



# PROBLEMS AND PERSPECTIVES OF CONTEMPORARY EDUCATION

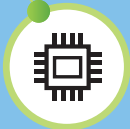
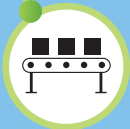


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# **PROBLEMS AND PERSPECTIVES OF CONTEMPORARY EDUCATION**

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# METHODOLOGY FOR THE COLLECTION OF SOCIAL MEDIA DATA ABOUT POLICY-RELATED EXPERIENCES ON THE FRONTLINE OF EDUCATION PROVISION

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## INTRODUCTION

### A FOCUS ON POLICY APPROPRIATION

Education is a sector guided by commitments to quality, equity, access, and integrity, to name only a few, which steer the work of education professionals and reflect the expectations of education beneficiaries as well as the obligations of countries to their citizens.

The extent to which education systems can deliver on such commitments depends a great deal on education policy and its implementation by education participants – teachers, students, parents, administrators. As policy moves across multiple contexts and is thus appropriated by different actors, its outcomes may or may not coincide with the original intention of policy-makers (Bartlett & Vavrus, 2014; Braun, Maguire, & Ball, 2010; Levinson, Sutton, & Winstead, 2009). Some researchers even suggest using the term ‘policy appropriation’ over “policy implementation” since education participants are “active constructors” of

educational policies and reforms as they refract them through the prism of their own experiences, contexts, and identities (de Jong, 2008).

The COVID-19 pandemic underlines the significance of exploring policy appropriation as a way to understanding policy success or failure. Despite all efforts, education systems around the world today are going through times of unprecedented disruption and risk to hard-fought achievements in the area of quality, equity, and inclusion. There is a growing awareness that at least in some cases, the disruptive effect of the pandemic may have been reinforced by policy responses which were ill-planned and/or did not play out as intended, due to a lack of proper support and guidance for those who are on the frontline of education provision (Bergdahl & Nouri, 2020; Gudmundsdottir & Hathaway, 2020; Hodges, Moore, Lockee, Trust, & Bond, 2020; Trust & Whalen, 2020).

The methodology which we present in this chapter was designed in a framework of a project by the Center for Applied Policy and Integrity to rapidly deliver up-to-date evidence of how new policy measures are experienced and appropriated in the practice of teaching, learning, and school management during the pandemic.<sup>1</sup> Although the trigger for our work was the health crisis and its impact on education, the approach to collecting frontline experience data which we describe next can be applied for any research purpose that requires primary evidence of grassroots experiences in education.

The assumption is that such evidence can deliver important insights into the ways in which education policy shapes educational contexts and professional practices to the benefit or disadvantage of education participants and from there, how it supports or hinders education sector commitments. The goal is to contribute to policy improvement from the perspective of practitioners and beneficiaries who are on the frontline of education provision.

## THE POTENTIAL OF SOCIAL MEDIA DATA

Our methodology relies on social media as a source of primary evidence about the policy-related experiences of people who are on the frontline of education provision. Over the past decade, social media have evolved into the largest, richest,

<sup>1</sup> The development and initial application of the methodology (except for Russia) were funded by the Education Support Program of the Open Society Foundations, Grant No. OR2020-70351/CAPI 2020/4. The views and opinions expressed in this chapter belong to the authors and do not necessarily reflect the official position of the organisations they are affiliated with, or of the Education Support Program.



and most dynamic and influential base of evidence of human behaviour in any sector and area of life (Batrinca & Treleaven, 2015; Bredl, Hunniger, & Jensen, 2016). Due to expansive de-computerisation, the experiences shared in the virtual domain have become indistinguishable from the “offline” conduct of users (Varis, 2014), which makes social media a reliable source of information about real life events and actions.

This is also true for the sector of education. Education practitioners and stakeholders use social media to share resources, carry out collegial discussions, and connect to students and parents who, for their part, also use it to interact and exchange on their own experiences with education (e.g. Lundin, Lantz-Andersson, & Hillman, 2017). The online communication provides opportunities to record the shape and nature of communicative practices and repertoires, as well as to understand the complex “online-offline” dynamics of actions and lived realities of people (Blommaert & Dong 2009; Varis, 2014). All this makes social media a promising repository of information for researchers who want to know more about education sector practices, experiences, and contexts.

As the health crisis unfolded, the potential of social media as a source of evidence about education grew even further. In the wake of the pandemic, many teachers, learners, parents, and school administrators intensified their use of social media platforms, in particular Facebook (Trust, Carpenter, Krutka, & Kimmons, 2020). The sharing of experiences and views throughout the crisis was a way of navigating a context of complex challenges which had to be addressed with clarity and without delay, but for which many education participants felt largely unprepared (Bergdahl & Nouri, 2020; Gudmundsdottir & Hathaway, 2020; Hodges et al., 2020; Trust & Whalen, 2020). Their posts and comments in dedicated social media groups have transformed these groups into rich repositories of data in the form of first-hand accounts, stories, and reflections from the frontline of teaching, learning and family life with schoolchildren.

## A METHODOLOGY TO ADDRESS THE CHALLENGES OF HARVESTING CONTENT DATA

What does it take to harvest such experience-related data, and why would education policy researchers need a dedicated method for that?

Most social media research harvests users' attributes and metrics about their connections, interactions, and popularity of posts. An exploration which has a focus on the experiences and interpretations of people in education, however, requires a third type of data. "content data" which conveys the content and meaning of communication between social media users. The use of content data for research purposes brings some undisputable advantages, but also some challenges at the stage of collection, which require methodological solutions.

Unlike evidence from surveys, tests, interviews, or focus groups, which must be created in a time-consuming process, content data from social media does not require interventions by the researcher, which reduces the risk of participant burden and of researcher and recall bias (Prince, 2012). The data is also readily available, which matters in times of crisis that require rapid, yet well-informed decisions.

Furthermore, since content data is about what people say, the primary focus is on the content shared by users and not on users' attributes, preferences, or online behaviour. Although privacy can never be fully guaranteed on social media (Mancosu & Vegetti, 2020), research into content data is less likely to rely on identity disclosure at the reporting stage than research that relies on other types of social media evidence.

On the other hand, social media generates a large volume of content data which can be too big to deal with. Its manual collection may be impossible, while major social media platforms such as Facebook are prohibiting the use of automated data scrapping solutions (Beręsewicz, Lehtonen, Reis, Di Consiglio, & Karlberg, 2018). In most cases, sampling is likely to remain the only option, but how to locate the target users who are of relevance for the sample – in our case education participants – without focusing on their attributes as users and compromising their privacy? And even if they are successfully located, how to ensure that we collect data which provides content of relevance, in our case posts and comments which communicate about policy appropriation experiences in education?

Social media and Facebook in particular have not been designed for such research purposes. Their content algorithms prioritise user preferences, engagement, and marketing considerations over comprehensiveness and thematic focus (Barnhart, 2020). Taking all this into consideration, we felt that there is a need for a methodology that addresses these questions. In the next section of this

chapter, we describe how we addressed them by mobilising and combining into a new approach some of the existing tools which are already at the disposal of researchers and interested practitioners.

## COLLECTING FRONTLINE EXPERIENCE DATA: THE METHODOLOGY

In this contribution we propose a methodology for the identification and collection of content data from platforms such as Facebook, which capture the experiences of education participants on the frontline of education provision.

Such data has to meet four specifications: a) they are generated by education participants (teachers, students, parents, representatives of education authorities) (target group); b) they are concerned with experiences of policies and measures which apply to education sector in their country or region (relevance); c) they do not compromise the privacy of individual users (privacy-safeguarding); d) they are feasible to collect in terms of volume and permissible to collect in terms of means and methods (feasibility).

To meet these requirements, we designed a sequence of steps which include determining where to find the relevant target groups for the data collection, selecting a sample of data from these locations to ensure that the “voices” we capture are also the voices which we really want to hear; and collecting the data in that sample in ways that are replicable, reliable, and compliant the ToRs of the targeted social media platform, which in our case was Facebook.

### FIRST STAGE: SAMPLING

With “sampling” we refer to the process of identifying where to find the target population (education participants) and the content data generated by it, and also which of these data is of relevance because it communicates about policy-related experiences. The sampling stage comprises two routines which address each of these tasks and can be implemented sequentially or in parallel: determining the sources of content data which we want to collect; and selecting a relevant sample of data from these sources.

## Determining the sources of content data

*Overview.* The first routine at the sampling stage is to establish a sampling frame for the data collection, understood as the range of virtual “locations” where we can find our target population and from which we will then select a sample of data for the evidence collection.

Like all other active users of Facebook as the platform in focus, our target population generates content data which is organised in various “locations” on that platform, such as pages, social media groups (SMGs), or on their own timelines as individual users (their profile). Of these, the timelines of individual users are the least suitable as a location to look for data. As there is a timeline for every user on the Facebook platform, there are too many such locations and determining which ones are relevant for sampling would require looking into the attributes of an excessive number of users, thus violating their privacy.

We therefore turned to the remaining two “locations” – pages and groups – as the more promising potential source of content data for our purposes. For of all, groups and pages are meant as places where people communicate about shared interests with other people, which promotes their use as locations for a free exchange among peers and users who care about the same things. Hence, our target population – education participants – are highly likely to engage in discussions of interest at these locations.

There are two additional advantages of using groups and/or pages as sources compared to timelines of individual profiles: a) content data in these locations are not being filtered by the selective algorithm that manages the timeline content on Facebook, which ensures that researchers can have access to all content generated by the target population, in chronological order, and b) better protection of users' privacy as users' personal information is not disclosed.

How to identify which groups and pages should be included in the choice of locations for data collection? In other words, how do groups and pages help to reliably identify members of the target population without forcing researchers to jeopardise the privacy of users?

The identification takes place through the official description of a page or a group which provides formal guidance about the interests of users who post there. As the “idealised properties” of the group relate closely to the properties (Turner, 2003) of the target population, the group/page description suggests if the group

has a good chance of capturing that population. For instance, the group from Serbia (Table 1) describes itself as created to serve the interests of education, teachers, school principals, parents, and children, and invites its members to discuss what matters to them as education participants.

**Table 1.** Example of descriptive metadata for a social media group included in the sampling frame of Serbia (Template 2, Section 2)

Name of the group	<i>Here please copy the exact name of the SMG as it appears in the original language and in English translation</i>
Privacy level (open or closed)	<i>Indicate whether the SMG is open or closed</i>
Description	<i>Insert the official description of the SMG as it appears on the Facebook page of the SMG</i>
Number of members	<i>Indicate the total number of group members</i>
Date of Creation	<i>Provide the date of establishment of the group</i>
Time of evidence extraction	<i>Extraction started: (DD/MM/YY); Extraction ended: (DD/MM/YY)</i>
URL of the SMG	<i>Please, insert the direct link to the SMG</i>

Source: Template 2/Section 2 (Serbia) - CAPI Frontline Evidence Collection Project database

Although groups and pages have similar advantages as units in a sampling frame, by design the groups may be the more appropriate choice. They are meant to be places “to communicate about shared interests with certain people”, which promotes their use as locations for free exchange among peers and users with shared interests. This is in closer alignment with the specifications of the target population above (“participants in social media discussions about education sector topics of shared interest and concern in their country or region”) than the declared purpose of pages as places where public figures, businesses, or non-profits can connect with customers or fans to promote their activities and services (Facebook, 2021).

*Description of the routine.* How to determine which SMGs and pages to include in choice of locations for the sampling frame? The following four steps have proven helpful in making a relevant and feasible selection in this respect.

**Step 1:** Scan the national Facebook landscape for SMGs and pages which meet the following minimum requirements:

- 1) They are special interest groups devoted to the segment of education your research is covering

- 2) They are major groups in terms of significance and number of users
- 3) They have been active in the time period covered by your research
- 4) They are not secret groups.<sup>2</sup>

**Step 2:** Prepare an initial list with the results of the scan for external distribution.

**Step 3:** Select up to five groups or pages from the initial list, from which the content data will be collected. Ideally, each group will gather different education participants and the selection will reflect the diversity of stakeholder perspectives in education in a given national or regional context. For instance, if the frame already features a group devoted to teachers, it is better to fill the other frame “slots” with SMGs devoted to other participants in education, *i.e.* parents, students, principals, civil society, or other stakeholders. To the extent possible, oversampling of target groups should be avoided, except if there is a particular reason for it (for instance, if the policies in the focus of research target only schoolteachers).

Table 2 shows an example of a sampling frame from Ukraine, which is based on these considerations.

**Table 2.** Frontline sampling frame for Ukraine (Template 2, Section 1)

No.	Name of the group	Official description	Included in the sampling frame (final selection)
1	Ministry of Education and Science of Ukraine	Government organisation. Facebook page. 303 452 subscribers	Y
2	Be able to teach: educators' community	Open group. 152.3 thousand members. Publications on advice or algorithm of actions to improve educational process; didactic materials, manuals, textbooks, courses; current education news (from verified sources); surveys, advice on methodological or organisational issues, announcements of events for educators or parents.	Y

2 At the time of preparation of this chapter (December/January 2020), Facebook reduced the categories of groups to only two: open groups and closed groups.

No.	Name of the group	Official description	Included in the sampling frame (final selection)
3	New Ukrainian school (NUS)	Open group. 128.9 thousand members. After the victory of the Revolution of Dignity in Ukraine, a large-scale educational reform was declared, which should overcome the crisis of identity and trust, respond to global challenges taking into account the completed European choice of Ukraine and ensure the development of education in a changing environment.	Y
4	Law and Education	Open group. 38.7 thousand members. The group was created to inform on changes in legislation in the field of education, to clarify current regulations.	Y
5	Union of educators of Ukraine	Open group. 39.7 thousand members. The Group was established to promote civilized development of the country's education system. The union unites progressive educators.	Y
6	Parents SOS	Open Group. Group Creator: SOS Parents Public Association. 188 thousand members. How the Group works on problems in education: 1) the situation is voiced (at school/ kindergarten, or in education in general); 2) find out how this situation is regulated by law and make conclusions what to change: the situation or the law; 3) together with you - change!	Y
7	Teacher's treasury	Open Group. 104. 6 thousand members. Everything is gathered in one place for the convenience of teachers and parents.	N
8	EdEra for teachers	Open Group. 45.1 thousand members. This is a community of active educators who want to learn about trends in education, ready to innovate and experiment with EdEra. We share information on new online courses, global educational innovations and experience	N

Source: Template 2/Section 1 (Ukraine) - CAPI Frontline Evidence Collection Project database

**Step 4:** Validate the final selection of SMGs and groups with a third party, such as a national expert, a civil society, or research institution, etc. and then document the descriptive metadata of each SMG and group included in the sampling frame. Table 3 provides an overview of the recommended metadata.

**Table 3.** Documenting the descriptive metadata of units in the sampling frame (SMG and page metadata)

Name of the group	<i>Here please copy the exact name of the SMG as it appears in the original language and in English translation</i>
Privacy level (open or closed)	<i>Indicate whether the SMG is open or closed</i>
Description	<i>Insert the official description of the SMG as it appears on the Facebook page of the SMG</i>
Number of members	<i>Indicate the total number of group members</i>
Date of Creation	<i>Provide the date of establishment of the group</i>
Time of evidence extraction	<i>Extraction started: (DD/MM/YY); Extraction ended: (DD/MM/YY)</i>
URL of the SMG	<i>Please, insert the direct link to the SMG</i>
Reasons for the SMG selection	<i>Please, describe how the SMG meets the selection criteria and what was the rationale for its selection</i>
Validation of the selection	<i>Please describe with whom and how you have validated the choice of the SMG</i>

Source: Template 2/Section 2 - CAPI Frontline Evidence Collection Project

In our experience with piloting the approach, the optimal number of units in the sampling frame is not less than three and not more than five SMGs or pages. Less than three may not be enough to capture the diversity of the target population, while more than five may result in too large a volume of data. In addition to these units, we also recommend including the official Facebook page of the Ministry of Education (or equivalent state or regional body) in the countries covered. We also recommend prioritising groups over pages.

### Selecting (drawing) a relevant sample of data for collection

*Overview.* Even though the previous routine helped narrow down the number of sources for sampling, it may be still not feasible to collect all data generated by our target population within these locations. Moreover, it is unlikely that all of the posts and comments there will be of relevance for the research.

To avoid the indiscriminate collection and reading of all data, in our methodology we therefore opted to work with the timestamps of posts as a proxy of relevance. Specifically, we designed a sample based on a narrow selection of dates which coincided with the dates on which the policy measures of interest were introduced in each country, such as the date of closure of schools at the



beginning of the COVID19 pandemic. The assumption is that new policies are likely to be triggers of sector-specific communication between members of our target population and consequently that content posted on this narrow selection of dates and “around” it is more likely to reflect on the new policy than posts and comments posted on other, unrelated dates.

In this sense, the selection of a sample for the data collection commences with the cataloguing of policy measures as potential triggers of target group experiences, and as a second step it foresees the design of a sample by setting target dates for the data collection on the basis of the dates recorded in the policy catalogue.

*Description of the routine.* The first step in the routine of drawing a relevant sample is to document the policy context in which education and training providers have been operating within the reference period in focus of our research.

To that end, we assembled a catalogue of state-level policies and measures introduced within the reference period, which are binding for the education sector. Below is an example of a measure catalogued in this way, which was introduced in the course of the pandemic in Kazakhstan (Table 4).

**Table 4.** Sample of a T1 catalogue entry: policies and measure in education (Kazakhstan)

<b>Template 1/Section 1/Measure 4: Professional development through distance learning</b>	
<b>A. Type of measure</b>	<input type="checkbox"/> New law <input checked="" type="checkbox"/> Amendment to an existing law <input type="checkbox"/> Ministerial decision/regulation <input type="checkbox"/> Other Amendment to the Decree of the Government of RK from 28th of October 2004 #1111
<b>B. Date of adoption and date of entry into force (if different from date of adoption)</b>	02-Apr-20
<b>C. Description</b>	Decree adopted Regulations from the Ministry of education and science of the Republic of Kazakhstan, the new function of the Ministry was added - to develop and approve the rules for providing professional development through the means of distance learning technologies.
<b>D. Link</b>	<a href="http://adilet.zan.kz/rus/docs/P040001111">#z8</a>

Source: Template 1/Section 1 (Kazakhstan) - CAPI Frontline Evidence Collection Project

The dates of measures in the policy catalogue guided the design of the sample for data collection. In essence, the sample is a selection of posts and comments

published on dates which coincide with the introduction of the measures in the catalogue. We called these dates “target dates”. We also included “adjacent dates” (dates before and after the introduction of each measure, in the assumption that they would help us determine the impact of measures by capturing statements and reactions before and after the introduction of policies).

Table 5 shows a hypothetical example of a sample drawn in this way, from a country with a range of 7 target dates and five adjacent dates for each (the number of adjacent dates could be bigger or smaller), to a total sample of 42 dates for the data collection within a reference period that spans two months (September to November).

**Table 5.** Example of a table with a sample of target and adjacent dates

Adjacent dates	30-Aug	26-Aug	27-Sep	21-Oct	27-Oct	21-Nov	28-Nov
	31-Aug	27-Aug	28-Sep	22-Oct	28-Oct	22-Nov	29-Nov
<b>Target dates</b>	<b>01-Sep</b>	<b>28-Sep</b>	<b>29-Sep</b>	<b>23-Oct</b>	<b>29-Oct</b>	<b>23-Nov</b>	<b>30-Nov</b>
Adjacent dates	02-Sep	29-Sep	30-Sep	24-Oct	30-Oct	24-Nov	01-Dec
	03-Sep	30-Sep	01-Oct	25-Oct	31-Oct	25-Nov	02-Dec
	04-Sep	01-Oct	02-Oct	26-Oct	01-Nov	26-Nov	03-Dec

This approach to selecting a sample of available content may not always be possible. The data collection may have to start before the policy measures have been compiled in the catalogue, for example because of delays in the validation of the catalogue and/or the accumulation of large amounts of data in the meantime in some or all of the locations in the sampling frame. Additional challenges may arise if there are too many or too few measures (leading to an overly large or small sample of days), or if the timing of measures is not evenly distributed across the reference period (leading to an unbalanced selection of days).

There are a range of remedies for such scenarios. Instead of the purposive sampling we propose, the dates could be chosen through systematic sampling by selecting days at a randomly set interval within the reference period (for instance, every 10th day). The advantage of this approach is that it leads to an even distribution of dates within the reference period and the researchers remain in full control of the number of dates in the sample (and from there, of the amount of content for collection). However, this also creates a risk of harvesting less relevant content. Depending on the problem, another option is to reduce the range of

adjacent dates and, with this, the sample size. Here too, the risk is that a smaller range of adjacent dates may reduce the relevance of the sample.

## SECOND STAGE: DATA COLLECTION

Once there is clarity about the groups and pages included in the sampling frame, as well as about the sample itself in the form of dates for evidence collection, it is time to move to the second and final step: the collection of content data from these groups and dates.

Our methodology relies on the manual collection of data by using simple general routines (Batrinca & Treleaven, 2015) that do not require specialised knowledge or tools. For us this is a way of ensuring that the approach is accessible to, and replicable by, peers irrespective of their resources, programming skills, and the changing policies (Freelon, 2018) of companies running the social media platforms. In addition, manual collection is the only approach which does not collide with the Terms of Service of Facebook, which explicitly forbid any automated form of scrapping of data<sup>3</sup>.

Below are the steps we designed to that end, which require only a web-browser and the possibility to print in PDF format.

### Unpacking the sample

In our experience, the best option for the manual collection of content data is to use the mobile version of Facebook with a desktop web-browser (any browser would work). The advantage of the mobile version over the desktop version is that it is more efficient in the use of data, which can be of advantage in case of collecting evidence from big and/or very active groups, or in case some of the target dates are more than three months in the past. Additionally, it preserves the exact layout of posts and comments when printed as PDF (including important elements, such as number of likes, time-stamp of posts and comments, etc.)

To follow that approach, it is necessary to open <https://mobile.facebook.com/> or <https://m.facebook.com/> and then search for the SMG of page for the data collection. Once the page is opened, the group or page from which data is

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<sup>3</sup> See [https://www.facebook.com/apps/site\\_scrapping\\_tos\\_terms.php](https://www.facebook.com/apps/site_scrapping_tos_terms.php)

being collected must be “unpacked” first by scrolling down to reach the first of the target/adjacent dates and make visible all the posts within the reference period.

The next step is to search for each of the dates in the sample by pressing CTRL + F (search). This will bring a series of results, as many as there are posts on each date (Figure 1).



Figure 1. Screen capture: searching for data on the dates in the sample

In the mobile version of Facebook, posts have a shortened view (two-four sentences per post) and the comments are hidden, so it is necessary to right click and select “Open the link in a new tab” for each post on the target data (Figure 2)



Figure 2. Screen capture: preparing for data collection

This will open a new tab with the post on top and all the comments below it. In the open tab in some cases it is necessary to click on “see more” to make visible comments or replies that are still hidden (Figure 3).



Figure 3. Screen capture: expanding the “hidden” data

After that, it is possible to go back to the initial tab and continue opening other posts from the selected date, and moving on with the search function to all the other dates one by one, and repeating the procedure until all posts on all dates from a given page or group are open in their separate browser tabs, ready for saving. Certainly, it is also possible to save the data after each post.

## Saving the content data for further processing

A right-click on each of the open tabs in the browser will bring a range of options, one of which is to print the tab as a PDF file (Figure 4).

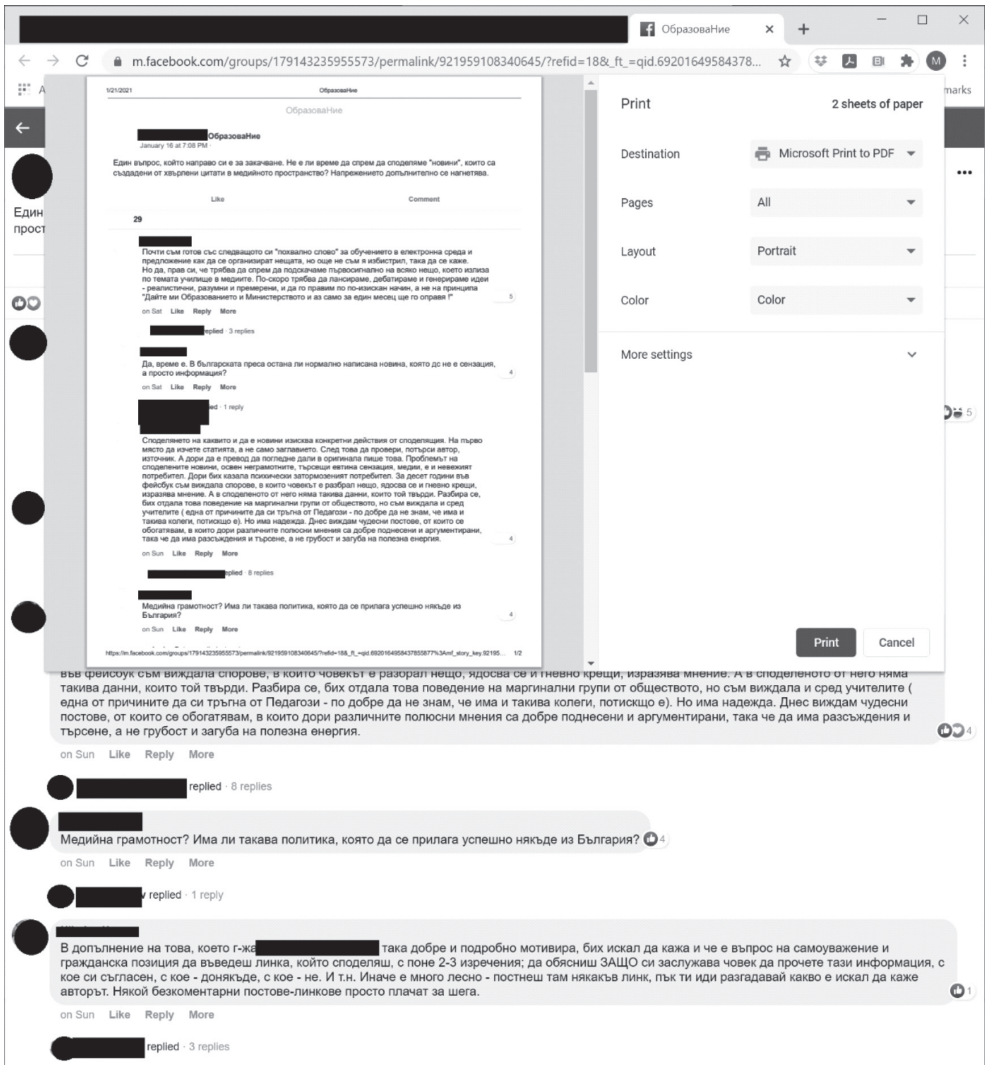


Figure 4. Screen capture: Saving the content data



After printing each tab there will be a number of separate PDF files per page and group, one for each post and its comments. It is recommended to combine all single pdf-s into one pdf per group or page, making sure that the single files are merged chronologically.

## ILLUSTRATION OF METHODOLOGY DELIVERABLES

We tested the methodology in Armenia, Kazakhstan, Russia, Serbia, and Ukraine by following the data collection procedures described above. On the example of data from these countries, this section illustrates the evidence which can be collected with the help of the methodology we propose. We also demonstrate the potential of the data for analytical purposes on the example of three analytical procedures.

### SOURCES OF CONTENT DATA AND TARGET POPULATIONS

Our methodology allowed us to identify a total of 20 Facebook groups from the five countries, which we included in our sampling frame (Table 6). Sixteen groups were attended by educational staff only (teachers and to a lesser degree principals and other administrators). One group was attended by parents only (Ukraine) and three groups gathered both educational staff and parents (Russia). The total size of the target population in our sampling frame was 564 497 users.

### CATALOGUING AND CATEGORISATION OF POLICY MEASURES ACROSS COUNTRIES

The catalogue of policy measures is representative of responses to the first lockdown during the COVID19 crisis in five countries (spring of 2020). We conducted a categorization of measures by using a selection of common education policy areas, which these measures addressed (Table 7).



**Table 7.** Catalogue of policies and measures as trigger events

<b>Template 1: Policy measures in education (Section 1)</b>	
Code	Category of measure
1.1	School closure
1.2	Transition to distance and online teaching and learning
1.3	Quality assurance
1.3a	<i>Assessment of students</i>
1.3b	<i>Evaluation of teachers</i>
1.3c	<i>Evaluation of education providers</i>
1.4	Graduation exams
1.5	Support for teaching and learning
1.5a	<i>Support in the form of teaching and learning means and materials</i>
1.5b	<i>Non-material support to teachers</i>
1.5c	<i>Non-material support to students</i>
1.6	Organisation of schooling
1.6a	<i>Organisation of education provision</i>
1.6b	<i>Organisation of the school year</i>
1.6c	<i>Administrative school procedures</i>
<b>Template 1: Policy measures in other sectors (Section 2)</b>	
Code	Measure category
2.1	Prevention of spread
2.2	Labour regulations
2.3	Economic regulations
2.4	Financial assistance to households

Source: Policy Response Template 1 - CAPI Frontline Evidence Collection Project

We kept “school closure” and “transition to distance learning” as separate measures because they have disrupted education realities the most, and because they continued to have significant impact on education provision throughout the school year. This was done on the assumption that it would permit a more granular analysis of social media posts against the policy context (as depicted by the categories of policy measures).

Additionally, our catalogue captured policy measures introduced by Ministries of education and other line Ministries outside of education, because they were shaping the experiences of education participants on the frontline as well, such as

prevention of virus spread or financial support to families (Section 2 of Template 1).

## THE RESULTS OF THE SAMPLE SELECTION

The sample of data from the groups in our selection was drawn with the help of systematic sampling with a randomly set step of 11 days from the date of the first measure in the policy catalogues of countries (the date of the school closures – Table 6, Policy Category 1.1). The final sample comprised between 13 and 14 target dates per country within a reference period that stretched from March to July 2020. This translated into a sample of 1 932 posts and 24 516 comments.

Our sampling decisions delivered content data which showed no correlation between group size and number of discussions in four of the five countries. Only in Serbia was the correlation significant and positive ( $r=0.97$ ,  $p<0.05$ ). Additionally, there was no correlation between the size of groups and the average number of comments per post in each.

This suggests that group size may not be a good enough predictor of engagement by the target population, and that the choice of locations for sampling should take into consideration additional, country-specific factors. For instance, our data shows that there is a significant difference between countries in terms of average number of comments per post ( $F=4.87$ ,  $df=4$ ,  $p<0.05$ ), which may point to cultural differences in the way group members engage in discussions in Facebook groups across different countries.

## POTENTIAL FOR ANALYSIS

The analysis of content data (posts and comments) can be conducted in numerous ways depending on the research goals and questions. However, with the aim of demonstrating the potential of the methodology for exploring frontline experiences during the school closures, we chose three research questions to illustrate the possibilities of data harvested with the help of our methodology. The three research questions that guided the analysis were:

- 1) Are discussions in selected groups related to policy response to COVID19 crisis and to what extent?

- 2) Do the dynamics of discussions related to policy areas change in relation to the timeline of policy response?
- 3) How are frontline experiences discussed in selected Facebook groups?

In the following paragraphs, we illustrate the first results of the three analytical procedures.

### Relation to policy areas

In order to see if and to what extent extracted posts and comments are related to policy measures introduced in the reference period, we checked the content of the posts and comments and, if the content directly or indirectly referred to the introduced measures, we assigned them to one of the policy areas (Table 7). An example of the post coded with POLICY AREA/Organization of education provision is following:

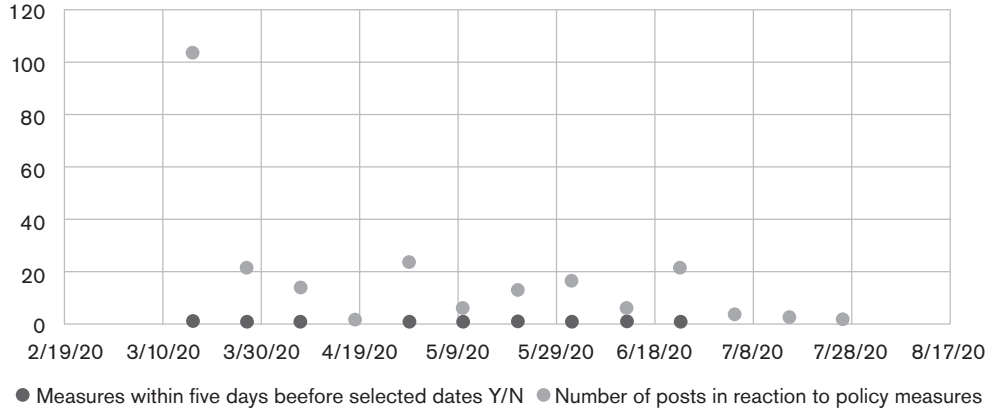
*Example 1: Colleagues, GOOGLE CLASSROOM is a platform that is so much better from everything else the ministry suggests!*

We then checked the frequency of such posts and comments and compared it to the total number of posts and comments in the reference period. The percentage of extracted posts and comments which are policy-related range from 8,13% to 52,19% per group, with an average of 22,5% of policy related posts and comments per group. The correlation between number of policy-related discussions and group size is non-significant in all five countries.

### Relation to the policy timeline

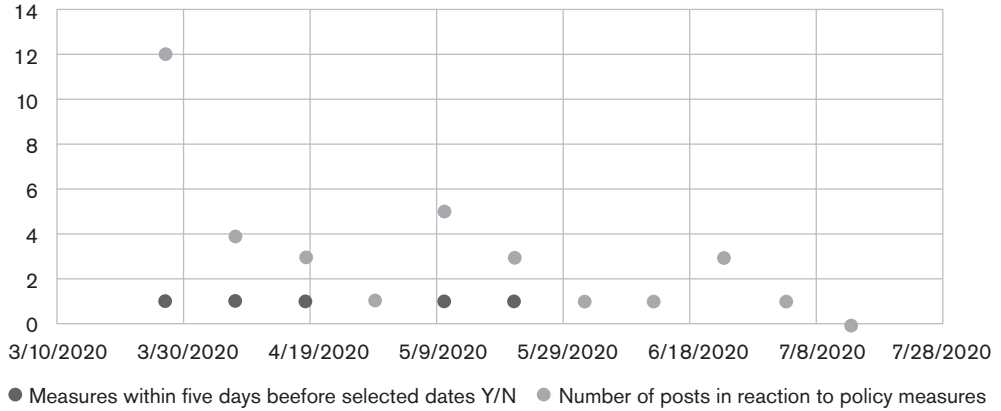
In order to answer the second question, we compared the number of policy-related posts and comments on selected dates against the timeline of introduction of new policy measures in all groups. Policy related discussions took place in Facebook groups on almost all selected dates. As Figures 5 and 6 show, the number of policy-related posts is higher in the days that followed introduction of new policy measures, than in the days which are not preceded by policy changes. Moreover, the number of posts related to policy areas tends to change in relation to the introduction of policy measures. This implies that the sampling solutions proposed

in our methodology could deliver content data of relevance, which captures the responses of education participants to policy decisions.



Source: CAPI Frontline Project database

**Figure 5.** Number of policy-related posts on selected dates in relation to introduction of policy measures in SMG12 from Serbia



Source: CAPI Frontline Project database

**Figure 6.** Number of policy-related posts on selected dates in relation to introduction of policy measures in SMG13 from Armenia

## DISCUSSION

We considered each post as a proxy of a group member’s experience within a particular education policy area during the reference period, which that group member “translated” into words he or she deemed appropriate for that group. To describe frontline experiences of group members in the preliminary analysis, we assigned sub-codes from two broader categories to each discussion (post and following comments):

- 1) Policy area as shown in Table 7
- 2) Experience – group of codes that point to how easy was to cope with a measure in practice)

**Table 8.** Experience subcodes

SUB-CODE	DESCRIPTION
<b>Content</b>	posts and comments that express content about practices and/or experiences in the policy area
<b>Challenge</b>	posts and comments that communicate about a challenge, a problem, illogical, senseless, ambiguous, difficult practices and experiences
<b>Gap</b>	posts and comments in which is clearly stated that a measure, regulation, guidance, support, materials, or some other crisis response is missing and that is not available in the education system
<b>Support-</b>	posts and comments where group members ask for support or offer it

Co-occurrence of subcodes of two categories was examined and resulting posts and comments were further analysed (see examples 2 and 3 below).

*Example 2: I have questions for those who use the miyklas portal. Today, the teacher presented a test for the first time. Half of the students in the class saw her, half did not. The teacher can't understand why, the children are confused, the technical support of the site doesn't answer. Has anyone had this? What did they do? Thanks! (POLICY AREA/ Organization of education provision and EXPERIENCE/Support)*

*Example 3: Just to pinpoint the fact that nobody cared about us (teachers) once again, so they didn't develop any support material on how to make schools welcoming for teachers and students in*

*September in the middle of this global chaos and threat! (POLICY AREA/Support to teachers in form of teaching and learning means and materials and EXPERIENCE/Gap)*

This brought insights into how group members expressed their experience within different policy areas. Preliminary results of such content analysis revealed that group members rarely appropriated education policy-responses free of any challenge and with content only, as difficulties were recognized in every policy area. Challenges were mostly related to teachers' digital competences and pedagogical competences for online teaching, as well as to students learning in digital environment and ethics in homework.

Additionally, gaps that are identified point to participants' needs and practices which were not addressed by the introduced policy measures, but which invite further intervention, regulation, and support on behalf of the education systems. Most of them refer to lack of support for teachers in form of ICT equipment or for the prevention of burn-out.

Support has been offered and asked for in all groups and countries, with the highest frequency within the policy area named Organization of education provision, and it was mainly related to realization of how to transfer or modify practices to fit into the new medium (online platforms).

## CONCLUSION

Although our research questions emerged in the rather specific context of demand for insights during the pandemic, our choices of social media data and our solutions for their collection are likely to be of relevance beyond the purposes of our own research: the methodology provides a stand-alone solution for the identification and collection of qualitative evidence from social media on experiences and appropriation of policies in any sector, not only in education.

Our approach confirms that such evidence has considerable analytical potential. Social media groups and pages are places where education participants turn to in their efforts to navigate the policy context. The results show that the dynamics of policy-related discussions in the SMGs in our sample follow the introduction of policy-measures during school closures, meaning that schooling

realities have been “unpacked” in groups as they have unfolded in practice. Therefore, they can be analysed in real time. Sometimes a policy measure is discussed over a longer period of time, pointing to the continuous need to rethink and renegotiate “translations” of policy measures into practice over time and in changing contexts.

Participants ask and offer support (e.g. assessment of students in online surrounding), point to assets (which online classrooms are better) or barriers (e.g. increasing number of time-consuming tasks), reveal gaps in policy responses (e.g. lack of curricular changes). Therefore, discussions in these online communities of practice lend themselves to exploration of policy appropriation through content and other types of qualitative analysis. In our case, in-depth analysis of co-occurrences of sub-codes under Policy areas and Experience, revealed many different uses of online tools in teaching within and across countries, how these uses relate to teachers' pedagogical views, and how these uses relate to resources that teachers have at their disposal (technical, social, professional etc.). As SMGs are one of such resources, collaboration and teacher exchange have once more emerged as a *sine qua non* of teacher professional development.

The analysis of posts and comments and the interpretation of results should be conducted with knowledge and awareness of educational and cultural contexts, and of the “cultures” of SMGs too (each group has its own specificities). If we take into consideration the fact that different education systems are organized differently, have a variety of commitments, and that groups gather education participants from different levels of educational governance (teachers, education experts, parents), it can be presumed that different levels of engagement, openness, and freedom of speech, are deemed appropriate. Also, the different engagement and different content across countries and groups, as well as the different descriptions and behaviours within the group underline the importance of cultural awareness when undertaking this kind of research.

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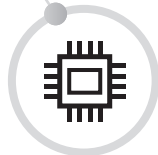
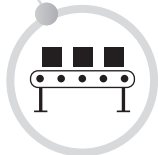


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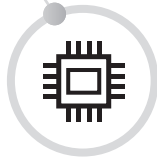
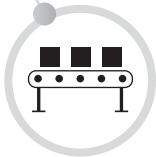
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## FROM REVIEWS

Main aim of the monograph titled *Problems and perspectives of contemporary education*, is to thorough explore, critically analyze and elaborate complex, dynamic, multilayers and reciprocal relationship between significant changes in educational social environment and readiness, of educational system to anticipate, recognize, understand and adequately respond to those challenges. All contributing authors enthusiastically embraced the notion that education presents an important and proactive agent of social changes and consequently accepted all challenges as an opportunity for improvement and development of both society and educational system.

**Professor Emeritus Djuradj Stakic**  
**Pennsylvania State University, USA**

The monograph is dedicated to looking into extremely significant and current concerns within educational policy and educational practice. The selected topic is viewed from the perspectives of contemporary theoretical approaches, but it is also empirically researched. A very large and relevant literature was used both for explaining the selected research subject and discussing the obtained results. A diverse, contemporary methodology was applied in researches, and the authors of works, starting from the existing results, analysed issues at a deeper level and illuminated some aspects that had not been studied thus far.

**Professor Marina Mikhailovna Mishina**  
**Russian State University for the Humanities, Russia**

The main topics covered by the monograph can be classified as traditional to some extent — related to approaches to learning, language culture etc., and modern — connected with the andragogical view, coaching in teacher training, also the problem of distance learning during the covid pandemic, and models for preventing problem behaviors...The main leitmotif that permeates the content of all presented articles is the topic of the development of key skills, attitudes, experience, creativity — by both subjects in the educational process, and it gives semantic integrity to the monograph.... In view of the new social realities, a reasonable emphasis is placed on the continuing education and development of the teachers themselves, dictated by the accelerated pace of social change.

**Professor Teodora Stoytcheva Stoeva**  
**University of Sofia „St. Kliment Ohridsky“, Bulgaria**

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