opponents of homeopathy who are in line with a scientific standard based on evidence, scientific authority and institutional expertise.

Scientists (OBJ5)

The interviews with scientists showed opposition on the description and functional explanation of homeopathy (Di Scala, 2020b). Some scientists explain its functioning solely by a placebo effect. In this case, either the researchers do not see the value of its use, or for others, they see the value of using a placebo. On the other hand, some other scientists see a own action in homeopathy, or a probable own action, or an own action that cannot be ruled out, not excluding a possible action by the placebo effect either.

The life stories also showed the existence of an opposition between a value of a medicine without side effects that takes better account of the individual and a scientific pharmacological norm. It appeared that if the scientist points to the scientific pharmacological norm as the structuring element of his representation (action by active molecules present only), he will assimilate homeopathy to a placebo and will see its functioning through a placebo effect only. In this case, however, there will be some scientists who see an interest in using a placebo and others who do not. If the scientist points to the value of a medicine without side effects that takes better account of the individual as a structuring element of its representation, he will see the functioning of homeopathy by its own action, whether certain, probable or not excluded (not excluding in this case the action by placebo effect).

Medical profession (OBJ6)

Among the doctors and pharmacists studied, three distinct profiles could be identified (Bouillé, 2020; Bouillé & Malpel, in submission; Malpel, in submission):

- Practitioners who are convinced of the effectiveness of homeopathy and who use it frequently.
- Practitioners who are not convinced of its own efficacy, but who are in favour of its use and who occasionally use it for its placebo effect.
- Practitioners who consider homeopathy a deception and do not use it, even for its placebo effect.

General public (OBJ2/OBJ7)

The analysis of the representations of the general public (Djouani, in submission), via a questionnaire, has made it possible to identify that homeopathy is defined by its descriptive and functional aspects: either homeopathy has an efficacy based on the use of plants or diluted substances, or it has no efficacy. Nevertheless, a distinction is observed according to the audience studied:

- The public defined as opposed to homeopathy sees it as ineffective, likening it to sugar.
- The public from associations in favour of homeopathy sees it as effective and based on a dilution of active substances.

- The intermediate public without a declared tendency sees homeopathy as effective and based on an action through plants essentially, thus assimilating it to phytotherapy.

On the other hand, the analysis shows that homeopathy is evaluated either as a placebo acting by placebo effect or not acting at all, or is evaluated as a medicine without side effects taking better account of the individual:

- The public defined as opposed to homeopathy evaluates the latter as a placebo acting by placebo effect, whose interest in use is nil or low to moderate.
- The public from associations in favour of homeopathy evaluate it as a medicine without side effects, taking better account of the individual.
- The intermediate public, without any declared tendency, evaluates homeopathy as a medicine without side effects, taking better account of the individual, through herbal treatments.

Discussion

In the light of these data from the different audiences studied, a synthetic conceptual map (Figure 1) is proposed to better understand the positioning of each.

In each case, it appears that the representation of the different audiences is centred either on an assimilation of homeopathy to a medicine, or on an assimilation of homeopathy to a placebo (which is not considered as a medicine). Each person will then see either a proper efficacy, concerning the subjects assimilating it to a medicine, or an absence of proper efficacy, concerning the subjects assimilating it to a placebo (who may then consider that there is a placebo effect or not).

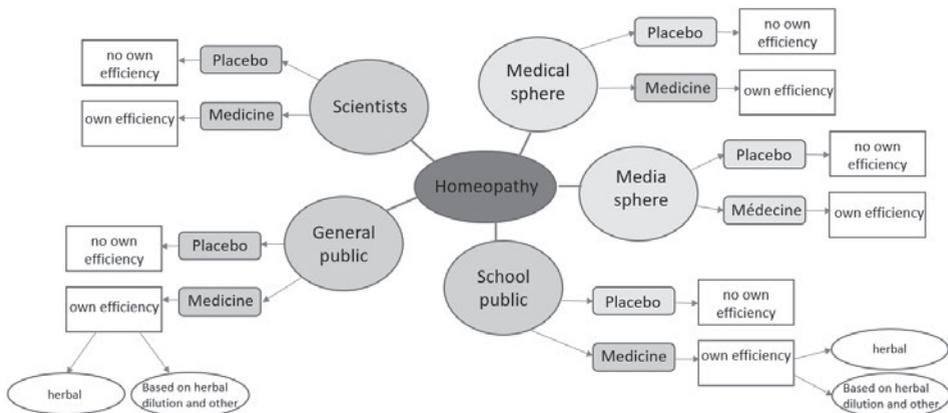


Figure 1. Conceptual map of the representations of the different audiences studied on the subject of homeopathy: scientists, the medical profession, the media, the school public and the general public

Work on the representations of OBJ scientists 5 (Di Scala, 2020b) has shown that these divergences stem from a different sociological anchoring between the subjects: modern *versus* postmodern. The modern sociological anchorage is defined as a representation with the benefit/risk balance as its centre of gravity. The post-modern sociological anchorage is defined as a representation whose centre of gravity is the limits of science as a structuring element. It also emerged from the analysis that the post-modern anchor is coupled with a value of “medicine without side effects that takes better account of the individual”, whereas the modern anchor is coupled with the scientific and pharmacological norm.

The study of the representations of the various other audiences did not allow for the analysis of a sociological anchoring. However, the same distinctions (Figure 1) within the representations appeared. It could therefore be proposed that this sociological anchoring could also condition the positioning of other types of public. In order to confirm this, it would be necessary to undertake additional studies on this subject. If this hypothesis proves to be true, we could propose a synthetic explanatory diagram including the anchoring to the representations of the different audiences, which can be found in figure 2. This diagram would thus show that for each audience studied, the opposition within the debates on homeopathy would originate in the sociological anchoring which structures the representation and thus conditions its centre of gravity: norm *versus* values of a medicine without side effects. These centres of gravity would then condition the subject’s positioning with regard to his functional and descriptive evaluation of homeopathy: no efficacy of its own (but possibly by placebo effect) *versus* efficacy of its own (certain, probable or not excluded).

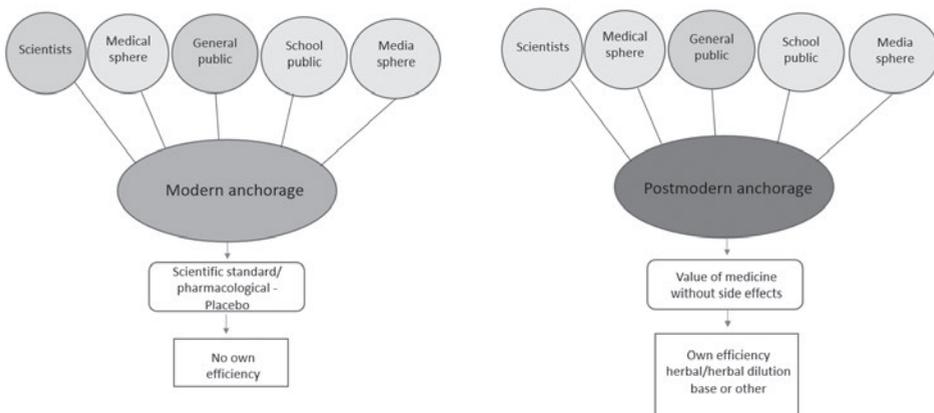


Figure 2. Hypothetical synthesis diagram including the sociological anchoring to the representations of the different societal actors studied: scientists, medical profession, media sphere, school public and general public

Conclusion

This analysis also shows how important it is to make pupils aware, from a very early age, of the existence of representations that differ from their own, of the reasons why each person takes a different position, and of the need to respect these, in order to limit the difficulties that can be encountered in controversial debates. The challenge is not to change their representation but to understand that of others, and to understand why it can sometimes be very difficult or even impossible to change an individual's representation. This awareness is also found in the French EMC (Moral and Civic Education) school programmes. In this respect, the HOMEOCSS project has developed digital resources for students from secondary school to university in order to raise their awareness of the representations that oppose the subject of homeopathy (appendix 1).

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Appendix 1

- Digital resource for secondary schools, Sandrine Esquirol-Paquerot and Robert Andres: <https://view.genial.ly/5f80c6ab9d6d260d614bc4a8/vertical-infographic-timeline-projet-homeocss-controverse-de-lhomeopathie-niveau-college>
- High school digital resource, Robert Andres and Sandrine Esquirol-Paquerot: <https://view.genial.ly/5fa5471c9bff5f0cee6ce3eb/presentation-lhomeopathie-en-question>
- Digital resource for high school and university level, Emmanuella Di Scala: <https://view.genial.ly/5fa83c9f9bff5f0cee6d1c27>
- University level digital resource, Mohamed Djouani: <https://view.genial.ly/5fc370b-345f1430d9d71dae4/interactive-content-lhomeopathie-objet-de-controverses>

Synthesis of the HOMEOCSS Project – the influence of representations in a controversial debate about homeopathy

Abstract

The HOMEOCSS project was born in 2018 (HOMEopathy Object of Controversy in the Societal Sphere) and ended in January 2022. Its main objective is to promote dialogue between Science and Society, so that citizens can form an informed opinion on a scientific subject that is debated in our society, namely homeopathy. The analysis of the controversy around homeopathy makes it possible to distinguish the role of the various actors of society involved in this debate and to define their representations of it: what are the reasons which push these individuals to orient themselves in favor or in against homeopathy? The project is therefore made up of different objects of study (OBJ): the school public (middle school students, high school students, students), the media (traditional and digital), the medical profession, scientists and the general public.

It appears that the representation of the different audiences is centered either on an assimilation of homeopathy to medicine, or on an assimilation of homeopathy to a placebo (which is not considered to be medicine). Everyone will then see either a specific efficacy, concerning the subjects assimilating it to a medicine, or a lack of specific efficacy, concerning the subjects assimilating it to a placebo (being able to then consider that there is a placebo effect or not). Work on the representations of scientists has shown that these divergences come from a different sociological anchoring between the subjects: modern versus postmodern. It could be proposed that this sociological anchoring could also condition the positions of other types of audiences.

This analysis also shows the importance of making pupils aware from an early age of understanding the existence of representations different from their own, of the reasons which condition each person to position themselves differently, and of respect for these, in order to limit the difficulties that may be encountered in controversial debates.

Key words: homeopathy, controversy, representations

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Intercultural education and its inclusive dimension

Introduction

Interest in intercultural education is rooted in the dynamic political, economic, social and cultural changes that have taken place in Europe and the rest of the globalizing world in recent years. The migration processes that characterize the modern world, the constantly increasing mobility of people or armed conflicts contribute to the increasing diversity of societies. As I. Wojnar emphasizes, we are „first and foremost, people living on a common Earth, which the famous writer Antoine de Saint-Exupéry called Earth – the planet of people. This community is marked out by a dense network of interests and threats, complex interactions and deepening social contrasts” (Wojnar, 2016, pp. 121–122). The above processes and changes should lead to a change in the way of thinking about the model of education and the education system, because the cultural diversity of society is reflected in educational institutions, and intercultural education should not only be added to the curriculum. In education, the idea of unity in diversity should be fulfilled – creating conditions that take into account the individual needs, limitations and possibilities of children and adolescents, ensuring common education for all students and preparing individuals for life in a world whose only characteristic feature is constant change and diversity.

Challenges for education in the conditions of cultural diversity

In the globalizing world, diversity is no longer an unprecedented socio-cultural phenomenon, and the presence of representatives of different cultures in public space begins to be, or already is, something natural. In addition, an inherent feature of today, also in relation to Polish society, is the more and more frequent re-emigration, which causes that migrants are more and more often children, and thus the recipients of educational activities are not only members of the majority group

or national and ethnic minorities, but also students with experience of migration (Młynarczuk-Sokołowska, Szostak-Król, 2019, p. 280). Therefore, it becomes necessary to dynamically approach both pedagogical theory and educational practice, which do not occur in an unchanging form, but require systematic and permanent development by posing new questions and searching for answers to them. W. Okoń defined education as „all processes and influences aimed at changing people, especially children and adolescents – according to the ideals and educational goals prevailing in a given society” (Okoń, 2001, p. 87). However, the extremely complex context of today’s education is captured by Z. Kwieciński in his understanding of this term, according to whom education is „the totality of influences on individuals and human groups, influences conducive to their development and the use of their opportunities, so that they become conscious and creative members of the community to the maximum extent. social, national, cultural and global, and to become capable of active self-realization, unique and lasting identity and separateness, be able to develop their own I by undertaking supra-personal tasks, by maintaining the continuity of my own I in the course of fulfilling „distant tasks”” (Kwieciński, 1995, p. 14).

J. Nikitorowicz emphasizes that contemporary education faces extremely significant challenges related to:

- a) „shaping the ability to solve important contemporary problems related to living in a dynamically changing society and constructive coping with difficulties, bearing and overcoming failures;
- b) shaping the skills of interpersonal contact, creating group ties, understanding oneself and others, negotiating and dialogue, shaping the attitudes of intra-group solidarity and integration with others, attitudes creating communities based on understanding and tolerance;
- c) acquiring knowledge about one’s own region, achieving the goals of local communities and regional ones, passing on cultural models and norms, shaping the skills of cultivating the cultural heritage of the ancestors;
- d) preparation for life in cultural and ideological pluralism, realization of goals and obligations resulting from belonging to a specific community, shaping and consolidating identity while creating an attitude of openness to otherness;
- e) the acquisition by individuals and groups of social and cultural capital, including cultural and social knowledge and competences, professional skills and a willingness to interact with others;
- f) preparation for living in a modern, dynamic, open society, culturally pluralist, respecting the law of all individuals and groups, ethnic, national, religious and other” (Nikitorowicz, 2009, p. 195).

They will respond to the ongoing social changes: „the emergence of multicultural societies, (...) migration, the need to exchange information, changes and transformations in the value system of individuals and groups, the decay of patterns, identification dilemmas, assigning the rank of a group’s cultural identity and

identity ambivalence" (Pilch, 2003, p. 934) is intercultural education. It is inextricably linked with the value of diversity, which is an inseparable attribute of life, "the essence of both nature and cultures" (Rada Europy, 2007, p. 13). In the face of the diversity of the potential of human nature, the main goal of societies today is to strive to use it by giving it the right meaning and place in the implemented policy of social development (Rada Europy, 2003, p. 28). Diversity can evoke both positive and negative emotions, create an opportunity for us to meet, which can be extremely valuable and lead to creative conclusions and solutions, or conflict – destructive and leading to regression. The perceived differences may be a source of reluctance, anxiety and a sense of threat or curiosity, delight and fascination, or something interesting, inspiring and valuable, conducive to dialogue and relationships based on mutual respect. Diversity as a value is also related to „the concept of an inclusive society and the idea of ensuring that all residents, regardless of their differences, have the opportunity to participate in social life and shape their lives on equal terms, in an atmosphere of good relations between particular groups and communities" (Rada Europy, 2007, p. 13).

Intercultural education and inclusion in conditions of many cultures

Intercultural education plays an extremely important role in supporting the process of inclusion – social inclusion, integration, self-realization of individuals and groups, regardless of any of their characteristics, because the main task of intercultural education is to meet all kinds of inequalities causing isolation of individuals or entire groups and their inability to implement them. goals and aspirations (Pilch, 2011, p. 88).

It should also be remembered that the term of inclusion in education was initially equated with the inclusion of students with disabilities in the mainstream activities undertaken at school. However, more and more often the term inclusion understood as inclusive education, open to the needs of all students, not only people with disabilities, but also those coming from national, ethnic, religious minorities or from disadvantaged groups (Mitchell, 2012, pp. 427–441). It is this broad understanding of inclusion that has been included in the definition adopted by the United Nations Educational, Scientific and Cultural Organization (UNESCO): „Inclusive education is an ongoing process aimed at offering high-quality education for all and respect for diversity, different needs and abilities, and the expectations of students and the community, eliminating all forms of discrimination" (Mitchell, 2012, pp. 427–441). To ensure the implementation of the idea of inclusive education, it is necessary to focus on its basic assumptions (features). This education should be based on almost every child to learn, recognize and respect diversity in terms of age, gender, national origin, ethnicity, disability, etc. In addition, the education system should recognize the needs of pupils / pupils and use specific methods to meet them.

In addition, inclusive education should form part of a broader strategy to build an inclusive society and be a permanent, dynamic process (Zacharuk, 2010, p. 223).

The assumptions that constitute the essence of intercultural education are the result of noticing and recognition of the importance of phenomena of diversity and „the foundation of intercultural education is a vision of a world in which human rights are universally respected and everyone is guaranteed the opportunity to use the mechanisms of democratic participation and the benefits of the rule of law” (Brotto, 2014, p. 13). In addition, activities based on the assumptions of intercultural education are addressed to all age groups, including people of the culturally dominant community, as well as national and ethnic minorities or migrants (repatriates, refugees, immigrants, temporary workers) (Błeszyńska, 2011, pp. 40–41), giving them the opportunity to engage and actively participate in the life of the local community and the whole country. Intercultural education meets all the problems of exclusion by fostering „getting to know, understanding and accepting various cultures and the people who create them, (...) prepares for cooperation and mutual use of the achievements of people of different races, nationalities, religions, cultures” (Lewowicki, 2006, p. 17).

It should be emphasized that „the idea of intercultural education is based on the paradigm of coexistence, which assumes the possibility of one’s own development as a result of internal processes, dialogue, understanding, negotiation and cooperation. It restores faith in the power of man, in his inner strength and his sensitivity to the needs of the Other. Being “in between” imposes on an individual accepting the normative functions of culture, relying on his own creative abilities, using his own mind and heart, their creative power” (Nikitorowicz, 2005, p. 26). Intercultural education should be understood as all these influences concerning cultures and their components, aimed at shaping pedagogical activities in such a way that their effect is shaping the attitudes of openness and respect of individuals and groups towards cultural diversity and fully aware of and reflective identity building and rooting in one’s own cultural heritage (Sobecki, 2007, p. 27).

Intercultural education „motivates to go to the cultural frontiers, arousing cognitive and emotional needs, such as: surprise, discovery, dialogue, negotiation, exchange of values, tolerance” (Nikitorowicz, 1995, p. 126). Moreover, it not only introduces people to the perception of otherness, but also sensitizes them to it, shapes the awareness of equality, restores and strengthens the spirit of cooperation and balance in the spirit of understanding and tolerance for broadly understood otherness, and prepares for dialogue and interaction.

The main goal of intercultural education is to go beyond just the passive coexistence of cultures, becoming the basic task of institutions and organizations, consisting in getting to know, deepening understanding, respect, dialogue and cooperation between different cultural groups. So this education is based on goals that focus mainly on shaping:

- a) the ability to perceive diversity as well as adopt an attitude of openness and understanding for others;
- b) awareness of the equal rights of all cultures;
- c) conflict and problem solving competences, as well as counteracting prejudices and stereotypes;
- d) mutual exchange of experiences of students and parents;
- e) attitudes drawing attention to the need to constantly go beyond the limits of one's own culture, not to be confined only to the sphere of one's own values;
- f) attitudes of tolerance, dialogue and exchange of values (Nikitorowicz, 2001, s.101).

Detailed goals of intercultural education P.P. Grzybowski covers three areas. In terms of attitudes, the goals of the above education are:

- a) „considering society as a complex of coexisting and intersecting groups and individuals reaching the limits of their distinctiveness and dissimilarity;
- b) awakening tolerance and self-control in reactions to difference, respecting it in all respects – despite the surprise; awakening sensitivity to other cultures and their integral values and patterns enriching the general culture;
- c) getting rid of the feeling of cultural superiority, nationalisms and ethnicities, prejudices and stereotypes, tendencies towards exoticism and xenophilia;
- d) opposing all forms of xenophobia, discrimination, racism, hostility, etc. towards Other \ Strangers;
- e) empathy; openness to the world; a commitment to peace, equality, fraternity and solidarity in all settings; to stand up for a just world without exploitation, oppression and hunger” (Grzybowski, 2007, s. 40–41).

In the field of skills, the objectives of intercultural education are:

- a) „noticing, distinguishing and understanding cultural differences as well as one's own dignity and value in contacts with Other \ Strangers; self-acceptance despite (in spite of) the perceived differences; perceiving otherness as enriching
- b) and stimulating, interesting and absorbing, not threatening and hostile; noticing, getting to know and understanding Other \ Strangers as unavoidable neighbors;
- c) leaving the center of one's own culture, enriching oneself internally by breaking down barriers and borders; consciously going to the borderlands and cultural contacts as part of intercultural communication;
- d) recognizing the manifestations of inequality, injustice, discrimination, marginalization, racism, stereotypes and prejudices against Other \ Strangers;
- e) seeking understanding in various spheres by engaging in interaction, dialogue, negotiation and exchange of values with Other \ Strangers;
- f) fostering and strengthening mutual relations between different communities – especially between the majority groups and cultural or ethnic minorities;

- g) activating mechanisms to help address diversity problems related to prejudices, negative attitudes and stereotypes; peaceful coexistence despite differences, conflicting interests and the resulting tensions and conflicts” (Grzybowski, 2007, s. 40–41).

In turn, in the sphere of awareness, the goals of intercultural education are:

- a) „objective equality and equality for all cultures;
- b) own identity, value, distinctiveness, independence; own cultural roots, traditions and customs;
- c) group, family, ethnic, local, cultural, regional, national, transnational, global bond;
- d) ecology (in the context of the natural environment and society)” (Grzybowski, 2007, s. 40–41).

Realization of the idea of inclusive education, enabling effective work with people with an experience of migration and a culturally diverse group, it is one the most important challenges facing education in Poland and other European countries (Młynarczuk-Sokołowska, Katarzyna Szostak-Król, 2019, p. 281). People with experience of migration who start learning in Polish educational institutions often need multidimensional support and the effectiveness of the inclusion process is closely related to this, to what extent the student’s direct and indirect environment presents openness, flexibility and readiness to change and to meet their individual needs. Persons with migration experience are often students with special educational needs, for whom it is necessary, inter alia, individualization of the education process. In the light of Polish law, every child, regardless of its legal status, residing in the territory of the Republic of Poland, should be able to exercise the right to education through education, upbringing and care (Młynarczuk-Sokołowska, Katarzyna Szostak-Król, 2019, p. 283). The guarantee of participation in the education of migrant children is provided for in Art. 70 of the Constitution of the Republic of Poland. In addition, Ustawa z dnia 14 grudnia 2016 r. – Prawo oświatowe, specifies that “the school should provide each student with the conditions necessary for his development, prepare him to fulfill family and civic obligations based on the principles of solidarity, democracy, tolerance, justice and freedom” (Ustawa z dnia 14 grudnia 2016 r. – Prawo oświatowe, Dz.U. 2017 poz. 59). Prawo oświatowe i Rozporządzenie Ministra Edukacji Narodowej z dnia 23 sierpnia 2017 roku w sprawie kształcenia osób niebędących obywatelami polskimi oraz osób będących obywatelami polskimi, które pobierały naukę w szkołach funkcjonujących w systemach oświaty innych państw they determine the free education of foreigners and activities aimed at implementing the idea of inclusion (Rozporządzenie Ministra Edukacji Narodowej, 2017, Dz.U. 2017 poz. 1655).

The inclusion and educational progress of people with experience of migration are largely conditioned by the opportunities that are created by them as the

most important institution of the education system, which is school (Młynarczuk-Sokołowska, Katarzyna Szostak-Król, 2019, pp. 283–284). As emphasized by the United Nations Educational, Scientific and Cultural Organization (UNESCO), the school has a duty to “develop students’ potential by imparting knowledge, as well as shaping competences, attitudes and values enabling them to fully participate in the life of society” (UNESCO, 2007, p. 12). This is evidenced by the goal set for the Polish school in the area of student’s social development, which was considered to be „shaping a civic attitude, an attitude of respect for the traditions and culture of one’s own nation, as well as an attitude of respect for other cultures and traditions and the prevention of any discrimination” (Rozporządzenie Ministra Edukacji Narodowej, 2012, p. 75). It is the school that is „the place where the easiest and most effective way to introduce changes that will contribute to the improvement of mutual relations between people of different nationalities (...) The school is a place of multilateral dialogue, its life consists of the mutual relations of the teaching staff and students (...) parents and guardians. Thus, the school itself is an important field of interaction between these actors, and due to its everyday nature of work, it can be the easiest place for the development of intercultural dialogue” (Konieczna-Sałamatin, 2008, p. 61).

One of the most serious challenges and, at the same time, barriers to education faced by culturally different people, and also often by returnees, is the unfamiliarity or poor knowledge of the official language of a given country. Thus, shaping communication competences in terms of communication in Polish, it is one of the most important factors determining active participation in school education (Młynarczuk-Sokołowska, Szostak-Król, 2019, p. 283). The second type of barrier that makes it difficult for children with a migration experience to find the new school reality are often contradictions resulting from their values, accepted cultural norms and a complex cultural identity (Młynarczuk-Sokołowska, Szostak-Król, 2019, p. 284). Another challenge for educational work in conditions of cultural diversity, which is unpredictable and for which there is no ready, universal curriculum and methodological model indicating a specific way of acting and solving difficulties in all situations that arise at the intersection of cultures, is the need for teachers to have attitudes of openness and respect and at the same time extensive knowledge and intercultural competences (Młynarczuk-Sokołowska, Szostak-Król, 2019, p. 284). These conditions make it possible to open up to the richness of diversity and arouse the cognitive curiosity of students by shaping the attitude of tolerance, respect, introducing and explaining the meaning of norms and principles, both own and foreign, and counteracting the formation of stereotypes, prejudices and intolerance. An extremely important factor in the effective inclusion and education of children with migration experience, which cannot be ignored, is the appropriate preparation of the teaching staff and the need to acquire intercultural competences by people involved in educational practice. However, the complexity of this area is a platform for separate considerations.

Summary

One of the priorities of modern education is to solve the issue of preparing people with experience of migration for full participation in the life of school and the whole society. Intercultural education sets special challenges and educational tasks in the form of responsible upbringing and introducing the individual to love, respect, dialogue and tolerance, presenting and explaining the meaning of norms, rules and the values of different cultures should constitute the foundation of education and contemporary multicultural society. Therefore, the implementation of the idea of intercultural education fits perfectly into the direction of modern educational policy to counteract social exclusion, violence, intolerance and marginalization. The experiences in the field of intercultural education so far show that attitudes perceiving people and groups with experience of migration in the educational space as a potential and an opportunity for everyone, not a burden, are extremely important.

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Intercultural education and its inclusive dimension

Abstract

The article presents an extremely important in the face of dynamic processes and changes in the modern world: increasing mobility of people, migration processes, armed conflicts, as well as the policies of many countries, the idea of intercultural education, its assumptions, goals and directions of activities that it sets for educational practice. The text also shows the role of intercultural education in supporting inclusion processes, giving the opportunity to work effectively with migrants and a culturally diverse group, which is a challenge facing education in European countries, including Poland.

Key words: education, intercultural education, inclusion, inclusive education, diversity, migration, multiculturalism, interculturalism, school.

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Fairy tale as a “touristic product” and its significance on local development

Introduction

A fairy tale is a special type of literature that is mainly popular and has a long history. It has always been and is a means of learning and entertainment for both children and adults. It is also directly intertwined with the cultural heritage of each place and the creation of each people. Through fairy tales, moral values, attitudes, history, and culture are passed down from generation to generation, thus bringing about the development of cultural tradition and history (Delonis, 2001). Through the framework of cultural, spiritual, and educational tourism, the appreciation of cultural heritage is carried out, as well as the learning and dissemination of it by the individuals themselves, but also by a wider audience (Igoumenakis & Kravaritis, 2004).

People, for example, travel and have the opportunity to notice the places, the cultures, the stories, the people, and the popular literature and get to know the life and conditions of the place of visit. Through the financial data of the PADA research as well as previous research, it is found that the fairy tale festival that we are researching as a case study, has maximum importance in the development of local tourism and economic development.

The meaning of the fairy tale

The fairy tale according to Avdikos (1994) is a universal and spiritual creation of the people and culture. More specifically, the word “fairy tale” etymologically comes from the Homeric verb “paramytheomai”, which initially means to advise and then, in Herodotus and Plato, to comfort. However, over time, the fairy tale seems to have taken on the essence of the myth, events created by the imagination (Anagnostopoulos, 1997). In most fairy tales, a different action of both people and objects is observed. Often inanimate beings such as trees come to life and animals speak.

Supernatural energy is given to those who participate in the tales and the reader is deeply engrossed and impressed.

The word fairy tale is also worth mentioning that it is distinguished into two forms both the folk and the artistic. Folk music initially seems to be a special invention of individuals, i.e., it is their own creation. The specific form of fairy tales is transmitted as it is by the individuals, the storytellers, or by the inhabitants of the regions. It is a timeless structure and is directly interrelated with the local culture of each region. As a creation of the people, it highlights to a significant extent its features, peculiarities, and psyche and is an echo of social reality itself.

In the second case belongs the artistic fairy tale which is the creation-construction of a renowned literary artist and has its foundations to a large extent in the folk tale, but with elements of the creator's imagination (Delonis, 1991:62).

The fairy tale according to Kaplanoglou (2002) is a special type of both culture and popular literature, while it is also amenable to various readings and uses. It is a type of philology, narrative, historical significance, sociology, anthropology, cultural, and tourism significance. It is characterized by a multifaceted approach and study.

The fairy tale festival as part of cultural tourism

The fairy tale and especially the folk tale is a part of the culture, society, and its people. According to Pelasgos (2008), the fairy tale is created within the framework of multiple traditions, and it is enriched over the centuries.

Avdikos (1994) states that the folk tale, "through its oral tradition, is a special kind of folk literature, while it is also directly intertwined with the oral tradition, collective memory and cultural identity of every people". It is an element of interaction between different cultures.

The fairy tale is directly connected with the heritage of humanity and the people. It is a universal and universal heritage, which is transmitted from person to person. Every person and place through the fairy tale and its dissemination can highlight its history and culture. The fairy tale is found to be an important part of culture and popular literature, while it is also directly connected to the element of projecting the national and cultural identity of each place (Bruner, 2004).

The fairy tale festival is identified with the development of alternative tourism and mainly with cultural-spiritual and educational tourism. Through the festival, the historical, artistic, and cultural heritage of each place develops, while at the same time it becomes known to visitors and is offered as a tourist product. Through this specific form of tourism, visitors/tourists as well as residents of a region can participate in the fairy tale festival and come into contact with values, morals, customs, and attitudes. In this way, visitors have the opportunity to familiarize themselves with the local population, its customs, traditions, and traditions, as well as in conjunction with the cultural events of the area. The visitor who participates in the events of the

fairy tale festival gets to know experientially the Greek folk heritage and at the same time the historical, artistic, and spiritual tradition of the place. (Sfakianakis, 2000).

The fairy tale festival is connected to and implies the development of educational tourism, while according to Igoumenakis & Kravaritis (2004),

the visitor/tourist who attends a fairy tale festival acquires new knowledge and broadens his horizons. Therefore, the fairy tale festival also strengthens educational tourism and, according to Sourtzis, (2003). has as its main tourist product the achievement of learning.

Behind every fairy tale festival, culture develops, while new learning messages are cultivated for the participants. Through the fairy tale festival, you seem to “come alive” a culture and a new world of images and imagination, which lies in the context of the cultural development of each place. (Meraklis, 2012). The fairy tale and tourism as concepts are two factors of different importance, but with common features. According to Bruner (2004), a common feature is that they produce, create and project the culture, culture, values, and experiences of a place. As concepts, they contribute to the maximum extent to the promotion of cultural tourism.

A framework of interdependence, interrelation, and interaction develops between fairy-tale festivals and tourism. Tourism acts as a source of visitor/tourist attendance, as well as revenue. On the other hand, fairy tale festival events play an important role in the tourism of a place, as they attract tourists/visitors, which generate income in the local economy (Barvaresos, 2000).

This is a special field of study and approach with great research interest in recent years. Characteristically, in the international literature, Jolliffe and Smith (2001) report that there is a direct relationship between tourism, festivals, and museums. Their direct relationship is found to play an important role in the development of cultural tourism as well as the level of the economy of a region. More generally, fairy-tale festivals prove to be of vital importance in the context of culture, local cultural tradition, and local tourism. According to Choi et al. (2010) are generally considered institutions, where people and communities meet, interact with each other, exchange ideas and experiences, and are also resources for learning and developing new skills and knowledge.

They function as a type of cultural and educational tourism, but they are also directly intertwined with the development of the region’s economy. The benefits that arise in the local community from the operation of fairy-tale festivals can be distinguished in cultural, social, and economic terms.

Fairy tale festivals as carriers of culture are linked to the formation of local and social capital, as well as the organization of various cultural and social events. They are spaces for highlighting the creativity and inspiration of a place, as well as for recognizing and passing on its cultural elements. They bring about the development of positive interactions, contribute to the strengthening of social cohesion, and, in general, the creation of an active state that highlights its culture.

Also, through fairy-tale festivals, the economic development, especially of a region, as well as its local tourism, is achieved to the greatest extent. Festivals as carriers of cultural resources create a positive contribution to cultural tourism and, by extension, to the economy (Denicolai et al., 2010). Cultural tourism, through storytelling festivals, utilizes cultural heritage in order to attract tourists/visitors, but also to enhance local and economic development.

It, therefore, follows that the cultural heritage and history that can be projected through storytelling festivals are identified with economic development (Jolliffe & Smith, 2001). Through fairy tale festivals which are a form of cultural tourism, the framework of the economy of a region is strengthened. According to Andriotis, (2003) it has been established that the strengthening of a place at a business level is interrelated with dealing with the seasonality of tourism, but also with the lengthening of the tourist season.

Fairy-tale festivals as a special form of cultural tourism act as sources of economic development for regions. They are important sources of absorption for a large number of working personnel. Therefore, the problem of unemployment of both younger people and several socially vulnerable groups is addressed seasonally and partially (Apostolopoulos & Sdralis, 2009).

The tourism exploitation of the cultural heritage and history created through fairy-tale festivals has a positive and decisive effect on the promotion of several areas, but also on the strengthening of their tourist development since it takes place mainly in rural areas engaged in the agricultural and livestock sector, but also in small and barren islands, which have limited potential for tourism development. The development of a form of cultural tourism in these areas proves to be vital, as it increases the possibilities of strengthening the local economy.

Case study of a fairy tale festival on the island of Kea

In several parts of our country, various fairy tale festivals take place, especially in the summer months, which seem to have a long history and history. Most of them aim to spread and highlight myths, legends, and fairy tales through various artistic, educational, and cultural performances. They significantly alter intangible cultural heritage, history, and tradition. All these actions are identified with the development of cultural, spiritual, and educational tourism.

In the following framework of the paper, we will present a case study of a fairy tale festival that takes place on the island of Kea. This is the oldest fairy tale festival in Greece, which is also internationally known and takes place every summer. Its organization dates to 2003. It is a special fairy tale festival in this region that has been running for 20 years. It takes place from July 22 to 31, on the island of Kea.

This year's fairy tale festival on the island of Kea was dedicated to Aleko Fasiano, who also designed its logo. At the festival, visitors had the opportunity to hear stories from notable artists and musicians both from Greece and internationally.

The festival program included Greek storytellers, musicians, artists, researchers, and scientists, who spoke and talked about fairy tales, myths, poetry, and storytelling.

The following reports took place, such as:

- A tribute was made to commemorate the 100th anniversary of the Asia Minor disaster. For example, various fairy tales, stories, poems, testimonies, and events from 1922 and that time were read.
- Various theatrical events and musical performances were developed.
- There was also an exhibition and photographic material about the painter, Aleko Fasiano, and his special artistic creations and paintings.
- Various performances, actions of myths, and fairy tales with various thematic fields were developed by both Greek storytellers and storytellers from abroad.
- The Textile Art exhibition took place. A special exhibition of mixed techniques based on the utilization of threads, fabric, and threads. The said exhibition is worth emphasizing that it was dedicated to Mania Hatzioannidis.
- There have been many musical bands, tunes, and songs.

The island of Kea and its municipality practically support culture, tradition, customs, folk tradition, and values. The achievement of support of all these features seems to be achieved to a significant extent with the Festival of Fairy Tales organized in collaboration with the Center for the Study and Dissemination of Myths and Fairy Tales. The said festival constitutes a timeless value of the development of folk tradition, oral language, as well as the interaction of different cultures, peoples, and arts.

Cultural, spiritual, and educational tourism is cultivated through the festival of Gia. The fairy tale festival on the specific island functions as an example of strengthening the local culture, and cultural heritage, but also the promotion of the tourism and economic industry. It utilizes the cultural heritage which acts as a tourist product and attracts people to the area. Thus, cultural tourism, as one of the main forms of alternative tourism, contributes to the strengthening of local culture, the promotion, and the protection of the island’s cultural capital and its development (Apostolopoulos & Sdralis, 2009).

Summary

It is found that the fairy tale festival proves to be pivotal in the development of local culture and development. Through the framework of the organization of fairy-tale festivals, the development of cultural tourism is achieved to a large extent and thus the acquaintance and appreciation of the historical, artistic, and spiritual heritage of the region are achieved. The form of educational and educational tourism is strengthened, as through the attendance of fairy-tale festivals, people acquire new experiences and new skills.

The contribution of fairy-tale festivals is interrelated with the development of the local economy. Multiplicative trends are created in the local economy, while entrepreneurship is strengthened.

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Fairy tale as a “touristic product” and its significance on local development

Abstract

The development of cultural tradition and history created through fairy tales can sometimes help a place become a tourist attraction. In our case, the organization of fairy-tale festivals plays a key role in the development of cultural, spiritual, and educational tourism. It is an institution that has a long history and is intertwined with the development of culture, while it has helped the island of Tzia to become a pole of attraction for international and domestic tourism.

Key words: fairy tale, development, cultural tourism, spiritual tourism, educational tourism

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