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Covid-19, EdTech, and Survey Alignment in Education

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1. Overview

This report provides a thematic analysis of surveys that were used during the first few months of the Covid-19 response in low- and middle-income contexts and suggests a list of research questions related to education that could be used across surveys to strengthen alignment and comparability.

A review of surveys led to the identification of five themes and fifteen second-level themes. The five main themes identified in the surveys were: support, challenges, school-reopening preparations, Covid-19 household experiences, and government responses to Covid-19 education challenges. The second-level themes included, for example, support for learning, support for adults, parenting and EdTech obstacles. Identifying these themes led to a set of common research questions that could be explored using the surveys, which were then shortlisted down to nine questions that were considered as most relevant for future research. These are:

1. Which educational technology did children in your household use the most while schools were closed?
2. In what types of education or learning activities have the children been engaged since the schools closed?
3. What are the main reasons children in your household are not spending more time on education during this time, while schools are closed?
4. If your child falls under one of [these learner status] categories, has he or she received additional support?
5. Do you think it will be practical for students and staff to adopt the following [hygiene and safety practices] when schools return?
6. Rate the following strategies for catching up on missed time in school (Rating scales 1–5 for each sub-item)
7. In your opinion, what is the main action that your school can take to ensure that students come back to school after the Coronavirus crisis?
8. To what extent do you consider your school has the necessary handwashing facilities to prevent resurgence / spreading of the virus when schools reopen?
9. If the need for social distancing remains when schools reopen, what is the best way this could be implemented in your school?

Further analysis of more surveys will be undertaken in order to further identify research gaps and opportunities. The presentation of standardised survey questions to conduct a comparative analysis of responses in low- and middle-income countries will be continually reviewed and adapted to ensure that data is being collected in the areas of most need.

2. The BETER group

This research was organised by the Building EdTech Evidence and Research (BETER) group, composed of 50 individuals leading research on the use of EdTech in low- and middle- income countries, through its survey alignment sub-committee. This is a working group of the most influential organisations and individuals undertaking or providing funding for research about EdTech in low- and middle-income countries, published as global public goods. Two subgroups were formed within the BETER group, based on gaps collectively identified, and on shared interests of group members. These subgroups are the survey alignment subgroup and the research mapping subgroup.

The survey alignment subgroup is composed of individuals from different organisations who have individual and collective expertise in survey design, administration and analysis. A full list of members is listed below.

Group chair: Pauline Rose (REAL Centre, University of Cambridge).

Members: Susannah Hares (Center for Global Development), Sarah Kabay (IPA), Clare Leaver (Blavatnik School of Government, University of Oxford), Zahra Mansoor (Blavatnik School of Government, University of Oxford), Rachel Outhred (Young Lives), Anna Petherick (Blavatnik School of Government, University of Oxford), Ricardo Sabates (REAL Centre, University of Cambridge) and Carmen Strigel (RTI).

These research activities of the subgroup were supported by EdTech Hub researchers Nora McIntyre and Samuel Wilson, and the interim BETER coordinator, Rachael Fitzpatrick (Education Development Trust).

3. Aim of the research

The overarching aim of this work was to identify three or four questions that can be aligned across multiple Covid-19 surveys to enable comparisons to take place. The research also sought to identify gaps in current surveys and to identify survey items with potential for comparability among surveys already administered.

This analysis is needed given the importance of comparable data to generate quality evidence and resource constraints that confine the geographical scope of most surveys. A more detailed breakdown of goals is as follows:

1. Collate education-related survey questions into one database.
2. Undertake a thematic analysis of survey questions.
    a. Identify the core themes amongst survey items
    b. Create a shortlist of questions for each theme to discuss with the subgroup as potentials for future Covid-19 surveys (including ones that are not focused on education)
3. Analyse data where comparable items have been identified across the collated surveys to:
    a. Identify survey items that may provide comparable data
    b. Propose research questions for secondary data analysis
    c. Identify gaps and challenges in collated surveys.

This report focuses on the first two objectives, namely the collation of survey instruments and analysis of comparable items. At the time of writing, data were not yet available for comparative analysis.

4. Collation of education-related surveys

The research built on work already conducted by the Education Commission in collating information about Covid-19 surveys. The outputs from this initial exercise consist of a database of information on these surveys that can be accessed via the EdTech Hub website. These are being updated as new surveys are being designed.

The first task involved collating education-related survey items into one database to enable comparative analysis and the identification of gaps and inconsistencies. The below table outlines the surveys that were included in the first round of survey item analysis (Table 1).

Table 1. *Surveys included in the first round of survey item analysis.*

Organisation	Survey name and respondents	Type of survey	Geographic Area
Addis Ababa University and REAL Centre, University of Cambridge: Research on Improving Systems of Education (RISE)	Research Study Respondents: School teachers, school principals and other stakeholders, Ethiopia	Phone survey: primarily closed questions	Ethiopia
IPA	Collective Action of School Leaders during Covid-19 Pandemic Respondents: School leaders	Phone survey (CATI*): closed and open-ended questions	Uganda
IPA	RECOVR (nine country surveys) Respondents: Households	Phone survey (CATI*): closed and open-ended questions	9 LMICs
eLearning Africa and EdTech Hub	Survey on Covid-19 and Education Respondents: School leaders, teachers, policymakers, EdTech experts	Online survey: closed and open-ended questions	Africa
Gender and Adolescence: Global Evidence (GAGE)	Covid-19 phone survey (round 1) Respondents: Adolescents aged	Phone survey: closed and open-ended questions	Jordan, Bangladesh, Ethiopia

	10–19 and their primary caregivers		
Laterite, Rwanda and REAL Centre, University of Cambridge: Mastercard Foundation (MCF) Leaders in Teaching Initiative	MCF Leaders School Closures Respondents: Teachers and school principals	Phone survey: closed questions	Rwanda
Oxford University	Covid response tracker Respondents: Households	Phone survey: closed questions	Brazil
UNESCO	National Education Response to Covid-19 / UNESCO's online survey Respondents: Ministries of education and statistics units	Online and email survey: closed questions	61 countries worldwide
Young Lives	India and Ethiopia school surveys Respondents: School leaders	Phone survey: closed questions	India, Ethiopia
World Bank	Monitoring Covid-19 Respondents: Households	Phone survey: closed questions	Ethiopia

The collated surveys each had different aims, data collection approaches, and sampling. The eLearning Africa survey was aimed at EdTech professionals across different African countries. The survey was administered online, and the sample included a mixture of teachers, policymakers, EdTech experts, and other professionals. The survey consisted primarily of closed questions, with a small number of open-ended surveys. Other surveys did not have an education focus, such as the World Bank's *Monitoring Covid-19* survey, which has a series of general health, economic and wellbeing questions, with a small number of education questions also included. Some of the surveys have been built on pre-existing surveys, such as those conducted for the Mastercard Foundation Leaders in Teaching Initiative in Rwanda, RISE Ethiopia and Young

Lives teams. These surveys all involved conducting interviews by phone, primarily with closed questions, aimed at identifying the effects of school closures on keeping education going, as well as views on priorities for reopening schools. They draw on pre-existing samples to enable connections to be made with data collected prior to Covid-19 of children, parents, teachers, and school leaders, as applicable. Other surveys were specifically designed in response to the Covid-19 context. Each of these studies had their own approaches to adopting ethical protocols and recognised the complexities of undertaking surveys on-line or via phones, which would be included in their own reporting. Given the purpose of this paper, we do not aim to review these here.

The analysis purposefully collected information on a broad range of surveys. A key goal of the subgroup's activities is focussed on comparisons to be made across different contexts and different groups. Including non-education surveys was therefore an important aspect of analysis.

5. Thematic framework development

An iterative process of thematic analysis was used to code and analyse survey items. As such, an initial a priori coding scheme was developed and applied to pilot item samples (approx. 10 items). The coding scheme was then revised before being applied to a larger item sample (approx. one survey). The coding was then further revised before being applied to a still larger item sample(approx. two surveys). Finally, in the penultimate round of coding scheme development, we took a more top-down approach to ensure that our coding scheme coheres with pre-existing frameworks: we did this by drawing heavily on in-survey headings and incorporating these as major codes. This coding scheme was then applied to every survey item (in this initial round of survey collection) with only minor amendments to our coding scheme (or framework) and with priority given to framework parsimony and cohesion.

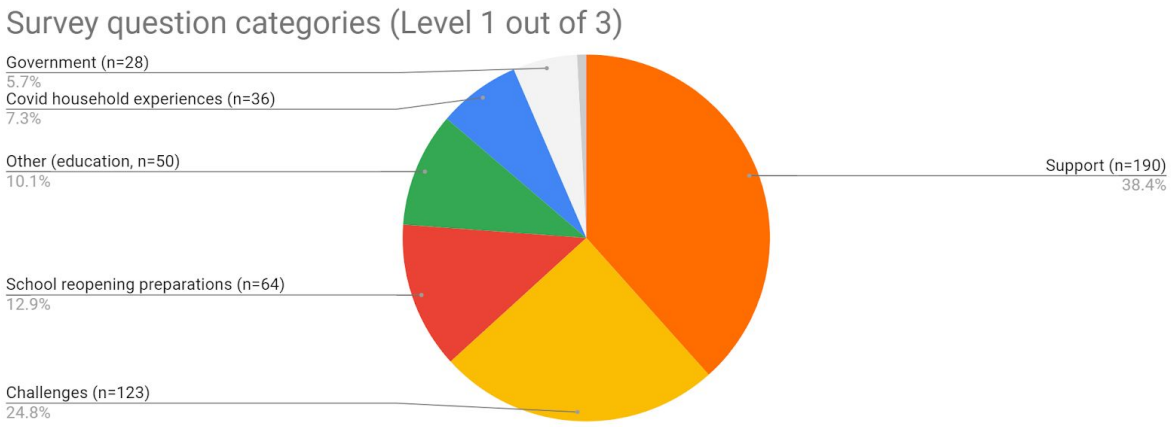
The education codes generated were divided into the following thematic areas:

- School characteristics (codes include: size, age of students);
- Support (codes include: support for wellbeing, support for learners [academic], support for staff, support for adults);
- Challenges (codes include: EdTech obstacles, learning impacted, parenting / homeschooling, mental health);
- School reopening preparations (codes include: compensating for lost time, Covid-19 restrictions);
- Government (codes include: educational policy response, efficacy of education policy);
- Other.

5.1. Thematic analytic outcomes

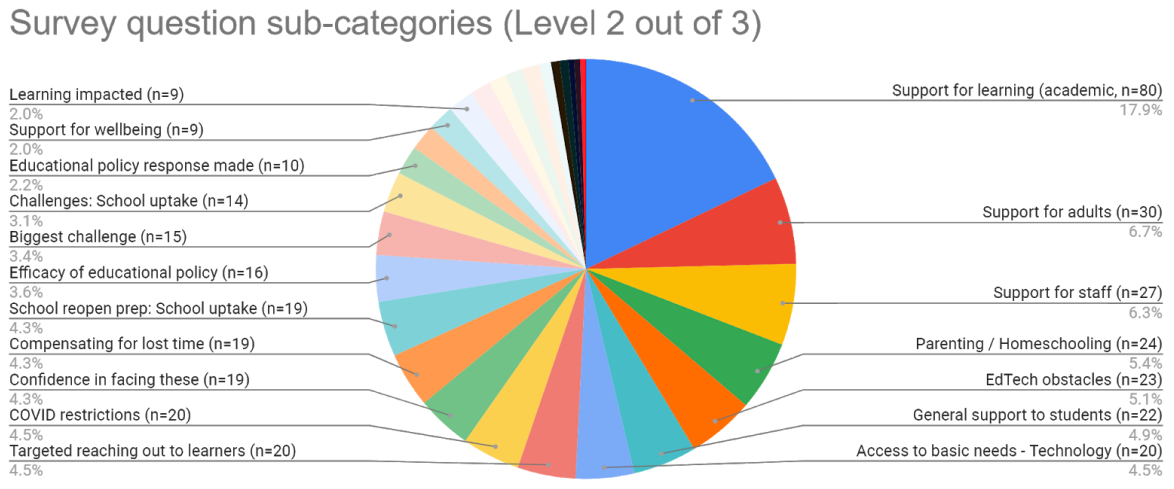
Using the above process of framework development, we found the collected survey items to address five main themes: support, challenges, school-reopening preparations, Covid-19 household experiences, and government responses to Covid-19 education challenges (Figure 1).

Figure 1: *Proportion of questions that were coded into each thematic area (labelled as Level 1 code).*



Under these top-level themes, 15 second-level themes emerged the most, including support for learning, support for adults, support for staff, parenting, EdTech obstacles, access to technology and targeted reaching-out to learners (Figure 2). The full thematic framework, including non-education coding, can be viewed here.

Figure 2: *Distribution of questions identified in each subcode (labelled as Level 2 and 3 codes).*



6. Potential research questions

Potential research questions that can be analysed using survey data from the first round of survey collection are listed below. The research focus clusters around support, challenges, school re-opening, Covid-19 household experiences, and government.

6.1. Support

During school closure,

- How successfully has children's continued learning been supported (a) generally and (b) via use of EdTech?
- How successfully has children's wellbeing been supported (a) generally and (b) via use of EdTech?
- How are exceptional learner populations being offered targeted support?
- How relevant has staff professional development been for teaching?

6.2. Challenges

During school closure,

- What are the main reasons children are not spending more time on education?
- If at all, how have family dynamics changed in terms of (a) parenting style and (b) parent–child relationships?
- What are the affordances and limitations in using EdTech to deliver distance learning?
- What factors are associated with confidence in facing challenges in such times?

6.3. School re-opening

Following school closure,

- What do on-the-ground educators recommend as promising and practicable approaches to meeting health constraints of school re-opening?
- What do on-the-ground educators recommend as promising and practical approaches to address the time lost from classroom learning?
- What might stop children from returning to school, (a) from the community perspective and (b) from the professional perspective?

6.4. Covid-19 household experiences

During school closure,

- What technological devices and platforms are (a) best accessed and (b) most popular for continued education?

6.5. Government

- What are the main government (a) policy and (b) supportive responses to Covid-19 in terms of remote learning?
- What factors are associated with perceptions and experiences of adequate government support, as reported by the community?

6.6. Shortlisted educational questions for Covid-19 surveys

Once initial coding of survey items was complete, and members of the subgroup were consulted, nine questions were shortlisted. These questions were selected based on ones that appeared across different surveys in some form, and so would allow for potential comparability of data. Part of the purpose of this was also to identify questions that could be included in future survey instruments, including those that are not specific to education. Given this, we were careful to include questions that would be relevant to household (rather than school-based) surveys. The table below outlines the shortlisted questions, codes and the source (Table 2). The precise wording and codes would need to be adapted depending on the context.

Table 2. *Shortlisted questions, codes, and sources.*

Audience	Question	Response option	Source
Household	Which educational technology did children in your household use the most while schools were closed?	• Internet • Radio • TV • SMS (e.g., Eneza) • Books • None of the above	IPA RECOVR (multiple countries)

Household	In what types of education or learning activities have the children been engaged since schools closed?	• Completed assignments provided by the teacher • Used mobile learning apps • Watched education TV programmes • Listened to education programmes on the radio • Session / meeting with lesson teacher (tutor) • Other	World Bank, Monitoring Covid-19
Household	What are the main reasons children in your household are not spending more time on education during this time while schools are closed (tick as appropriate)?	• Lack of access to technology (television, radio, internet) • Lack of support from teachers and schools • Lack of access to educational materials • Lack of motivation • Home responsibilities and distractions • Lack of adult supervision • Other	IPA RECOVR
Household	If your child falls under one of the following categories, has he or she received additional support?	• Yes / No If yes, is your child (tick as appropriate): • One of highest attaining learners • At risk of dropping out of school • Will sit national exams next year • Has disability / ies • In one of the poorest households • Is a girl	Adapted from Young Lives Ethiopia and India, MCF Rwanda, and RISE Ethiopia

Household Headteachers Teachers	Do you think it will be practical for learners and staff to adopt the following when schools return?	• Social distancing (Yes / No) • Regular hand-cleaning (Yes / No) • Wear face masks (Yes / No)	Adapted from RISE, School Teacher Survey
Headteachers Teachers	Rate the following strategies for catching up on missed time in school (Rating scales 1–5 for each sub-item)	• Add more days to school calendar • Add more hours to the school day • Adopt 6-day-weeks for teaching • Reduce / remove the 2nd term Holiday • Reduce the amount of curriculum content to be covered • There will not be any need for catch-up • Other	Adapted from Laterite, MCF Leaders in Teaching Phone Survey
Teachers	In your opinion, what is the main action that your school can take to ensure that students come back to school after the Covid-19 crisis? [Enumerator]: Read each code. Ask teacher to choose one	• Local authority sensitisation • Other school management committee sensitisation • Teachers following up with students one by one • More flexibility in the school timetable • Allow parents to stagger school fee payments • Nothing can be done • Other • Refuse to answer	Adapted from RISE, Ethiopia and MCF Leaders in Teaching Phone Survey
Headteachers Teachers	To what extent do you consider your school has the necessary handwashing facilities to prevent resurgence / spreading of the virus when schools reopen?	• Not at all • Somewhat equipped • Fully equipped	Adapted from RISE, Ethiopia and MCF Leaders in Teaching Phone Survey

Headteachers Teachers	If the need for social distancing remains when schools reopen, what is the best way this could be implemented in your school? [Enumerator]: Read each code. Ask respondent to choose one.	• Build additional classrooms • Rearrange classroom layout (e.g., separate chairs 1m from one another /increase chairs available) • Phased / staggered return of grades • Shift cycle: half day • Shift cycle: alternate weeks • Nothing can be done • Other • Refuse to answer	Adapted from RISE, Ethiopia and MCF Leaders in Teaching Phone Survey

7. Limitations

This research involved a number of limitations, including:

- The surveys included in the analysis are a mixture of those available online and those where organisations were willing to share.
- The geographic scope is limited, depending on surveys that were available at the time of analysis.
- Surveys target different groups of parents, school leaders, teachers, policymakers, and students, which can make it challenging to make comparisons.
- Organisations may be willing to share survey items but may face greater restrictions when sharing data for analysis.

The analysis mitigated against these strategies by reaching out to a large range of organisations to encourage sharing of survey items and data and plans to continue to do so.

8. Future directions

The research is continuing to collate further surveys to conduct more analysis on survey items, identify gaps, and encourage standardised survey questions into future Covid-19 surveys to allow for comparative analysis. These questions will be continually reviewed and adapted to reflect the changing policy landscape and to ensure data is being collected in the areas of most need.