

# Using Remote Cognitive Testing to Modify Questions about Education during the Coronavirus Pandemic

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# Introduction

- How do we conduct cognitive interviews during a pandemic?
  - How do we ensure we get enough quality feedback if we are not in the room with participants?
  - How do we recruit and schedule participants with the desired characteristics?
- How do we deal with terminology and situations that are new and constantly evolving?
  - What kind of changes are occurring to education because of the COVID-19 pandemic?
  - How are these changes understood and talked about by K-12 school staff vs. parents of K-12 students?



# Survey Background

Survey Name	Survey Mode	Cog Testing Mode	Testing Population	Cog Testing Time Frame	# of Remote Interviews
National Teacher and Principal (NTPS) School Survey	Self-administered web or paper	In person with paper, then conducted over the phone with emailed PDF	Principals, assistant principals, other school administrators	January –April 2020	9 interviews
Current Population Survey (CPS) School Enrollment Supplement	CATI/CAPI	Telephone	General population (parents and guardians of K-12 students)	May – June 2020	20 interviews
NTPS School and Teacher Surveys	Self-administered web or paper	Web with screen sharing through Skype and Teams	Principals and teachers	December 2020 – February 2021	40 interviews



# March 2020: First Step into Remote Cognitive Testing

- The NTPS School Survey, sponsored by NCES, is a nationally representative establishment survey
- Typical respondent is a principal, assistant principal, or other administrative staff member at a school
- Before the COVID-19 pandemic, we were already cognitively testing new questions to collect information about brick-and-mortar schools that offered online courses
  - Online course offering questions were already problematic before the pandemic



# Pivoting NTPS to Remote Testing

- In late March 2020, we piloted remote cognitive testing of the NTPS School Survey in a week
- Conducted 10 interviews for Round 2, one in person, then nine remotely after shutdown
- Created a question about new modes of delivering remote instruction
- Recruitment relied more heavily on personal contacts
- Emailed PDF questionnaire to participants (no time to program web instrument) while we talked to them on the phone
- Used a slightly modified think-aloud protocol



# Creating a Question to Measure Changes in Education during the COVID-19 pandemic

- Since the NTPS School Survey would be fielded starting in the fall of 2020, it was an ideal time to collect data about impacts of the pandemic
- We needed a question that captured a variety of steps schools may have taken because of the pandemic:
  - In-person classes cancelled
  - Instruction moved online
  - Paper materials sent home
  - Other actions...?
- There was not a widely known terminology around remote learning
- School responses to the pandemic were constantly evolving in spring 2020



# Lessons Learned from March 2020 Remote Cognitive Testing

- Geographic diversity in remote testing is a big plus for education surveys
  - Education policy and terminology varies greatly from state to state
  - We included staff from states outside the greater DC area
- Need to be prepared to quickly adapt question wording after 1-2 interviews
- Prepare interviewers to:
  - Deal with participant's psychological stress and distractions in the background
  - Be more attentive to verbal cues and pauses in the absence of nonverbal cues
  - Probe more if needed, including concurrent probing
- Better software needed for testing
  - It would have been extremely helpful to see participant's screen and their answers to survey questions. More recent testing has used Skype and Microsoft Teams



# Summer 2020: Cognitive Testing Education Questions with the General Population

- CPS School Enrollment Survey- cognitive interview by phone
- Parent or guardian of a K-12 student enrolled in a private or public school in the spring of 2020
- Recruited with Craigslist and social media ads targeting areas outside of DC
- 20 interviews, 60 minutes each
- Participants were from 15 states
  - States varied widely in changes to education due to COVID-19
  - Regional differences in terminology





# Topics Covered by Cognitive Testing in the Summer of 2020

- How education changed in spring 2020
- Student internet and digital device access
- How much live contact with teachers, if any
- How time spent on schoolwork compared to an in-person school day
- Resources used for remote learning



# Overview of Changes to Education found during CPS School Enrollment Cognitive Testing

- Responses aligned with what schools had reported during testing for NTPS earlier in the spring of 2020
  - In-person schooling stopped with little to no warning
  - Several weeks with no school or educational resources available for students, then some paper materials/digital devices
  - Some schools offered access to pre-recorded online educational content
- Course work was very different
  - Not always up to the same standard as normal in-person schoolwork; live video instruction was initially uncommon
- Interaction between teachers and students changed throughout the spring
  - Initially little to no contact with teachers, then sometimes daily check-ins
  - By the end of the school year, some live lessons through video



# Lessons Learned from Cognitive Testing School Questions with General Population

- We were still working with a constantly evolving vocabulary
  - How should we refer to COVID-19/coronavirus/coronavirus pandemic?
  - What is remote/virtual/online schooling called?
  - Will parents think of remote schooling as “home schooling” and report it as such?
- Use broad probes and allow participants to talk for longer periods on the topic
  - Emergent probing is crucial
- We need to recruit participants with poor internet access



# Fall 2020: Using Cognitive Testing as More than Just Pretesting

- Conducted additional cognitive testing while NTPS in the field
  - 26 teachers and 14 principals, from 21 states
  - Interview length 60-90 minutes
  - Recruitment using Census Bureau announcement
- Provided qualitative data on how respondents were interpreting existing questions in light of COVID-19
  - What do common terms like “attendance” and “instruction time” mean to respondents now?
  - Answering for current situation?
  - Answering based on how it would have been prior to COVID-19?
- Helps explain unusual results in time series data for data users



# Conclusions

- We have learned a lot about the logistics of remote cognitive testing
  - Better software improves the type of feedback we can collect
  - Improved recruitment techniques
- Education is continuing to evolve when it comes to remote learning and many changes may be here to stay
  - Education surveys need to address “hybrid” remote/ in-person school modes this fall and possibly after the pandemic is over
  - Continue to research how different respondents understand and talk about these modes (Parents vs School staff)



# The Future of Cognitive Testing Post COVID-19

- In-person cognitive testing is still needed in the future
  - Potential for distractions and reduced confidentiality (we cannot enforce that the participant is alone during testing)
  - Internet connectivity and device problems can impact data quality
  - The populations we can recruit and interview only in-person may be different
- Remote testing allows a greater focus on geographic diversity which is particularly valuable for education surveys
  - States and districts vary in terminology used
  - COVID-19 school response varied A LOT by location (in-person, hybrid, all remote, etc.)



Thank You

Questions?

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