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The Perception of Teachers and Technology in Polish Policy Documents Devoted to Information and Communication Technologies in Education

Abstract

The article analyses how teachers and technology are presented in Polish policy documents concerning education. Using critical discourse analysis and corpus analysis, the authors identified three main themes: infrastructure deficiencies, insufficient digital competences of teachers, and online security threats. Teachers are portrayed as unprepared for technological challenges, requiring constant training, but at the same time remaining an essential part of the education system. The documents call for a redefinition of their role – from experts to mentors or guides in the learning process. Technology is presented as an independent force driving social and educational development, capable of solving key problems in education. However, the authors point out that this dominant discourse does not take into account the social and institutional context of the changes taking place, which leads to a simplified picture of the relationship between education and technology. The text draws attention to the lack of critical reflection on technology as a socially conditioned phenomenon – instead, it is accepted as an independent, self-sufficient force, detached from the interests and activities of specific entities.

Keywords: digital education, teacher, technology, digital competences, discourse analysis.

Introduction

In recent years we are observing the growth of the role of information and communication technologies (ICTs) in education. This change – which had already been reinforced all over Europe through the postulate of the promotion of digital education (see e.g., European Commission 2019) – has accelerated in recent years because of two factors. The first was the Covid-19 pandemic, which forced teachers and students to almost instantaneously switch to digitally-mediated learning methods (see e.g., Winiarczyk, Warzocha, 2021). The second and more recent one was the release, in November 2022, of ChatGPT, the freely available generative AI chatbot by the company OpenAI. Importantly in the context of education, this tool allowed to easily create original pieces of text on a level that was sufficient to meet the grading standards of many teachers, and to solve problems requiring using mathematical equations or coding.

The aforementioned technological changes are reflected also in Polish educational policy documents. These types of documents set the direction of the development of the Polish education system, contain diagnoses of the current educational system, and recommend actions from policymakers, administrators and teachers. Importantly for the current study, they are also based on – not always explicitly stated – assumptions concerning key questions relating to the role of technology and teachers in education and society as a whole. The aim of this text is to recognize and understand these assumptions.

Theoretical underpinnings

The study uses an approach based on the interlinked methodologies of pragmatic linguistics, critical discourse analysis and critique of ideology. Taking the perspective of critical discourse analysis means that the object of the study is not to determine the factuality or truthfulness of the analyzed documents, nor is it to reconstruct the actual beliefs of the authors or policymakers. The analysis concentrates on the ways in which reality is constructed with linguistic means, i.e., what patterns of meaning and interpretational frameworks are created and reinforced in the documents. This means that this approach does not concentrate on the factual value of the diagnoses and postulates presented in the documents, but rather on the way in which the language of the documents naturalizes certain beliefs about the role of technology and teachers. The *critical* part of the study concerns the unveiling of ideological underpinnings of discourse in the documents rather than discussing with the arguments presented therein.

We define ideology following Jef Verschueren, who claims that “We can define as ideological any basic pattern of meaning or frame of interpretation bear-

ing on or involved in (an) aspect(s) of social 'reality' (in particular in the realm of social relations in the public sphere), felt to becommonsensical, and often functioning in a normative way" (Verschueren, 2012, p. 10).

Ideology in this sense is not an axiologically loaded notion – like it is in the opposition between (real, true) science and (bad, false) ideology we often observe in the public sphere – but rather a term describing a set of basic and unreflectively accepted (or at least not put into question) beliefs concerning a given aspect of social reality. Verschueren puts the word "reality" in parentheses, because any critique of ideology stipulates that social "reality", even though it seems objective and unquestionable to the persons who function within it, is in fact an effect of complex processes of "normalization" and "objectivization".

The second part of Verschuheren's definition – referring to the "normative" character of ideological patterns of meaning or frames of interpretation – means that in this text we are interested primarily in the norms that are created for social actors who are denoted by the analyzed terms. In particular, we are trying to understand, what actions are required from "teachers" towards "technology" and how the two terms are valued – e.g., when is a teacher "good" or when is technology "bad".

According to Verschuheren, "(One of) the most visible manifestation(s) of ideology is LANGUAGEUSE or DISCOURSE, which may reject, construct, and/or maintain ideologicalpatterns." (Verschueren, 2012, p. 17). Verschuheren's pragmatic-linguistic approach suggests that the two terms (language use and discourse) are equivalent – this of course is a controversial decision from the point of view of some classic conceptions of discourse (see e.g., Foucault 1971), but, regardless of any care for theoretical orthodoxy, does unequivocally point to language as a privileged space for the analysis of ideology. Crucially, the pragmatic approach recognizes the *productive* role of discourse, which means that it claims that language does not (only) describe reality, but also creates or constructs it. This is especially true with regards to institutions of power (e.g., Foucault 1977) – this is why policy documents, among others, are a promising object of this type of analysis.

One of the key functions of the language of power is the legitimization of certain practices of management; these practices are shown as necessary with regards to the aspects of reality that have been naturalized. In the case of a change as significant as the introduction of digital technologies in education, observing such practices seems especially important.

State of the art

Earlier analyses concerning the representation of the problem of technology in educational policy documents suggest that technology is almost always valor-

ized positively as a means of offering solutions to many problems plaguing education, and that teachers need to adjust to the speed and character of technological development. E.g., a study which – like this one – was conducted as a part of the EDUCAT(H)UM project and concerned EU educational policy documents revealed them as

> portraying EdTech as a panacea without adequately addressing the multifaceted challenges and implications. Thus, the problem of an *a priori* 'inadequate' teacher, constantly lacking digital competencies, is discursively constructed as commonsensical. Simultaneously, the solution to the problem is imposed as an implicit demand to use EdTech, neglecting and suppressing the complexity of EdTech, as addressed by critical research (Žmavc & Bezlaj, 2024a, p. 12).

A study concerning Slovenian policy documents yielded similar conclusions (Žmavc & Bezlaj, 2024b).

"Critical research", to which Žmavc and Bezlaj point – as well as other texts reflecting critically on technology in education – show a wider context of social and political challenges connected to using technology in schools and in education more widely. For example, in an analysis of documents referring to the use of technologies in higher education after the Covid-19 pandemic and published by British foundations and universities, Daniel Clark points out that the use of technologies in education "has been legitimised through the symbolic and authoritative nature of discourse, [which] is inexorably entrenched in the conditionalities of its production." (Clark, 2023, p. 424). In other words, the technooptimistic discourse of educational institutions is, in this view, a reflection of material conditions which (especially in systems such as the British one) are subordinated to the neoliberal economic model. This model will not only favor the tendency for educational institutions to resemble private companies whose main goal is market success, but also the likening of teachers to persons who are responsible for training in such institutions. As Malin Ideland remarks based on her research on the discourse of Swedish educational institutions:

> The most obvious characteristic in the teacher figuration is the coach, the teacher who customizes his/her work to the individual student and his/her needs of knowledge, location and timeframes, emphasizing that education is not a collective activity but a personal business (Ideland, 2020, p. 43).

On the other hand, the field of data collection that grows larger thanks to technological advancements, leading to the growing "optimalization" of teaching, and making José van Dijck and his co-authors say that the role of the teachers changes "from classroom directors to dashboard controllers" (van Dijck et al. 2018, p. 123). At the same time, as Ideland adds,

> Perhaps paradoxically, it is (still) impossible to articulate that teachers will disappear from school. On the contrary, they need to remain, despite the technological revolution (Ideland, 2020, p. 43).

Research concerning technologies in education in Western and Northern Europe thus point to two main threads – a not-sufficiently-critical technooptimism and the need to change the role of the teachers in order to better adjust to economic conditions and more expertly use technology. It could thus be expected that similar threads would be found in Polish educational policy documents – however, these similarities could be limited because of two main reasons. Firstly, it seems that Polish education is much less exposed to market forces than in the case of Britain or Sweden[1]; it could thus be expected that the change of the teacher's role would be presented in a less "neoliberal" manner. Secondly, the analyses of earlier documents concerning technologies in education point to the fact that the technooptimistic tendency also seems less proclaimed; instead, the aspect of safe use of technologies is underscored (e.g., Cicha et al, 2021). As Adam Mazurkiewicz points out, according to Polish government documents and projects,

> the digitalization of the school should not be a goal 'in itself' but rather [it should be] subordinated to general teaching goals. The presence of information and communication technologies as such remains insufficient if it does not carry with itself the awareness of its limitations (Mazurkiewicz, 2020, p. 117).

Methodological underpinnings

The object of this study are Polish strategic, program and normative documents concerning educational policy in Poland insofar as it concerns information and communication technologies. The analysis concentrates on the ways in which the representation of technology and the role of the teachers in the process of digital transformation of education is constructed. These documents, which are an expression of official institutional discourse, determine the directions of the development of the educational system and shape social beliefs concerning the place of technology in the teaching process. The goal of the study is to recognize and understand the ideological assumptions that can be found in the analyzed documents, as well as establishing how information and communication technology is described within them, what are the meanings ascribed to it and how the role of the teacher with regards to the challenges of digital education is defined. The analysis aims to ascertain in what way the Polish institutional discourse describes the relationship between education and technology and what narrative it constructs in this regard.

[1] This sentence may seem problematic with regards to Sweden, as this country is perceived as traditionally socialdemocratic – and indeed, the level of private expense in Sweden is lowest in the EU (if you compare the percentage of household expense devoted to education, see Karwowska, Piekut 2024), however research suggests that the way public money is spent is leading to a specific "marketization" of education (e.g., Lundahl et al 2013).

The main research question is: how are informational and communicational technologies described in Polish educational policy documents?

This question was then developed into three more specific questions:

1. What are the main problems constructed by the Polish policy documents concerning technologies in education?
2. How are teachers described in these documents?
3. How is technology described in these documents?

In the study, we adopted preliminary hypotheses, which were not treated as rigid expectations or final theses, but rather served as primary stipulations, in line with the exploratory character of qualitative analysis (Silverman, 2008). Their goal was to direct the process of interpretation rather than to determine the final results of the study. These hypotheses are as follows:

H1: In Polish educational documents, technology is not presented as a value in itself, but rather a tool subordinated to teaching goals.

H2: As opposed to Western narratives, the Polish technological discourse is less technooptimistic and puts more weight on the dangers and limitations of technology.

H3: In the Polish context the expectations from the teacher with respect to using technology are less connected to making work more flexible and subordinating to the market, and more to ensuring the quality of teaching.

These hypotheses are treated as preliminary stipulations – general and flexible interpretative suggestions, which may be modified in the course of the analysis. Their function is to point to possible avenues of research and the preliminary situation of the study in the wider context of educational discourses, and not the strict determination of causal relationships. In this way, the procedure adopted in the study follows the logic of qualitative research, in which preliminary hypotheses have a heuristic role and serve an exploratory function (Rapley 2013).

In the study, we analyzed thirteen documents concerning technologies in educational policy, issued by various public institutions. These were, first of all, the Ministries of National Education and of Digital Affairs. Some documents were also issued by the Educational Research Institute (Instytut Badań Edukacyjnych, IBE) and Centre for Education Development (Ośrodek Rozwoju Edukacji, ORE) – two state institutions that are subordinate to the Ministry of National Education. IBE is an institute responsible for studies on education, and ORE is a national public institution devoted to training teachers and promoting teacher excellence. For the analysis, we chose documents that concerned using technologies in education.

To show a wide spectrum of approaches to the topic, we selected various types of documents – manuals, reports, a monograph, as well as bills and resolutions of the Council of Ministers. This multi-genre approach is consistent with good practices in data gathering – Vershueren (2012, p. 26) calls this “horizontal

variation". The publication time of the documents spans five years, from 2019 to 2024. This allowed us to focus on relatively new documents, in which we could find observations concerning the time before and after the Covid-19 pandemic.

As it turned out, there were relatively few documents which met the criteria and it was initially difficult to see that they are connected by a common idea or vision of approaching the problem of technology. The situation changed in on 12 September 2024, when at the motion of the Ministry of National Education the Council of Ministers accepted a resolution concerning the *Policy for the Digital Transformation of Education* (*Polityka Cyfrowej Transformacji Edukacji*, PCTE), a document which sets the direction in which technology should be used in education. This document describes the strategy for changes in Polish education with regards to the different aspects of technology use in the next few years.

The table below presents a detailed list of all the sources along with the type/genre of the source and the publishing institution.

Table 1
List of policy documents concerning the use of technology in education

No.	Document name (original with English translation)	Year	Type	Publisher
1	*Bezpieczna szkoła. Zagrożenia i zalecane działania profilaktyczne w zakresie bezpieczeństwa fizycznego i cyfrowego uczniów* (*Safe School. Dangers and Prophylactic Recommendations for Physical and Digital Safety of Students"*)	2020	Manual	Ministry of National Education
2	*Sztuczna inteligencja* (*AI*) *jako megatrend kształtujący edukację. Jak przygotować się na szanse i wyzwania społeczno-gospodarcze związane ze sztuczną inteligencją?* (*Artificial Intelligence* (*AI*) *as a megatrend shaping education. How to prepare for the socio-economical opportunities and challenges linked to artificial intelligence*)	2022	Report	Institute of Educational Research (IBE)
3	*Umiejętności nauczycieli w kontekście potrzeb nowoczesnej edukacji* (*The abilities of teachers in the context of the needs of modern education*)	2022	Monograph	Institute of Educational Research (IBE)
4	*Nauka w cyfrowym świecie transformacji technologicznej i globalnych wyzwań* (*Learning in the digital world of technological transformations and global challenges*)	2023	Manual	Centre for Education Development (ORE)
5	*Polityka cyfrowej transformacji edukacji – diagnoza* (*Policy for the Digital Transformation of Education – Diagnosis*)	2024	Report	Ministry of National Education

Table 1 (cont.)

No.	Document name (original with English translation)	Year	Type	Publisher
6	*Polityka cyfrowej transformacji edukacji* (*Policy for the Digital Transformation of Education*)	2024	Bill	Ministry of National Education
7	*Polityka cyfrowej transformacji edukacji – uzasadnienie* (*Policy for the Digital Transformation of Education – Justification*)	2024	Bill	Ministry of National Education
8	*Strategia cyberbezpieczeństwa Rzeczypospolitej Polskiej 2019-2024* (*Strategy of Cyber Safety for the Republic of Poland, 2019-2024*)	2019	Resolution of the Council of Ministers	Ministry of Digital Affairs
9	*Polityka dla rozwoju sztucznej inteligencji w Polsce* (*Policy for the development of Artificial Intelligence in Poland*)	2020	Resolution of the Council of Ministers	The Council of Ministers' Committee for Digital Affairs
10	*Ustawa z dnia 7.07.2023r. o wsparciu rozwoju kompetencji cyfrowych uczniów i nauczycieli* (*Bill of 7 July 2023 on supporting the development of digital competences of students and teachers*)	2023	Bill	Ministry of National Education
11	*Program Rozwoju Kompetencji Cyfrowych* (*The program for the development of digital competences*)	2023	Resolution of the Council of Ministers	Ministry of Digital Affairs
12	*Zintegrowana Strategia Umiejętności* (*część ogólna*) (*The integrated strategy of abilities – general part*)	2019	Resolution of the Council of Ministers	Ministry of National Education
13	*Zintegrowana Strategia Umiejętności* (*część szczegółowa*) *Polityka na rzecz rozwijania umiejętności zgodnie z ideą uczenia się przez całe życie* (*Integrated strategy of abilities – detailed part. The policy for developing abilities according to the idea of lifelong learning*)	2020	Resolution of the Council of Ministers	Ministry of National Education

Source: Author's data

The study was conducted with the use of critical discourse analysis aided by corpus analysis with the use of the LancsBox tool (Brezina et al., 2021). As Paul Baker points out (2010, p. 123), corpus analysis in itself is not a sufficient method of analysis of the ideological assumptions of studied texts; in this study, it allowed to ascertain the choice of the texts and reach preliminary conclusions.

After the documents were uploaded into LancsBox and the corpus[2] was created, first we analyzed which single words are mentioned most often in the text,

[2] For the needs of this article, we use the term "corpus" for our set of documents, because of the use of corpus analysis as a tool; it should be noted that strictly speaking, the term corpus should not be used for such a small and selective dataset (see Rühlemann 2019, 1).

in order to judge if the analyzed documents are indeed focussed on the key themes. In this analysis we came upon the following words (indicated below with the number of appearances in the documents and with the most common English equivalent of the term):

1. Umiejętności (*abilities*) 1738
2. Edukacji (*education*) 1421
3. Nauczycieli (*teachers*) 1153
4. Uczniów (*students*) 1110
5. Pracy (*work*) 1053
6. Rozwoju (*development*) 1052
7. Cyfrowych (*digital*) 994
8. Kompetencji (*competences*) 923
9. Działania (*actions*) 884
10. Szkoły (*schools*) 741
11. Technologii (*technology*) 660

As some of the terms that are crucial to the analysis, are composed of more than one word, we also searched for the most common double ngrams (i.e., combinations of two words). The most important were those which had the most appearances:

1. uczenia się (*learning*) (514)
2. kompetencji cyfrowych (*digital competences*) (505)
3. sztucznej inteligencji (*artificial intelligence*) (442)

After this initial confirmation of the validity of the documents for the chosen themes, we carefully analyzed concordance lines for the most important subjects, which allowed us to see them in a wider context (seven words before and after the given key word). The analysis of concordance lines was performed for the terms which were found the most important for the theme of the research based on the earlier parts of the analysis and the discussion within the EDUCAT(H)UM project, including analyses by Žmavc and Bezlaj (2024a, 2024b). Ultimately, the most interesting results from the point of view of the research goals were obtained through the analysis of the following terms (the asterisk was used to include the declinations or conjugations of the terms, the different genres and adjective forms of nouns, e.g., technologiczny – technological. The English translation is given for the most typical version of the term):

— nauczyciel* (*teacher*) (2188)
— technologi* (*technology*) (1213)
— ucz* się (*learning*) (834)
— technologi* w edukacj* (*technology in education*) (11)
— korzystan* z technologi* (*using technology*) (42)
— rozw* kompetencj* cyfrow* (*development of digital competences*) (209)
— kompetencj* cyfrow* nauczyciel* (*digital competences of teachers*) (27)

— edukacj* cyfrow* (*digital education*) (129)

The analysis of concordance lines enabled the initial identification of main subjects addressed in Polish educational policy documents concerning technology. Having identified these subjects, we performed a detailed analysis of thusly identified fragments of the texts, which required us to go beyond the 15-word concordance lines we looked at previously.

Analysis of results

1. Main problems constructed by the Polish policy documents concerning technologies in education

The analysis of the documents revealed three main themes concerning technology. The first one refers to furnishing schools with the appropriate, modern equipment and elements of technological infrastructure. The documents point out that insufficient equipment makes using digital solutions in the classroom difficult. Infrastructural problems – mainly concerning the lack of sufficiently fast internet connections – make it impossible to conduct classes with the wide use of digital technologies, e.g., because not all students can use the internet connection at once. These themes are present in the documents even though the Ministry of National Education conducted a number of projects aiming to finance equipping schools in the newest devices. Example:

> Polish schools, despite carrying out several projects (e.g., Digital School, Laptop for the Student, Laboratories of the Future, Active Whiteboard or the project of the National Educational Network) still face shortages of modern computer equipment for students and teachers, and of sufficiently robust internet connections. In many schools the equipment is obsolete and middle- and high schools were recently neglected in the shipments of computers and other equipment. (Rada Ministrów, 2024, p. 42)[3]

The second theme concerns the competences of the teachers. Every document mentions that the teachers have inadequate skills to conduct lessons with the use of digital technologies, which is why they need to train constantly. It is suggested that the teachers constantly deepen their knowledge of using technologies in education and – in the *Policy for the Digital Transformation of Education* – that each school appoints a coordinator of digital education, whose role it would be to support teachers in using digital technology in various activities. For example:

> Teachers do not question the attractiveness of digital technologies, even though many of them have reserves in using them in everyday work. Although 90% of teachers declare the use of digital technologies in teaching, expository methods dominate […] Teachers

[3] All translations into English of the original texts are the authors' own translations.

still use ICTs sparingly to communicate with the students' parents, as well as other teachers or schools. (Rada Ministrów, 2019 a, p. 41).

The last theme is online safety. The policy documents point out the many dangers of the web and present tips and recommendations, how to warn young people against them. For example:

Cyber safety education should be available from the earliest stage, as soon as the children and young people have access to digital services – it would be best if it were conducted before the children enter the digital world; it is often practically required during the three first years of primary school. Taking into consideration the subject of the safe use of cyberspace, it is assumed that the teachers will receive support in the carrying out of the basic teaching goals, especially in the updating of curricula for different subjects according to the state-of-the-art knowledge of safe use of digital technologies. Moreover, actions will be taken to support the constant improvement of the teachers in the realm of modern technologies and cyber safety, taking into account the diagnosed needs of a given school or institution. (Rada Ministrów, 2019 b, p. 27)

2. The image of the teacher in the policy documents

The analyzed documents show two elements of the image of the teacher, which remain in some tension with one another: (1) teachers are shown as not possessing adequate digital competences; (2) with the ongoing digitalization of education, the role of the teacher is shifting from the expert and the only possessor of knowledge to a partner in the search for knowledge and in the process of education in general.

A. Teacher as uneducated and in need of training

Teachers are shown as persons who do not possess full digital competences in the potential sense (i.e., are not sufficiently *prepared* to use ICTs), and no not actually use them in a practical sense. Examples:

Research shows that teachers in all types of schools have a relatively low knowledge about various aspects of digital safety. It has also been shown that only some teachers update their digital competences, and that persons with average and high ability of using ICTs in teaching are a small minority in schools. (MEN, 2020, p. 68).

Even if [the possibilities to use AI tools] will become available, teachers are not ready to introduce them and to use them (Fazlagić, 2022, p. 82).

most teachers do not have neither the time nor the technical abilities to create their own virtual reality applications (Fazlagić, 2022, p. 136).

Teachers still show a very limited use of the great potential given by information and communication technologies for teaching their subjects and more general abilities (Płusa, 2023, p. 58)

It can be assumed that to diagnose a competence gap in the use of ICTs by teachers, one would have high abilities in this regard (or tools from experts). Meanwhile, only a minority of the teachers used active methods of teaching with ICTs, the use of which is facili-

> tated by high digital competences. One can thus estimate that less than half of the teachers (including directors) have the knowledge and abilities allowing for a profound analysis of competence gaps with regards to ICTs (Rada Ministrów, 2024, p. 122).

As we can thus see, the diagnosis of low abilities of teachers pertains both to general questions concerning the use of ICTs and specific areas in which such technologies are or could be used – cybersecurity or online safety, teaching with the use of AI-powered apps, or creating their own VR apps. The last cited fragment points out another difficulty – teachers and school directors, not having sufficiently high digital competences, are not able to understand exactly in what areas they should develop their skills.

Teachers are also shown as unwilling to use digital solutions. These types of narratives are a form of constructing of a normative vision of the approach to technology. Consistent with Verschueren's approach, the language not only describes the "anxieties" of the teachers, but also reinforces them and gives them meaning, thusly legitimizing further systemic actions:

> We should also remember the constant anxieties of teachers that any technology introduced in schools may result in the diminishing of their role and their eventual elimination (Fazlagić, 2022, p. 75).

> Teachers do not question the attractiveness of digital technologies, but many of them have reserves about using them in everyday work (Rada Ministrów, 2019 a, p. 41).

Teachers are mostly shown as critically assessing their abilities concerning ICTs and willing to educate themselves. Interestingly, this diagnosis is often justified by invoking research concerning the teachers themselves – and students as well.

> The results of the study[4] conducted in the spring of 2020 on a non-representative sample of over 3 thousand Polish teachers showed that only 5% of them felt very well prepared to conduct online courses; students expressed a similar sentiment, with only 8% judging the abilities of the teachers as high and one in five saying that they are low (Rada Ministrów, 2023, p. 37).

> With regards to the way of conducting online classes, as many as 45% of teachers felt a low or average level of preparedness to teach in this way (Osowska, 2022, p. 125).

> Also in the case of regular forms of teaching, a great majority of teachers feel the need to coordinate the use of ICTs, expressed by the support for the idea of introducing the function of a school ICT coordinator (Rada Ministrów, 2024, p. 123).

In other words, the documents show that the need of teacher training, stemming from the low abilities of the teachers, is observed by teachers themselves and by students who interact with them, and not, e.g., as a result of a policy

[4] The fragment concerns the study: Plebańska, M. et al. Edukacja zdalna w czasach COVID-19. Raport z badania. Wydział Pedagogiczny Uniwersytetu Warszawskiego. 2020. Online. Access 17 October 2020. https://files.librus.pl/articles/00pic/20/07/09/librus/a_nauczanie_zdalne_oczami_nauczycieli_i_uczniow_RAPORT.pdf

decision concerning the shape or character of education in Poland. The references to quantitative data serve a legitimizing function and, in the light of the adopted theoretical frame, do not negate the ideological character of the narrative. On the contrary, they strengthen the naturalized image of the teacher as "inadequate" to the needs of new technologies. Nothing suggests that these documents are based, in this aspect, on, e.g., institutionally created list of abilities or actions that the teacher should be able to perform (although such a list could be created with regards to students, see e.g., Cicha et al. 2021); the vocabulary used suggests rather the necessity to adjust to a technological reality, which is external not only to the teachers, but also the institutions that are performing the diagnosis. In the perspective of critical discourse analysis, these types of representations are not only a neutral reflection of the results of empirical studies, but are an element of an ideological interpretative framework in which the language of the analyzed documents functions. This means that the teacher with his or her actual diverse experiences and abilties is not described as a real participant of the education system, but is rather constructed as a discursive figure – someone who is perpetually placed in the position of "not adjusted" to contemporary demands. In this logic, the teacher is always "at a deficit", because his or her competences are systematically described in terms of a lack that needs to be constantly filled through training and other reparatory activities. In effect, the discourse of educational policy naturalizes the vision of a teacher whose main role becomes the constant catching up with technological progress, and not the active shaping of its directions.

The cure for these inadequacies – aside from furnishing schools and teachers with the right equipment, as mentioned above – is first and foremost training:

> In particular, the teacher should have the possibility to know in advance the educational uses of the equipment that will be available at school or for students. New equipment in schools should be introduced along with teacher training (Rada Ministrów, 2024, p. 11).
>
> The fulfillment of the postulate to train teachers or all subjects, as well as counselors and psychologists, is of great importance (MEN, 2020, p. 68).
>
> Training concerning chosen aspects of digital safety needs to be organized obligatorily, using the means that are available for school authorities to raise teachers' skills, or means from external sources (such as EU projects, the school board or ministry) – with regards to the purchase of new digital devices or installation/changes of/in the school computer/internet network (MEN, 2020, p. 69).

Teachers are thus described first and foremost as being in the process of change – not ready for digital transformation, but aware of their shortcomings and mostly (despite some reservations) amenable to undergoing the right training to ameliorate the situation. We write "undergoing" training, and not "participating in" training, because it seems that even though teachers are described as agreeing to training and even signaling the need to be trained, they are shown

as being fundamentally passive in this process; the documents depict them as objects of action, and not acting subjects. This can be interpreted as the naturalization of technological discourse (Verschueren), in which technology is treated as an external force to which everyone needs to adjust. In consequence, the naturalization of this discourse leaves no room for reflection if teacher training in this aspect is indeed justified – the answer is always already given as "yes". The discussion does not concern the purposefulness of training, but is only conducted at the level of implementation, since policy documents claim that the training is indispensable. This way, another thread of the narrative appears as a natural consequence of the discourse: training is supposed to be the answer to the purportedly inadequate teacher skills.

B. CHANGING ROLE OF THE TEACHER

Describing the teachers as inadequately proficient in using ICTs and passive in their adoption in schools remains in tension with another thread present in the documents, namely the claim that the teacher is an absolutely crucial part of education, but his or her role needs to change. This tension is essentially in line with Ideland's observation that within the discourse it is impossible to think of a school without teachers (even though they are not fundamentally adjusted to the contemporary world).

On a more superficial level, the described change concerns the use of technology – the documents suggest that the use of ICTs, especially AI-based applications, will help to improve the working conditions of the teachers, especially through making classes more engaging and replacing teachers in the most tedious and time-consuming activities. For example in the document *Nauka w cyfrowym świecie* (*Education in the digital world*) (Płusa, 2023, pp. 84-93), contains a number of examples of using applications for communication and especially making the teachers' work easier (much of the space is devoted to teaching students who experienced migration). Applications using artificial intelligence are deemed most promising – they are supposed to help not only in planning lessons, grading and clerical work, but also, e.g., in communicating with parents:

> Teachers are obligated to keep constant relationships with parents. AI could relieve teachers in some tasks involved in this, especially if AI will allow for giving direct feedback concerning the student to the parents, without the need to engage the teacher (Fazlagić, 2022, p. 35).

Teachers could devote time that is saved in this way for example to "teaching or rest" (Fazlagić, 2022, p. 35), which, along with partly automated psychological help, could reduce burnout:

> The burden of administrative tasks also has considerable impact on the level of motivation to work and often results in burnout. Artificial Intelligence can also suggest with whom and concerning which topic the teacher should meet (Fazlagić, 2022, p. 35).

But using ICTs in education is also supposed to bring about one more change, this time with regards to the teacher's position at the school, especially with regard to the students. The teacher is not supposed to be the expert in the field whose main goal is the top-down presenting of information – the documents often criticize the expository method, which is deemed not adjusted to the needs of the digital world. Instead, there is often talk of cooperation (e.g., MEN, 2020, p. 68) and the shift from teacher to partner, coordinator of the process of education, or tutor:

> The profession of the teacher in times of digitalization comes with varied requirements. The way students perceive the teacher also changes. At school, students expect the teacher to be a mentor, coordinator, coach or guide in the surrounding world. It is especially important in the situations in which the student, having exhausted all possible ways of solving a problem, turns to the teache" (Płusa, 2023, p. 36).

> The popularization of the culture of learning starts on the earliest stages of education and demands the redefinition of the role of the teacher and of the student. The teacher becomes the "guide", the "companion in cognitive, emotional and social experiences", and the student is defined as the subject of the process of learning. With roles defined in this way, the responsibility for the educational effects lies equally on the teacher and the student, who becomes an active participant in the process of learning and teaching, and not just a passive receiver of content (Rada Ministrów, 2019 a, p. 64).

The change of the teacher's role is the effect of the discursive construction of the new professional norm. As mentioned earlier, in the light of the pragmatic approach, the language does not describe reality, but actively creates it, pointing to the desired model of the relationship between the teacher and the students. In this sense, the descriptions found in the documents are not neutral diagnoses, but practices of legitimizing specific demands from the profession of the teacher – moving away from the role of the expert towards that of the guide, tutor or coach. Consistent with Verschueren's approach, we see here an ideological pattern of meaning, in which the belief that this model of relation is the only adequate answer to technological changes is being naturalized. This means that the redefinition of the role of the teacher is not a simple consequence of the changes in the digital world, but the effect of institutional discursive action, which create a new professional certainty, at the same time marginalizing alternative ways of thinking about education. Importantly, this change is also caused by – among others – the vision of the teacher and his or her digital competences described above – especially the fact that the documents describe teachers as those who are not "at home" with the new technologies. In this context, the notion of "Prensky's digital immigrants" (Rada Ministrów, 2024, p. 85) is used, which suggests that students seem more alike to "digital natives" (Prensky 2001), and that their knowledge and experiences need to be taken into account in the planning of the educational process. Moreover, technology – as we analyze below – is supposed to widen the autonomy of the

students in the learning process, which means that they require different methods of teaching then before.

3. The image of technology in the policy documents

The analyzed documents diagnose contemporary life as unprecedentedly permeated with technology, which is presented as a social challenge and an element shaping social change:

> Most of the Polish society functions in a world of digital content and services, which permeate everyday life on a level unmatched by any technology from the past (MEN, 2020, p. 2).

> The technological tsunami – dynamic development of digital tools and the internet, which leads to the constant introduction of technological and virtual novelties into everyday life (Płusa, 2023, p. 65).

> In the face of dynamically developing technologies related to, among others, the Internet of Things (Rada Ministrów, 2019b, p. 23).

> Artificial intelligence is to be one of the most important technologies of the future (Fazlagić, 2022, p. 26).

Importantly, the advent of new technologies and the potential or actual changes connected to it are usually described as a natural element of reality, and not something made by humans – such as scientists, engineers or big corporations – i.e., a result of some planned action, which one could potentially influence. Ascribing agency to technology is an example of ideological shift, which obscures the real social and political actors who are responsible for its development. From the perspective of critical discourse analysis, we see a process of naturalization, in which technology is presented as an autonomous and inevitable force of change. This approach legitimizes the necessity for all subjects in education to adjust to "objective" progress, and at the same time limits the possibility to question the sources and directions of those changes. In concordance with Verschueren's ideas, ideology works here through the creation of an interpretative framework, which give the guise of naturalness and necessity to what is in fact a result of institutional and economic decisions. In consequence, the language of the documents not so much describes technological reality, but constructs it as unquestionable and determining action in the sphere of education. This tendency is easiest to observe when we look at sentences and passages in which technology is the subject:

> Technology, especially AI, makes us redefine the division of competences (Fazlagić, 2022, p. 27)

> Technology has been an element of change towards more independent, curiosity-driven styles of learning. Digital technologies had an enormous impact on teaching and learning, not only as different kinds of technological tools available for use, but also in the way in which we understand how the process of learning occurs (Rada Ministrów, 2024, p. 84).

This way "technology" – usually the word is used in a general sense, although specific technologies are sometimes named – is shown as the ultimate explanation of the changes mentioned above. There does not seem to be any other subject behind thusly understood "technology" – for example international organizations, governments or other state institutions that create policy regarding technology (in education or other areas of life), companies developing technologies (including AI) whose interest is that those technologies permeate as many areas of life as possible, or social actors such as teachers, parents or students. This "autonomous" technology can however be "used" in various ways – that is why teacher skills that were analyzed in the previous part of the text are so important. Technology may be a very good tool in teachers' work – "personalization of the teaching process, adjusting materials to individual needs of the students and the automatization of grading" (Rada Ministrów, 2024, p. 81) are mentioned in this context. Right use of new technologies raises the quality of teaching, as it enables the individual fitting of the tools to the students (Płusa, 2023, p. 81). Digital competences are considered key competences, and therefore it is indispensable that they are taught to the students:

> It is not surprising, then, that the competences of this sort, usually referred to in literature as digital competences, are considered among key competences, and are the fundament enabling the ability of lifelong learning and functioning in many environments and areas of life (Osowska, 2022, p. 121).

Moreover, advanced digital competences of teachers will be reflected by the practical use of these technologies by students. In the documents it is assumed that high digital competences of students are a direct effect of high digital competences of teachers (Rada Ministrów, 2023, p. 73). The following fragment presents this process in the most concise manner:

> Correctly planned and used digital teaching using open digital resources, based on using various digital tools, activating students to creatively use available equipment and matching applications or functions is conducive to the development of digital and other abilities and increases the effectivity of educational processes; it creates conditions to undertake innovative and creative action; teaches group cooperation; develops the autonomy of thinking, teaches responsibility and the creative approach to own development; enables the comprehensive development of the individual, but also influences the equalization of educational opportunities, the leveling of social disproportions, because it does not depend on the place of residence, the level of education of parents, economic status of the given family of the student (Rada Ministrów, 2024, p. 87-88).

Education with the use of technology seems thus to be considered as – to use the term cited in the beginning of this text – panacea for the ailments of the contemporary school system, such as the purported lack of specific, useful abilities (the term "digital abilities" seems to enable us to bypass the question concerning the usefulness of abilities gained at school in later life), the lack of independent thinking and feeling of responsibility or the deepening, or at least not

changing, social inequalities. The diagnosis is especially problematic if we take into account the autonomous character of technology, which was mentioned earlier – it seems that such a formulation neglects the importance of other social actors in the shaping of technological, educational and social policies, which could actively influence the reduction of the aforementioned ailments. Coming back to our theoretical frame, this is an example of an ideological pattern of meaning, in which social, cultural and institutional context is ignored, and technology is shown as a neutral and universal tool for change. Critical discourse analysis suggests that these types of discourse homogenize diverse educational experiences and marginalize alternative means of reducing inequality – e.g., through social policy or structural changes in the educational system. In this sense, the language of documents not only describes the potential of technology, but also casts it in the role of the only, obvious solution, which leads to the legitimization of certain directions of action at the cost of other possibilities. This kind of narrative strengthens the belief in the necessity of digitalization regardless of the critical reflections on its limitations. It is worth noting in passing that the cited fragment is one of the few places in which (though, as it seems, marginally) the question of the origin of a given technology is addressed, as the fragment speaks of "open" digital resources.

Discussion

The analyzed documents show the following representation of the relationship between teachers and technology in the contemporary world. The world is shown as dominated by technology and shaped by it in an unprecedented way, and since the importance of technology will only grow, it will also be a growing social challenge, also for teachers. This challenge is all the more important, because with regard to the aforementioned change, the use of technology in education is absolutely necessary. Teachers approach this challenge in the position of unpreparedness – their technological ability is relatively low – and presenting an ambivalent approach to technology: on the one hand, they see its usefulness, especially in making classes more attractive, on the other hand, they sometimes express aversion or anxiety towards technology. However, conscious of their own inadequacy – and seeing their inadequate knowledge reflected in the eyes of their students – they see the need and the sense to enhance their abilities, which would be made possible mainly through additional training.

This picture partly confirms the hypotheses stemming from the literature review. With regards to the first hypothesis, technology is indeed shown as a tool that needs to be subservient to teaching and teachers – but this tool also has its autonomous being. It is also underscored that its use during classes is

worthwhile, and that teachers should learn to actively use those tools. The second hypothesis is also partly confirmed. The most important problems addressed in the Polish policy documents concentrate on the dangers related to using the Internet and on security questions. Even though technooptimism is not as uncritical as it is in the Western European discourses, it is also present – although it is usually qualified. This is linked to the third hypothesis, concerning the role of the teacher. The image of the teacher is an important element of the analysis – in the documents, the teacher is often presented as "inadequate" to the challenge brought about by contemporary technology. At the same time, the teacher remains a key character in the school, although on the condition that some changes are made. These changes include departing from the traditional manner of transferring knowledge towards building a relation of partnership with the students. The teacher's role is to be a companion or a coach, who adapts his or her actions to the individual needs of every student.

Using critical discourse analysis allowed us to move to the side the question of the veracity or adequacy of the content of the documents, and instead concentrate on how certain visions of the social world are constructed with the use of language (Rapley, 2013). In this view, the Polish educational policy discourse is not a neutral description of reality, but rather ideological practice which legitimizes certain ways of thinking about the role of technology and teachers. This approach helped to pinpoint the mechanisms of naturalization – presenting technology as an inevitable causative force and the teacher as a deficit figure, in need of constant improvement. In this logic, the teacher is presented as "inadequate", because his or her competences are systematically described as deficient and in need of ameliorating through training and corrective action. In other words, the language of the documents not only claims that certain insufficiencies exist, but also constructs them and stabilizes them as an obvious element of the educational reality. This type of analysis not only widens the understanding of digital education discourse, but also opens the space for reflections on alternative narratives that could co-create a more balanced and critical view of technologies in education.

Although – again in concordance with our expectations – this view does not seem to unequivocally follow "neoliberal discourse" that we observed in British or Swedish research, but rather stems from the aforementioned belief that technological changes "happen" more or less autonomously – in a sphere independent not only from teachers and students, but also from the ministries who created the analyzed documents – this understanding of technology means that the only role the teachers (but also educational institutions) have to play is only keeping up with technological progress, with regards to which they will never serve the role of subjects.

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Obraz nauczycieli i technologii w krajowych dokumentach poświęconych technologiom informacyjno-komunikacyjnym w edukacji

Streszczenie

Artykuł podejmuje analizę sposobu, w jaki nauczyciele i technologia są przedstawiani w polskich dokumentach strategicznych dotyczących edukacji. Autorzy, stosując krytyczną analizę dyskursu oraz analizę korpusową, zidentyfikowali trzy główne wątki: braki infrastrukturalne, niedostateczne kompetencje cyfrowe nauczycieli oraz zagrożenia związane z bezpieczeństwem w sieci. Nauczyciele ukazywani są jako osoby nieprzygotowane do wyzwań technologicznych, wymagające stałego dokształcania, ale zarazem pozostające niezbędnym elementem systemu edukacji. W dokumentach pojawia się postulat redefinicji ich roli – z eksperta na mentora czy przewodnika w procesie uczenia się. Technologia przedstawiana jest jako niezależna siła napędzająca rozwój społeczny i edukacyjny, zdolna do rozwiązywania kluczowych problemów szkolnictwa. Autorzy wskazują jednak, że ten dominujący dyskurs nie uwzględnia społecznego ani instytucjonalnego kontekstu zachodzących zmian, co prowadzi do uproszczonego obrazu relacji między edukacją a technologią. Tekst zwraca uwagę na brak krytycznej refleksji nad technologią jako zjawiskiem społecznie uwarunkowanym – zamiast tego przyjmowana jest ona jako niezależna, samoistna siła, oderwana od interesów i działań konkretnych podmiotów.

Słowa kluczowe: edukacja cyfrowa, nauczyciel, technologia, kompetencje cyfrowe, analiza dyskursu.