

■ EDUCATION RESEARCH PROGRAM

# Remote Data Collection in Education Research

It's Time to Give It a Try

*Editors: Junette Fatima Gonzales  
Kathrina Lorraine Lucasan  
Dina Ocampo*

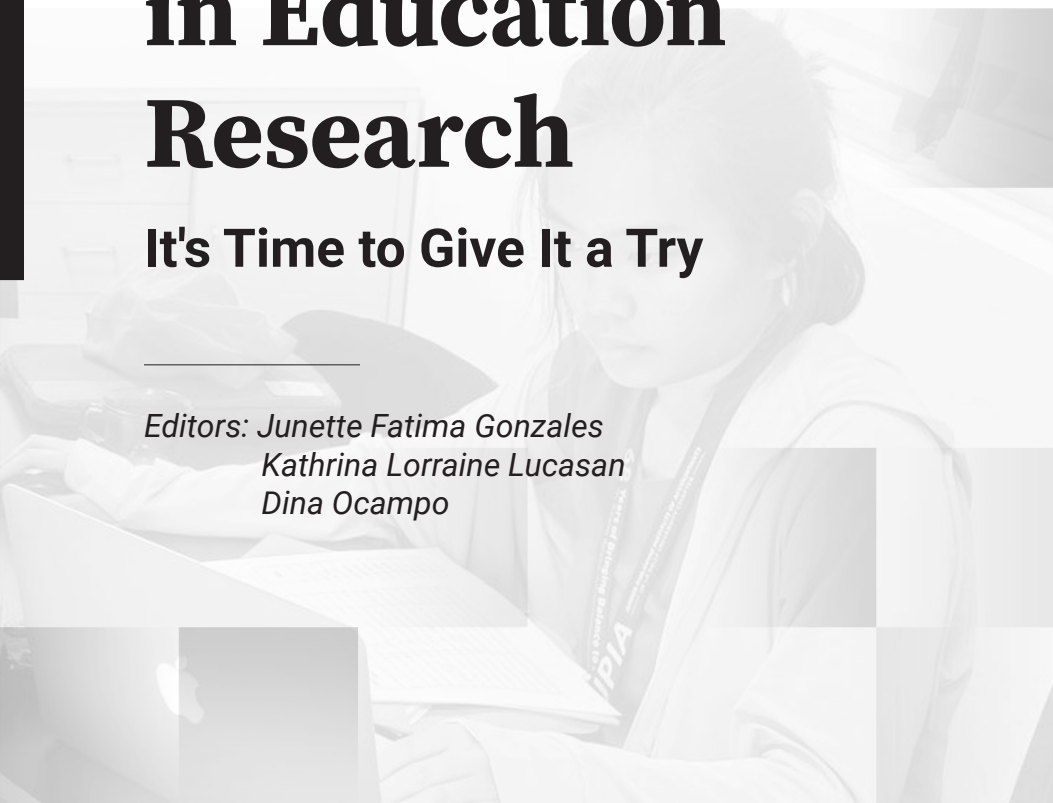
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# Introduction

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*Editors: Junette Fatima Gonzales, Kathrina Lorraine Lucasan, and Dina Ocampo<sup>1</sup>*

This paper is the product of the collaboration of the principal investigators of four studies which used remote technologies. They saw the need to use new methods for education research during the COVID-19 pandemic. The studies are presented in the order that they were implemented from 2020 to 2023. Study 1 was written by Kathrina Lorraine Lucasan and Christine Joy Ballada, while Study 2 was written by Margaret Mary Rosary Carmel Fua and Marie Grace Reoperez. Both studies were originally conceptualized to use face-to-face data collection procedures, but had to migrate from an established methodology to an online platform because of the pandemic. Study 3 was written by Junette Fatima Gonzales and Lorina Calingasan. The study's online workshop for data collection was designed during the pandemic. It was developed with online tools and procedures at the onset. Finally, Study 4 was written by Kathrina Lorraine Lucasan, Dina Ocampo, Junette Fatima Gonzales, Margaret Mary Rosary Carmel Fua. It was designed after the pandemic, using the learnings from Studies 1, 2,

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and 3, wherever applicable. It demonstrates how methodologies were created to still be able to collect literacy data despite disruptions in face-to-face schooling.

These research projects show evidence that during challenging times such as a pandemic, research activities need not be disrupted. The discussion section, “Reflections on Remote and Online Research,” written by Dina Ocampo, Junette Fatima Gonzales and Kathrina Lorraine Lucasan, presents the gains to research, and the cushions and drivers that lead to efficient and successful implementation, and potential traps and challenges in conducting research remotely.

The potential of research strategies utilizing web-enabled surveys was explored at the onset of the 21st century (Topp and Pawloski 2002; Granello and Wheaton 2004), more than a decade after Sir Tim Berners-Lee invented the World Wide Web in 1989 (Olubunmi 2013). The discovery of email as a tool for data collection in the 1990s was hailed as a landmark for its “democratizing and internationalizing” effect on research (Meho 2006, 1284). Long before the pandemic and during the pre-Zoom boom era, some forms of online data collection were already being integrated into data-gathering procedures. Besides email, social media platforms like Facebook, and chat rooms like Skype and Yahoo! Messenger were popular platforms for interviews (Aborisade 2012; De Leeuw et al. 1996). They were time-efficient, less expensive, and less intimidating for participants (Minnaar and Heystek 2013). Email interviewing in particular saved time in transcribing and editing texts (Boote and Beile 2005). More recently, we have seen the advent of more sophisticated web-based survey tools and platforms such as Qualtrics and Zoom, respectively.

The education landscape has never been the same since the COVID-19 pandemic (Yan et al. 2021). The sudden shift to a remote learning was an unwelcome change that also directly affected education research (Hacker et al. 2020). Although online tools were not totally unfamiliar to researchers, data collection became challenging to those who were used to in-person investigations. Unlike in other fields, education research mostly requires interaction with people, e.g., students, teachers, parents, and other stakeholders, whether it is a problem with text readability, appropriate instructional strategies, teacher competencies, or crafting assessments (Salac and Kim 2016; Guthrie 1981). During the pandemic, Filipino researchers quickly availed of existing technologies for remote data collection such as web-enabled surveys, email-based surveys, and online interviews. Although employing these tools presents limitations, the benefits for

both researchers and participants far outweigh the disadvantages (Dos Santos 2022; Tosto et al. 2023). This paper can help maximize these advantages.





## Study 1

# Online Assessment of Literacy Skills During the COVID-19 Pandemic

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by *Kathrina Lorraine Lucasan and Christine Joy Ballada*<sup>2</sup>

The study aimed to assess the skills of Grade 3 learners in word decoding, oral reading fluency, and reading comprehension, as well as to determine the relationships of these competencies across three languages spoken in the Philippines—Sinugbuanong Binisaya, Filipino, and English.<sup>3</sup> A total of 125 learners from Iligan City, Lanao del Norte participated in the study, with ages ranging from

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3 The study was the master's thesis of Kathrina Lorraine Lucasan (2021), "The Relationships Among Decoding, Oral Reading Fluency, and Reading Comprehension in Sinugbuanong Binisaya, Filipino, and English of Grade 3 Learners."

7.11 to 10.7 years old ( $M = 8.85$ ,  $SD = 0.60$ ).<sup>4</sup> Forty-one of the learners (34.8 percent) were enrolled in schools which offered only the modular approach to learning.

The original plan devised at the beginning of 2020 was to conduct assessments face-to-face. At that time, classes in basic education were conducted in person. However, online means for data gathering had to be devised following the lockdowns and suspension of classes beginning in March 2020.

To give schools time to prepare for the resumption of classes, the opening of classes of public schools for School Year 2020–21 was pushed back to 5 October. Schools followed the guidelines in Department of Education (DepEd) Order No. 12, s. 2020, which contained the Basic Education Learning Continuity Plan (BE-LCP). Under the BE-LCP, learning competencies in the K–12 curriculum were trimmed to the Most Essential Learning Competencies (MELCs). Online and offline self-learning modules (SLMs) were then developed based on these MELCs.

Blended distance learning modalities were the main modes of teaching and learning. Taking into account their teachers' and students' resources, schools offered online classes and/or modular distance learning. For both modalities, modules were retrieved weekly for students to accomplish, which were then submitted the following week. Those who had online classes met with their teachers and classmates for synchronous class sessions, with asynchronous tasks also scheduled within the week. These sessions and tasks varied in length and frequency.

### ***Adjustments Given the Changes in Basic Education During the Pandemic***

During the pandemic, the most common mode of implementing classes was through online video calls. Thus, it was decided that the assessments would also be administered using this modality.

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4 In Iligan City, the mother tongue is Sinugbuanong Binisaya. Following the design of the Mother Tongue–Based Multilingual Education (MTB–MLE) Program, learners are taught in Sinugbuanong Binisaya first, with Filipino and English introduced gradually from Grades 1 to 3. M stands for mean, and SD for Standard Deviation.

The Filipino and English word decoding, nonword decoding, reading fluency, and reading comprehension assessment tools used in the study were adopted from the Multi-literacy Assessments for Filipino Children (MLAF), with permission from the University of the Philippines Center for Integrative and Development Studies–Education Research Program (UP CIDS ERP). The Sinugbuanong Binisaya assessments were developed based on these tools. The word decoding efficiency tools in the three languages were based on the Test of Word Reading Efficiency-2 and the tools developed by Padilla (2021). In these assessment tools’ original versions, the child would read the printed word lists and texts. Because of the remote nature of the assessment, the words and texts were now flashed on-screen using the screen-share option of videoconferencing applications.

### ***Pre-assessment Tools and Methods***

Prior to the administration of the tools, a pilot run was conducted to rehearse administration protocols. After the pilot run, minor revisions were made to the administration script to include reminders for parents to serve as “listeners” during the session, and prompts for the researcher to start recording during consent- and assent-taking and during the oral reading of passages. A script was developed to ensure the uniform administration of the tests.

Appointments for three separate 30-minute assessment sessions were set with parents and guardians via email and/or Facebook Messenger. Included in the 30 minutes was a buffer period in case of internet connection/electricity concerns and other unforeseen events. Meeting room details were sent to the parent or guardian a day before each session. Reminders on scheduled assessments were sent a few hours before each session as well.

Research ethics protocols recommended by the De La Salle University Research Ethics Office were followed. Research methods were explained to learners and their parents or guardians beforehand. Consent and assent forms were also sent beforehand via email or Facebook Messenger. The content of these forms and any questions were discussed in the first session.

### ***During Assessment Tools and Methods***

Assessment was conducted through Zoom or Facebook Messenger videoconferencing. The choice between the two options depended on the

bandwidth of the participants. Zoom was the main platform used. When the internet connection was weak, calls were transferred to or made via Facebook Messenger. In the first session, the contents of the consent and assent forms were explained when needed, and any questions on the study and the sessions were answered before formally asking for the parent's or guardian's consent and for the child's assent. Consent- and assent-taking were recorded with permission. Though unrecorded, assent was taken for the remaining two sessions as well.

During the sessions, the word lists and passages were flashed on screen using the screen share function (Figure 1). The documents were formatted so that all items were already visible on screen, with no need to scroll up or down.



■ Figure 1. Reading Comprehension Passage Shared on Screen

Assessments were conducted in one language for each of the three sessions. Assessments in Sinugbuanong Binisaya were typically conducted first, followed by Filipino, then English. During assessments, the assessor held a printed version of the stimuli flashed on the screen, which served as the score sheet.

### ***Post-assessment Tools and Methods***

After each session, the scores were encoded onto an Excel spreadsheet. Unique codes were assigned for each child. At the end of all assessment sessions, the researcher thanked the children and their caretakers for their participation. Personalized electronic thank-you videos (Figure 2) were initially shared on screen and then sent as tokens to participants.



■ Figure 2. Electronic Personalized Thank-You Tokens for Participants



## Study 2

# Collecting Age of Acquisition and Visualizability Ratings Using an Online Survey

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by Margaret Mary Rosary Carmel Fua and Marie Grace Reoperez<sup>5</sup>

### *The Study and Its Goal*

Between 2019 and 2022, the Philippines participated in TalkTogether, an international collaborative project funded by the UK Research and Innovation Global Challenges Research Fund (UKRI GCRF). The research project aims to investigate the oral language development of children in urban poor areas in India and the Philippines. The focus languages were Kannada and Filipino. A technical

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person. The collection of ratings would have involved a paper-and-pen survey and a word-sorting task where participants would be asked to place word cards in containers representing different age bands of children covered by the study.

Instead of the original in-person survey, ratings of age of acquisition and visualizability were obtained through an online survey using Qualtrics, a Web-based survey platform widely used by international universities. It has many sophisticated features compatible with complex survey designs such as log-in identification, randomization, custom validation, and the capability to record responses across multiple sessions. Since Qualtrics was already widely used for research, data management and processing adhered by default to the European Union General Data Protection Regulation (EU GDPR). Creating and editing Qualtrics forms required a registered institutional email address, in this case, the University of Oxford. Other alternatives that were considered were Google Forms and Microsoft Forms. However, these do not have features with the same level of sophistication as Qualtrics. Using both would have made configuring the AoA study more difficult. Moreover, using Google and Microsoft Forms required extra steps to become EU GDPR-compliant, which would have affected the study's timetable.

The tool was individually administered, with a researcher remotely guiding the participant using video communications or messaging applications, as well as mainstream communication channels such as text messaging and telephony. The language of communication was Filipino. The survey tool was designed to have two tasks: age of acquisition and visualizability tasks. Based on the previously mentioned AoA and visualizability word lists, the age of acquisition task consisted of 885 items, while the visualizability task had 115 items.

### ***Survey Tool Design Interface***

Participants accessed the survey on digital tools that they already had—smartphones, tablets, or computers—using a unique log-in code assigned prior to administration. Participants used the same log-in code every time they accessed the survey. Figure 3 shows the log-in page.

Skipping an item is a potential error in responding to an online survey. As a safety measure for this study, a notification appeared on the screen whenever an item was inadvertently skipped, preventing the participant from proceeding to the next page without completing the current one (Figure 4).

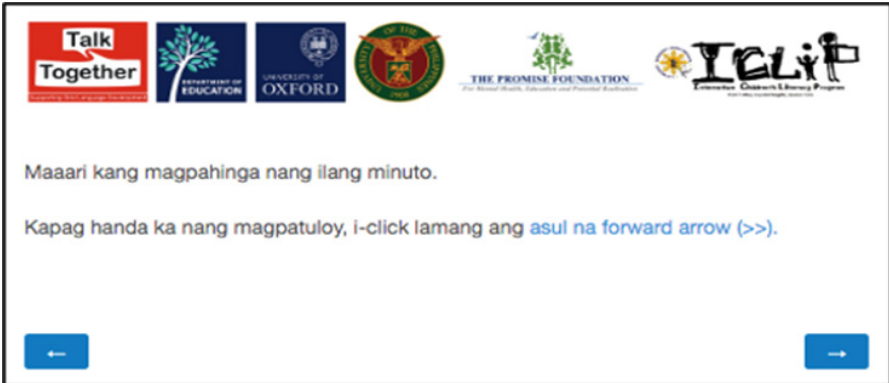
**Balikan ang tanong/mga tanong na nakalimutang sagutin.**

Sa iyong palagay, anong edad nailintindihan ng bata ang mga sumusunod na salita?

	edad 0-1	edad 2-3	edad 4-5	edad 6-7	edad 8-9	edad 10+	hindi ko alam
ngipin	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
paligsahan	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
sabaw	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
binhi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
dekorasyon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pera	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
alimango	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
regalo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

■ Figure 4. Skipped Item Alert Notification

Also, participants were sometimes disconnected from Qualtrics or be unable to finish the session because of the following reasons: unstable internet connectivity or a deliberate decision to close the platform due to fatigue, among other concerns. When this happened, the participants would simply log in again when they were ready, and continue where they left off. To counter fatigue, which might have affected data quality, participants were given explicit cues to take a break at particular points of the survey (Figure 5). They also received end-of-session cues (Figure 6).



■ Figure 5. Break Cue



■ Figure 6. End of Session Cue

## *Implementation Phase*

### **Study Administration**

Every time a session began, researchers guided the participants into the Qualtrics survey. They were also asked to inform the researchers when they finished the session as prompted by the tool. End-of-session interviews were conducted, focusing on words that participants found difficult, confusing, or to which they responded, “I don’t know.” Again, participants were given the choice to proceed right away to the next session or to continue on another day as scheduled. Upon finishing the entire survey, they were informed that they would receive from the project team a letter confirming the said completion.

Web-based Qualtrics allowed the participants’ raw responses to be automatically reflected on the Project’s main database at the University of Oxford. At the end of each data collection day, the Oxford-based Project Research Officer was informed of the number of participants who finished the survey. She would either verify or flag the quality of the data. At times, the research team would request the data to be checked if observed participant behaviors were suspected to affect data quality. Completed datasets, as well as those in progress, were archived in the Project team folder for the research leads to access.

## Study 3

# Virtual Assessment of How Teachers Evaluate Online Information

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*by Junette Fatima Gonzales and Lorina Calingasan<sup>7</sup>*

To investigate how teachers perform in assessing online information is the primary focus of this study. Fake news and disinformation have greatly affected the lives of many people, especially during the pandemic. Fake news and disinformation confuse people on the effects of both the virus and the vaccine, among many others (WHO 2021). Because of this issue, the education sector needs to ensure effective strategies on how teachers evaluate online information and can counter misleading posts. However, teachers themselves must possess the necessary media and information literacy skills to do so.

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The data was gathered through a series of workshops that also served as capacity-building interventions that aim to help teachers identify false information on the internet. Each workshop spanned about two hours, and they involved both expert-led discussions and assessment activities. However, the workshops and assessments for teachers were conducted via online meeting platforms to allow participants to attend even during COVID-19 lockdowns. This allowed the participation of people who could not otherwise attend due to health and safety concerns, location and transportation constraints, or personal commitments (Shamsuddin, Sheikh, and Keers 2021).

This study involved three phases. In phase 1, tools and instruments were developed, tested, revised, and validated. Teachers who volunteered as facilitators were also trained. Phase 2 involved data gathering during the series of workshops. The final phase entailed processing and analyzing responses after the workshop.

### ***Phase 1: Designing Virtual Workshops for Capacity-Building and Data-Gathering***

There was a need to systematically plan and design how to implement and facilitate the workshop, as well as how to gather reliable and valid data as part of the research process (Orgreen and Levinsen 2017). The development of instruments and tools centered on adapting mechanisms to communicate, collaborate, and gather responses that could be easily accessible online.

#### **Tool and Instrument Development**

The tools on how to orchestrate and facilitate the online workshop were developed. The chosen online platform should allow for discussions and sharing of presentations which was necessary to achieve the aims of the activity (Conroy and Gordon 2004; Hacker et al. 2020). Guides and prompts for facilitating online workshops were identified, as were platform operations (e.g., mute/unmute, show video, share screen, rename participants, move to breakout rooms, chats) and the evaluation of technical content (e.g., how to identify who is behind the information).

The research instruments were also developed. The main assessment instrument was contextualized from the research and assessments used by the Stanford History Education Group (SHEG) on Civic Online Reasoning (COR) (2019). A table

of specifications was then developed to ensure that the assessment items were systematically identified, as well as the test and the rubrics for scoring. However, since the assessments were conducted by the SHEG via pen and paper before the pandemic, these were modified and translated to online assessment forms. Furthermore, a process for analyzing additional responses and reactions was also developed.

### **Testing, Revision, and Validation**

To ensure the feasibility and readiness of the tools and instruments for deployment, a pilot session was conducted. It involved a small sample of volunteer teacher participants in a simulated online workshop. The session was recorded, and throughout this process, tools and instruments were observed. After the session, the results of the activities were gathered. Volunteer participants provided feedback on the process. The tools were revised, incorporating the analysis of results and insights from participants, and ensuring readiness for the subsequent stages of the research. Subsequently, the tools and instruments underwent validation and were then finalized with an internal group of education researchers.

### **Training of Facilitators**

Teachers who had volunteered to be participants during the pilot session of the workshop were trained to be facilitators for the actual workshop, which had more participants. The training was also held online, and the facilitator participants were given revised tools and instruments, including session guides and online copies of the pretest and post-test. Facilitators learned about operating the online platform, facilitating assessments, and discussing the content on fighting disinformation.

## ***Phase 2: Gathering Data from Virtual Workshops***

The data collection was implemented through a series of workshops where participants were asked to accomplish several tasks on assessing the credibility of online posts via instruments and to participate during discussions.

The workshops were conducted online in five batches from January to May 2022. Each workshop used a special Zoom feature that could accommodate up to 500 participants in a single “plenary” meeting room. This differs from typical Zoom webinars, where attendees only saw the speakers and which have limited



features. By contrast, the special set-up enabled attendees to view all other participants and interact with each other except during ongoing sessions. During the discussions, participants were advised that there was no need to turn on their cameras to avoid possible Zoom fatigue (Hacker et al. 2020). However, some participants were willing to voluntarily turn it on and provide feedback.

The workshop design was divided into two parts: a plenary and a breakout session. At the start of the plenary session, participants were given a quick survey. Then for both sessions, they were asked to answer an online activity with six tasks on evaluating online information. Afterwards, the researchers and trained facilitators led the discussion. For this study, the data gathered included actual responses to surveys and questionnaires, as well as reactions, chat messages, and other inputs from the participants (Shamsuddin, Sheikh, and Keers 2021).

The workshop concluded with a synthesis and a thank-you to the participants. They were then requested to fill out a form to provide feedback on the workshop's conduct. Those who completed the evaluation received certificates of participation. Once all participants had departed, the organizing team held a brief debriefing session to discuss what went well and any problems that occurred.

### ***Phase 3: Processing and Analyzing Post-workshop Data***

The researchers consolidated, processed, and analyzed the raw data from the workshops, including online surveys, pretest and posttest results, recordings, and chat messages. They removed duplicate answers (retaining the first response); assigned a code per respondent; removed any personal identifiers (name and email); and matched the survey, pretest, and post-test of each respondent. The researchers then conducted an interrater scoring to evaluate their responses and determine whether they were correct, partially correct, or incorrect. Through online meetings, researchers were able to collaborate on the analysis and findings.

## Study 4

# Assessment of Literacy Skills through Remote Modes of Administration (Visual Remote and Telephony)

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by Kathrina Lorraine Lucasan, Dina Ocampo, Junette Fatima Gonzales, and Margaret Mary Rosary Carmel Fua<sup>8</sup>

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The pandemic experience highlighted the lack of literacy assessment tools that could be used during school disruptions. Prior to the pandemic, UP CIDS ERP had developed the Multi-Literacy Assessments for Filipino Children (MLAF 1.0) (Kindergarten to Grade 3) in Filipino and English. However, these assessments were designed primarily for in-person administration (ERP 2023). This led to the development of MLAF 2.0, which has assessment tools not only for face-to-face sessions but also for remote administration delivery through the visual remote and telephony modes. This study discusses the different administration modalities of MLAF 2.0, specifically virtual remote and telephony modes.

Both these modes assess the same literacy components as the face-to-face version. These are Oral Language, Book and Print Knowledge, Phonological Awareness, Rapid Automatized Naming, Listening Comprehension, Alphabet Knowledge, Phonics and Word Recognition, Phonics and Non-Word Recognition, Grammar, Fluency and Reading Comprehension, Logical Sequencing, Figure Copying, Vocabulary, Handwriting, Spelling, and Writing and Composing.

The inclusion of these literacy components is based on several studies conducted in the Philippines (ERP 2023). These are listed in Table 1.

**TABLE 1. LITERACY COMPONENTS AND CORRESPONDING LOCAL RESEARCH BASES FOR THE MLAF (K TO 3)**

LITERACY COMPONENT	CORRESPONDING LOCAL RESEARCH
Oral Language	Bustos (1999); Mendoza (2017); Simbulan (2003)
Book and Print Knowledge	Digo (2012); Gloria-Fernandez (2005); Santos (2001); Yanilla-Aquino (2005)
Phonological Awareness	Tan (2007)
Rapid Automatized Naming	Ocampo (2002)
Listening Comprehension	Ocampo (2002)
Alphabet Knowledge	Digo (2012); Santos (2001); Santos (2015); Tan (2007)

Phonics and Word Recognition	Digo (2012); Jugo (2005); Ocampo (2002); Santos (2015); Tan (2007); Yanilla-Aquino (2005)
Phonics and Non-Word Recognition	Ocampo (2002)
Grammar	Ocampo (2002)
Fluency and Reading Comprehension	Ocampo (2002)
Logical Sequencing	Ocampo (2002)
Figure Copying	Ocampo (2002)
Vocabulary	Yanilla-Aquino (2005)
Handwriting	Santos (2001)
Spelling	Digo (2012); Ocampo (2002); Santos (2015); Yanilla-Aquino (2005)
Writing and Composing	Dario (2001); Pado (1990); Santos (1995); Bustos (1999); Yanilla-Aquino (2010)

- Retrieved from ERP (2023, 11–12).

Assessment objectives and procedures were explained to the parents and guardians of the participants. Consent forms for both were provided and retrieved prior to the scheduled assessments. Assessment sessions, which were usually composed of four sessions, were scheduled for one-hour each. Assessments in the child's mother tongue were administered first, followed by their second language.

## ***Administration of Remote Modalities of MLAF 2.0***

### **Adjustments in Assessment Site Set-up**

#### **1. Visual Remote Set-up**

The Visual Remote version was conducted through video conferencing using Zoom or Facebook Messenger. These applications allowed both the participants and assistants to see on the screen the actual materials or tools used, and to

communicate with the assessors. Facebook Messenger became the option when the internet connection was too weak for Zoom. Figure 7 shows the set-up for both the assessor and assistant sides.



■ Figure 7. Visual Remote Assessment Set-up

The picture on the left in Figure 7 shows the participant and the assessor assistant who are both on-site. The picture on the right shows the assessor who is off-site.

## 2. Telephony Site Set-up

For the telephony site set-up, assessments were conducted via phone call. Like the visual remote set-up, an assessor assistant accompanied the child on-site (Figure 8, left). This time, however, the assessor relied on the assistant to show the participant the assessment tools since screen-sharing is not available.



■ Figure 8. Telephony Assessment Set-up

## Adjustments in Procedures

### 3. For Both Visual Remote and Telephony Assessments

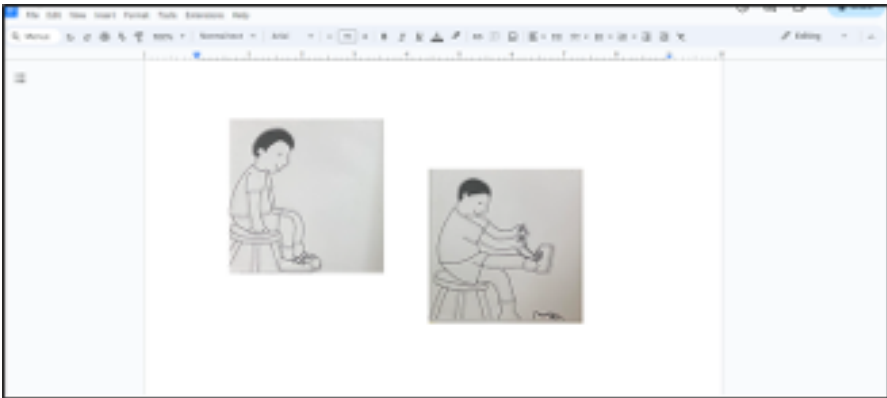
For both modes, the assessor and the participant were in separate locations. Because of this, an assessor assistant was with the participant onsite to provide support as needed. Assessor assistants were trained on the characteristics of Kindergarten to Grade 3 learners, assessment procedures, and materials. They were also required to undergo a research ethics course.

The assistant also took on roles that the assessor does in the face-to-face version of the assessment. Child assent forms were provided for the learner participants. The assistants explained the contents of the forms on the first day of assessment. They also collected the answer sheets and ensured that these have the child's name and are put in his/her envelope. Finally, assistants were also tasked to mark and score the children's responses in case the internet connection/call fails.

### 4. For Visual Remote Only

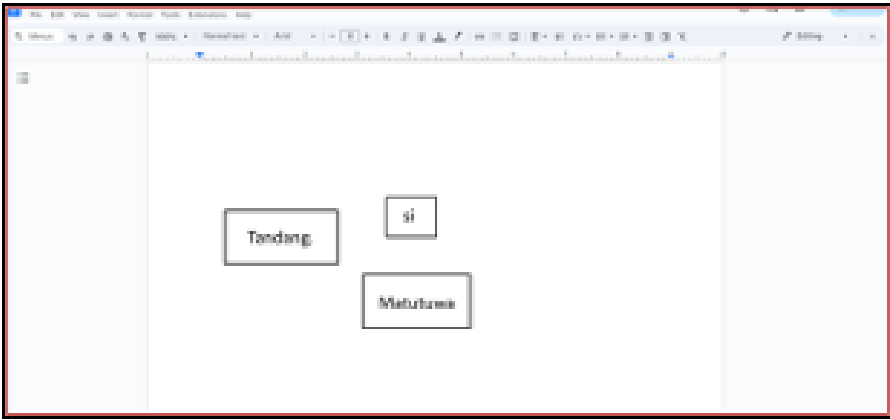
The assistant arrived at least 30 minutes before the assessment schedule and prepared the site. The computer was set up, and the internet connection strength was determined. The assessor and assistant decided which application to use based on the result of the internet connection test. If the bandwidth was able to support a Zoom meeting, the assessor provided the Zoom call details.

The assessor then informed the assistant of the assessments slated for the day. If Book and Print Knowledge, Phonological Awareness Segmentation Tasks, and Figure Copying were scheduled for the session, the assistant ensured that the materials for these tasks were ready. For the Book and Print Knowledge assessment, the assistant presented the book to be used. In the Phonological Awareness Syllable and Phoneme Segmentation tasks, assistants demonstrated how to use the chips. Finally, for the Figure Copying assessment, the assistant showed how the blocks are used to copy the designs on screen and on the laminated cards on-site. For this mode, the Grammar and Logical Sequencing assessments used Google Documents. For Logical Sequencing, the pictures used for each item were put on one page. Figure 9 shows a screenshot of one of the Logical Sequencing practice items.



■ Figure 9. Logical Sequencing Practice Item in Google Documents

The same principle was used for Grammar. However, instead of pictures, the words and phrases to be arranged to form correct sentences were placed on one page. Figure 10 shows a screenshot of one of the items.



■ Figure 10. Grammar Item in Google Documents

If Grammar and Logical Sequencing were scheduled for the day, the assessor sends to the assistant the pertinent Google Docs links. The assistant accessed the links and ensured that they were able to successfully move the objects in the document from their end.

## 5. For Telephony Only

The Telephony version of the MLAF had fewer items for each assessment. This considered the fact that the assessor would not visually confirm whatever was happening from the participant's end. It would also have been difficult for the assessor to sustain the participant's attention, since the assessor would only be able to speak with them

In Telephony, the responsibility for most of the assessors' usual tasks shifted to the assistant. Like the assistant for the visual remote mode, the assistant also arrived 30 minutes before the set time. The difference was that since the responsibility of providing the appropriate materials for all assessments rested solely with the assistant, more preparation was needed to ensure that all necessary materials for the day's session were ready. Table 2 shows the tasks of the assistant, which were originally the assessor's tasks in MLAF 1.0.



**TABLE 2. ASSESSOR ASSISTANT'S TASKS DURING TELEPHONY ADMINISTRATION**

<b>LITERACY COMPONENT</b>	<b>ASSISTANT'S TASKS</b>
Oral Language	Present picture stimuli
Phonological Awareness Rhyme-Matching	Answer practice item Present picture stimuli
Phonological Awareness Syllable Segmentation	Demonstrate the use of the chips
Phonological Awareness Phoneme Segmentation	
Rapid Automatized Naming	Answer practice items Present picture stimuli
Listening Comprehension 2	Present picture stimuli Play recording
Phonics and Word Recognition	Present word list
Phonics and Nonword Recognition	Present word list
Grammar	Present items
Fluency and Reading Comprehension	Present texts Time reading
Vocabulary	Answer practice items Provide and retrieve answer sheet
Listening Comprehension 1	
Handwriting	Provide answer sheet
Spelling	
Writing and Composing	Provide blank sheet of paper and writing/coloring implements
Alphabet Knowledge	Present letters

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Book and Print Knowledge	Present book to be used for responding
Logical Sequencing	Present items
Figure Copying	Answer practice items Present the blocks and the laminated pattern cards

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The main responsibility of the assessor was to provide instructions and lead the assistant from assessment to assessment until all the tasks for the day were completed.



# Reflections on Remote and Online Research

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This section is organized in three sections. First, we discuss the gains of research participation using remote or online technologies. Second, we describe how various strategies were used to attain research efficiency. Finally, we discuss the enablers of these benefits. The insights we have drawn demonstrate that being adaptable in terms of tools, procedures, analyses, and design is valuable during extraordinary circumstances. These have yielded good practices which may inform research activities even during nonpandemic times.

The researchers' knowledge and awareness of the advantages, disadvantages, opportunities, and limitations that may emerge during data collection is crucial,

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since it may affect the quality of data. For instance, remote data collection tools such as short messaging service (SMS), voice calls, online surveys, and online interviews showed us that transactional distance can be transcended, but not without challenges. In fact, these techniques and tools made us see data gathering in a different light and, at the same time, made us rethink the complexity of data collection and data management processes. In light of these experiences in the studies described above, we discuss the advantages, as well as the challenges of conducting research remotely.

In the discussion, considerations for future research are included for each aspect of remote data collection, stemming from the collective experience of the researchers of Studies 1, 2, 3, and 4. These considerations include not only learnings but also proposed workarounds or solutions to issues faced.

## ***Gains to Research Through Remote/Online Technologies***

### **Engagement with Participants**

This section highlights how remote data collection ensured access to assessment administration, online survey responses, and workshop participation. For future research, considerations should be placed on participants' access to gadgets and internet connection, familiarity with gadgets and applications, and provisions to help participants keep to the agreed schedule.

### **Ensuring Health and Safety in Pandemic Times**

Because of the deadly consequences of COVID-19, the health and safety of both the researchers and participants became the primary concerns in all interactions. Although these were considered during the pre-pandemic, they did not resonate much, except in other contexts such as armed conflict or adversely affected by calamities. In these four studies, concerns over exposure to the coronavirus were minimized by the absence of face-to-face contact, and by the use of online technologies and platforms. In Study 1, literacy assessments were administered virtually, while descriptive surveys were conducted using different remote platforms in Study 2. In Study 3, workshops and surveys were carried out using Zoom.

## Ensuring Numbers and Diversity Among Participants

Because most people were staying indoors during the time of our data collection, it was rather easy to recruit and retain participants for our studies. Simply by referral, we were able to engage with parents, teachers, learners, and community members who met our inclusion criteria for the various research projects.

For Study 1, the researcher was in Pasig City, Luzon while the participants were in Mindanao. Despite this distance, the target sample of 125 participants was met. For Study 3, the series of workshops conducted over Zoom were able to reach more than 500 participants nationwide. This resulted in a large cohort, which was able to provide data on both the pretest and post-test to determine the efficacy of the online training program. The online platform made it more accessible and possible for participants to attend, actively engage with each other, and accomplish assessments. An additional incentive was that one of the workshops included professional development points for teachers.

For Study 2, the recruitment of participants from communities was facilitated through community leaders or *nanay* (mother) leaders. These women selected their neighbors who met the criteria for the AoA study. Using SMS and other online messaging systems such as Facebook Messenger, we were able to orient the recruited informants on their tasks despite the lockdown and the distance.

## Creating Venues for Social Interaction

One of the most disastrous effects of the pandemic involved the social development among children. They had little to no opportunities to interact with those outside their families. This was especially true for those who were enrolled in schools that only used self-learning modules for their lessons during the school year.

For Study 1, the assessment sessions provided around 35 percent of the participants with the opportunity to interact with a person who was neither a family member nor a friend. In Study 2, the participants were able to converse with community-based research assistants; they discussed how to accomplish the AoA surveys using the gadgets. In Study 3, workshop participants communicated in real-time with facilitators, speakers, and fellow participants online. Additionally, they could express reactions through emojis (e.g., hearts,

emotive faces, and claps) to enhance social interaction and create a comfortable atmosphere during the workshop. This is crucial for eliciting more genuine responses. In fact, the analysis of recorded chat messages reveals that these online discussions play a significant role in helping teachers comprehend strategies for identifying false information online. Furthermore, the anonymity brought by the online conferencing allowed participants to admit once they were asked if they answered incorrectly in the activities. Unlike in many physical and face-to-face engagements, participants do not usually admit their responses to assessments or tests.

### Efficiency and Effectiveness in Research Procedures

This section discusses how remote modes of data collection made data gathering, data management, logistics, assessment administration, and workshop implementation easy and manageable, despite the physical distance between participants and assessors/workshop organizers. To further streamline the procedures of future research, there should be considerations for background noise, the limitations brought about by participants' gadgets, the cost of research implementation, and measures to uphold data integrity.

### Designing Efficient Data Collection Processes

In Study 1, remote data collection allowed data to be gathered within the study's intended time frame. Collecting data online or through telephony is time-efficient since researchers can interact with participants without having to travel. Despite having only one researcher, data collection was completed relatively quickly in Study 1. The researcher was able to map the target population after around three and a half months.

Following the experience in Study 1, recordings were used in the Listening Comprehension 2 assessment in Study 4. It is further suggested that recordings be used for Phonological Awareness items, since it would be difficult to ensure that the syllables/sounds made by the assessor off-site for both visual remote and telephony assessments are heard clearly by the onsite participants.

The use of remote digital technologies made organizing workshops and activities within the study more efficient. In Study 3, the chosen online platform, Zoom, allowed the researchers and workshop organizers to effectively manage

participant engagement. For instance, the functional capabilities of “Zoom hosts” allowed for the muting of participants (if there are background noises during lecture sessions), and for unmuting those who raised their hands to provide feedback or ask questions. Additionally, the use of breakout rooms on the online platform seemed to be less time-consuming and more efficient than onsite sessions, which face more logistical challenges. Furthermore, the use of an online timer shared on screen ensured the timely completion of assessment-related tasks and enabled participants to monitor their progress.

For Study 2, it became possible to observe how participants responded to the survey in real time through the use of a third-party camera, which streamed the events to the researchers. This helped researchers ensure fidelity to data collection protocols. Furthermore, tools such as surveys can be self-administered, thus reducing response time. As long as the participants have access and know how to access the survey instruments, responding can be done at their own pace and during their preferred time.

### **Managing Data More Effectively**

Data management and entry can be automated through online and remote technologies, which help minimize and eliminate potential errors (Granello and Wheaton 2004). In Study 3, responses from hundreds of workshop participants were conveniently and immediately collected through the use of online survey platforms. Unlike pen-and-paper activities, which require time and effort to encode each response and place it into a database, an online survey form like Google Forms, which the researchers used, automatically presented the participant responses in a database format. This made analysis much more efficient. For Study 2, the use of Qualtrics also automatically organized data according to the instrument. This allowed easy migration to data analysis software.

An additional advantage was the feature of online technologies for recording interactions. In Study 3, for example, the first run of the workshop was recorded. In the succeeding workshops, the capacity-building segment, which included expert lectures on strategies for evaluating online information and effectively responding to the pretest, was presented by sharing the actual recorded video used during the first run. The use of recordings guaranteed a consistent delivery of the intervention throughout the entire series. For Studies 1 and 4, recording



features of video call applications and browser extensions for screen recording enabled an easy filing and management of session recordings.

In Study 4, the visual remote modality was the easiest to administer for both assessors and assistants. This is because materials are mostly flashed on screen. This minimized the need to go through envelopes, retrieve, present, and return hard copies of stimuli sheets, materials, etc. It also facilitated the efficient monitoring of assessments.

### **Leveraging Remote Technologies for Cost Efficiency**

For Study 1, reproduction costs of materials for participant use were significantly reduced because all stimuli were only flashed on screen. Only the materials for the assessor's use had to be printed. The researcher also saved on transportation costs since she did not have to fly to Iligan City and go to participant schools/homes to conduct the assessments. The same observation was noted in Study 4, specifically for the reproduction of materials in the visual remote version of the MLAF. For future studies though, if there are materials that need to be distributed to participants, we suggest leveraging the use of schools or other public places in the community as pick-up and drop-off points of materials.

In Study 3, conducting a series of workshops online incurred little to no expenses compared to onsite workshops in various locations. As preparations were conducted online, overhead expenses such as printing and distributing of materials, transportation, and snacks were reduced. These often substantial costs are typically associated with workshop registration, activities, assessments, discussions, and evaluation.

## ***Cushions and Drivers of Successful Remote Data Collection***

### **Participants' Access to Internet and Digital Tools**

The most common challenge for Study 1 was the intermittent internet connection not only of the participants but also, at times, of the researcher. Whenever there were disconnections, both participant and researcher rejoined the session when they could. Weather also affected the strength of the internet connection. In areas where the internet was known to be weaker, sessions were

scheduled in the morning since it was more likely to rain in the afternoons or evenings during that time of the year. Screen-sharing and video feeds were also turned off whenever needed to conserve bandwidth. To address this, whenever possible, participants and researchers should prepare alternative source/s of internet or gadgets to be used during the sessions.

Also, for Study 1, when internet connection was too weak or unable to accommodate screen-sharing, screenshots of the word lists and passages were instead sent via Facebook Messenger. These were then deleted immediately after the participant had finished reading them.

For Study 3, numerous participants utilized their laptops to engage speakers via Zoom. Some also actively took part in breakout rooms, using microphones and cameras to articulate their thoughts. Additionally, since assessments of the activities were conducted through a separate application, many utilized the use of an additional device, such as a phone, to respond to questions and refer to Zoom instructions and timers. However, this posed a challenge for individuals solely reliant on their phones for participation and assessment. They had to juggle between minimizing Zoom and submitting responses. Furthermore, attending and participating during the workshops were definitely more challenging for those who have unstable internet connectivity, since it was crucial for listening, viewing, and engaging throughout the session.

Also, for Study 3, only teachers who completed both the pretest and post-test were to be included in the sample. However, some participants needed more than the 10-minute allocated time to complete each activity. To address this, participants were permitted to submit their responses beyond the 10-minute mark, particularly if they encountered internet connectivity issues. For future studies, it is suggested that participants input their “start” and “end” times when answering the assessments.

Future research ought to consider access to gadgets and internet connection for participants. In Study 4 for instance, participants’ access to gadgets and internet connection was ensured because the assessor assistants brought laptops, phones, and WiFi routers with them.

## Literacy and Digital Skills of Participants

For Study 1, participants were more familiar with Google Meet, which was the platform used by schools. This allowed them easily navigate the preferred platform of the researchers, Zoom. Some had difficulty joining the meeting, but this was easily addressed. The researcher's use of a Zoom account (via UP subscription) proved to be beneficial as well. It enabled the researcher to manipulate security settings as needed. Apart from this, the use of a personal Zoom account also made talking to the participants' parents or guardians easier. The researcher could easily facilitate the discussion with the help of Zoom's interface. Likewise, other people in the household of the participants (parents, guardians, etc.) proved helpful. Future studies should consider Zoom account security defaults where those with no accounts cannot access meeting rooms. Researchers should be mindful of Zoom's 45-minute limit for meetings for users with no paid subscriptions.

In Study 2, some of the respondents were not knowledgeable about using the gadgets or the software. This was mitigated by engaging with an onsite assistant who handled the device and typed in the answers to the AoA questions/items.

For Study 3, some participants who were not very familiar with computers and applications encountered difficulty joining the workshop. They had a hard time with the sign-in and registration restrictions of Zoom and accessing the assessment forms.<sup>10</sup> Furthermore, participants needed to know how to minimize, maximize, or manage multiple applications within the browser since participating in the activities was conducted in a separate application.

Another challenge was experienced during the breakout session. Some participants did not know how to move to the breakout rooms. They waited for the organizer or Zoom hosts to automatically move them to their respective breakout room. Participants should also be acquainted with Zoom's capabilities, such as viewing the screen and/or speaker, muting, turning off video, or joining breakout rooms. Whether they are using the browser or the application, they should also be aware of these functionalities. To address these challenges, a team

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10 By default, Zoom subscriptions via UP require signing in to a Zoom account. That is, the participants needed to have their own Zoom account.

that served as “hosts” or “co-hosts” in the Zoom meeting was trained. Its role involved facilitating breakout sessions and managing platform logistics to ensure smooth sessions and guarantee participants’ access to the necessary resources. They should have control over certain functionalities and play a pivotal role in maintaining order during sessions.

For Study 4, the participants did not need to know how to manipulate the features of either Zoom or Facebook Messenger because assessor assistants ensured that access to the meeting room or video call was sustained throughout the assessment session.

### **Keeping to Agreements on Schedules**

For Study 1, there were several instances where participants were late or did not come to appointments at all. This was due to many reasons, including parents and guardians needing to work, participants getting sick, defective gadgets, brownouts, and the expiration of subscriptions to internet load promotions. Sometimes, it was because participants had simply forgotten the appointment. To lessen these instances, reminders for sessions were sent a day before the assessment. The same concern was noted for Study 4. To address this concern, reminders were sent the night before and the morning of the assessment sessions.

### **Role Clarification Among Research Participants**

For Study 1, the discussion of the assessment objectives, and parents’ and guardians’ role as “listeners” in the first session curbed the tendency for coaching from others during the sessions. For Study 4, parent leaders were asked to assist in reminding parents of assessment schedules, as well as ensuring that community learning hubs were open during the sessions.

### **Conduct of Pilot/Trial Run**

To get a sense of how sessions will run, for Study 1, a trial run was conducted, following the protocols developed during planning. The results provided input, enabling the researchers to manage the following issues, including ease of access to online platforms, the length of sessions, possible technical difficulties, background noise in the location, the feasibility of gadget/s to be used, and the behavior of the parent or guardian present during the assessment.

To get a gauge of the most optimal scenario/s in future studies, trial runs should be set at different times using various gadgets. Parents and guardians should also be present during these sessions.

For Study 4, a pilot run was conducted not only to practice administration protocols but also to determine the length of time needed to administer the assessments and the possible issues/concerns that may arise therein. Assessors also needed hard copies of administration manuals.

### **Practicing Research Ethics**

Measures for ethical practice are key to upholding the autonomy and dignity of participants. For Studies 1, 2, 3, and 4, the privacy of participants was ensured through the use of codes. Only research team members had access to the data gathered.

Because participants were minors, for Study 1, the presence of parents and guardians during sessions was requested. This was done aside from taking the parent's or guardian's consent and the child's assent. For Study 3, participants were requested to provide their consent during registration. This was reiterated during the instructions at the beginning of the program, and once more at the start of the assessments. This practice is crucial, since all participants' names are visible to each other during the workshop. Additionally, their responses to the items and participation may reveal their vulnerabilities and experiences online. Similar to Study 1, the parent's or guardian's consent and the child's assent were also taken for Study 4. Additionally, orientation sessions with parents and guardians were also conducted to explain the objectives and procedures of the research.

## ***Potential Traps that Could Weaken the Use of Remote Research Methodologies***

### **Environmental Noise**

A challenge for Study 1 was background noise during assessment sessions, which interfered with sound quality. There were usually conversations in the room, television or radio sounds, and highway traffic. Researchers had a hard time comprehending what the participants said. A few sessions coincided with nearby mosques' calls to prayer. At one point, bystanders trying to catch the researcher's attention disrupted the session. Because of these, participants had

to be asked to reread parts of the word lists or passages. Whenever possible, parents and guardians were also requested to move participants to a quieter area of their house. Despite these disruptions, session appointments continued whenever possible. However, some ertr discontinued and rescheduled as needed, depending on the level of disruption and the amount of time left before the next participant's appointment.

For Study 3, common issues arose when participants forgot to mute themselves or accidentally unmute the microphone, causing disruptions during discussions. For future studies, there is a need to ensure trained facilitators who will manage the workshop.

For instance, the set-up of the computer for visual remote administration needed tweaking so that the responses of the participant could be heard better. Setting up the assessment site—which includes ensuring that the laptop is plugged into a power outlet and that screen brightness, as well as microphone and speaker volumes, is set to maximum—should be included in the administration manual. Also, when using Zoom, administration manuals should include a reminder: that the background noise suppression (found within the audio settings) must be set to “Low,” ensuring that participants' voices can be heard clearly.

### **Limitations of Available Gadgets**

For Study 1, some participants used smartphones and sometimes complained that the screen was too small. To address this, the researcher guided the participant and their parent/guardian on how to “zoom in” using finger strokes, or how to activate the “landscape view.” At times, the screen lock feature had to be disabled. The researcher also had to help parents and guardians execute, based on the model of their phones.

### **Unexpected Costs**

In Study 4, additional cost was incurred because both the assessor and assessor assistant needed copies of the score sheets. For Study 2, participants were oriented on their tasks using SMS and other online messaging systems such as Facebook Messenger. Funds to cover their expenses for internet connectivity for the sessions were provided.

## Test Security and Intellectual Honesty

In Study 3, although the consent form mentions the need to secure the dissemination of test items, there was no assurance against individuals capturing screenshots or recording during the test. Additionally, though advised prior to the assessments, it remains uncertain whether another individual (apart from the parent/s) was present in the participants' room or area, and who could have supervise(d) their responses, or interfered in some way.

## Conclusion

The papers we discussed in this volume demonstrated that innovation and creativity in research will always assert themselves even in the most difficult of circumstances such as a pandemic. Indeed, there are many benefits to using a wide range of technologies that allow for data collection. These ~~have~~ broadened the reach of the studies to include participants from areas that would have been otherwise too difficult to physically go to, especially when there are budget and time constraints.

Beyond the benefits, we also discovered that trying out different strategies and tools could boost efficiency and effectiveness. Apart from the obvious ease in data collection, we found ways to ensure that the information gathered was valid through the consistent administration of tests and well-developed protocols. The rigorous training of assistants, assessment companions, and enumerators was well-supported by the use of camera set-ups that allowed researchers to observe events from a distance.

Finally, we were able to learn from our four projects that there are strong drivers for, as well as potential pitfalls in, the use of remote technologies. To harness the gains from our experiences, we will need to ensure that these enablers and challenges are properly managed. In this way, we can use remote and online methods to work with groups of people who are from communities that are quite frequently excluded from research due to budget constraints and safety issues. The promises of these methodologies will most certainly allow for greater participation of more diverse groups so that we can better represent Filipino learners in educational research.

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