The NERA Researcher

The President's Message

What an extraordinary time to be alive—and to serve as President of an Educational Research Association. As we witness increasing challenges to research, education, diversity, and inclusion, it is undeniable: we are living through uncertain times. And with uncertainty often comes the question—*how do we keep going?*

As a university faculty member with many international students, I regularly sit with them as they express their fears: fears about staying in the U.S., about losing their student status, about seeing their hard-earned degrees suddenly placed at risk. I watch funding freeze or disappear entirely. I wonder what's coming next—and like many of you, I sit with that uncertainty and do my best not to lose hope.

Hope and community are our way forward.

I find comfort in working alongside colleagues who share my values and commitment to justice. I find strength in supporting my students however I can, and in seeking creative paths to sustain their education. Most of all, I'm choosing to see this moment not just as a challenge, but as an invitation to rethink business as usual.

How can we become more of what we want to see in the world?
How can I do more, be more, *inspire* more?
How can we, as a community, stand united in our shared beliefs?

I believe that staying true to ourselves—refusing to let others define us—is the first step to changing the world.

I hope you are finding spaces where you can feel grounded and purposeful. And I hope one of those spaces is NERA. We've had a vibrant lineup of webinars this year, and we're looking forward to offering even more. Our conference planning is in full swing, and the excitement is

building as we prepare to gather in community once again.

This is our moment to stand strong—for education, for research, for one another.
To define the next chapter *together.*
Yes, fear and overwhelm are natural—but we cannot let them define us.
We must not let them steal our spark.

In solidarity and hope,

Lisa Keller
President, NERA

Message from the Editors

Hello, NERA members! We hope you are enjoying the change of seasons and looking forward to summer plans that are exciting, relaxing, or maybe a bit of both.

In this issue of the *NERA Researcher* you'll find an announcement of this year's conference keynote speakers (page 4), a call for nominations for NERA's next president as well as two board member positions (page 6), an opportunity to learn more about NERA's 2024 Educator-as-Researcher awardee, Dr. Jessica Coronel (page 12), and the third and final installment of our series on quantitative item development (page 20), among other things.

Don't forget that the call for proposals for this year's conference is open until **June 13th.** This year's theme is "Illuminating the Margins: Education for Every Mind." We're looking forward to the insightful presentations and thought-provoking conversations around this year's theme – as well as reuniting for an evening of karaoke, of course!

Additionally, we are looking for your feedback on the *NERA Researcher* and ways we might make it more valuable to you. We are also looking for a few NERA members who might be interested in volunteering as members of the Editorial Board. Please take a moment to complete our survey and share your opinions here.

As flowers bloom, school years wrap up, and the weather turns warm in the northeast, we wish you all a happy, healthy, productive summer with lots of time to work on your NERA proposals and presentations!

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NERA
NORTHEASTERN EDUCATIONAL RESEARCH ASSOCIATION

2025 NERA Annual Conference Overview & Welcome

Illuminating the Margins: Education for Every Mind

Wednesday, October 22 - Friday, October 24, 2025
Trumbull Marriott Shelton, Trumbull, CT

Dear NERA Members,

We hope you are having a great spring! It was great to see so many of you at the conference in 2024, and we hope you enjoyed it as much as we did. We wanted to thank the 2024 NERA conference team – Past President Jonathan Steinberg and the 2024 NERA conference co-chairs: Javier Suárez-Álvarez, Hannah Smith, Siyu Wan, and Caroline Prendergast. It's with great pleasure that we extend a sneak peek into the preparations for our upcoming 2025 conference. First, this year, the annual meeting will be held from Wednesday, October 22, to Friday, October 24, 2025. Please be sure to put the dates on your calendar, and do not hesitate to let us know how we can help you plan for this year's conference.

This year's conference, **Illuminating the Margins: Education for Every Mind**, centers on the powerful theme of recognizing and celebrating the strengths of all learners, particularly those whose voices and perspectives have often been overlooked in traditional educational practices. Rooted in the belief that every individual deserves recognition and opportunities, this event will shine a light on the diverse contributions and potential of all communities. Through an array of keynote presentations, workshops, and panel discussions, participants can engage in transformative conversations that highlight the strengths, contributions, and potential of every learner. Together, we will redefine what it means to create educational systems that celebrate, empower, and foster innovation and growth for all.

We're excited to announce our keynote speakers for this year's conference! Rachel Adams, Associate Director of Education & Training at

Disability Services at UMass Amherst, will deliver the keynote address during Wednesday's dinner. On Thursday, we'll hear from Dr. Barbara Helms, a longtime NERA member, during the lunch keynote.
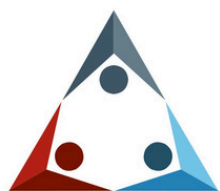
The calls for proposals and workshops are now open and available on the NERA website.

Proposals must be submitted electronically by **Friday, June 13, 2025, at 11:59 pm EDT.**

Workshop proposals must be submitted via the Google Form by **Monday, June 16, 2025, at 11:59 pm EDT.**

In addition, this year we've successfully hosted two webinars, each with a unique focus and highlighting key job-seeking skills. We're also planning to offer two more in the near future—stay tuned for updates!

Your 2025 NERA Conference Co-Chairs,
Eduardo Crespo-Cruz, Hongyu Diao, Nate Smith, and Dongwei Wang

Call for Nominations for President and Board Members

Jonathan Steinberg, *EurekaFacts*
Past President; Chair, Nominations Committee

Dear Colleagues,

NERA is an entirely volunteer-run nonprofit organization and relies on its members to volunteer their time and energy in key leadership positions. As I tried to convey during my 2024 Presidential Address, while I know we all continually seek balance in our professional and personal lives, your NERA family needs your leadership now! Therefore, I am asking you to carefully consider how you can help ensure the success and longevity of our wonderful community of education researchers by stepping up to serve as a leader.

This year, you may nominate yourself or a colleague for one of the following positions:

- **NERA President** - one position for a 3-year term as President-Elect (2025-2026), President (2026-2027), and Past President (2027-2028).
- **NERA Board Member** - two positions, each for a 3-year term, running 2025-2028.

The NERA Handbook describes the roles and responsibilities for the respective positions. Terms begin and end at the time of the annual NERA conference.

An important note to consider for the NERA President role in this cycle is that since our current hotel contract expires after the 2026 conference, whoever becomes President-Elect in this cycle will also become chair of the Site Selection Committee for 2025-2026. This responsibility entails helping secure a new hotel contract by Spring 2026 to begin with the 2027 conference. Also as Past President, you will serve as chair of the Nominations Committee as well for 2027-2028.

Please submit your nomination(s) to the Nominations Committee by **June 30, 2025,** at nominationscommittee@nera-education.org. If you nominate someone other than yourself, you must ensure their commitment. Note that all nominees must be current members of NERA. Thank you for your continued support!

Jonathan Steinberg
Past President; Chair, Nominations Committee

Membership Committee Update

Shelby Perry, *NEIT,* Chair

The Membership Committee is excited to share that our team has been diligently working on expanding our network by reaching out to colleges across the New England area, aiming to recruit new members, including executive committee members, deans, program directors, faculty members, and superintendents. We're excited to have made great strides in this initiative and are eager to continue this work!

Graduate Student Issues Committee (GSIC) Update

Tricia C. Clarke, *Fordham University,* Chair

Spring is a welcome change from the coldness of winter to warm weather and more sunlight. In reflecting on the winter, however, the GSIC is grateful to have hosted an online panel where many graduate students attended to learn from the graduate student experiences of recent doctoral graduates and their experiences of (re)entry into professional life after graduation. Thank you, Dr. Nisha Julien, Dr. Jacqueline Watson, and Dr. Graham Johnson!

During the winter months, the GSIC also coordinated the Best Paper by a Graduate Student Award. This annual competition invites first authors on a paper presented at the NERA 2024 Conference to submit their papers. One submission is a blind copy, without any author identifying information on the title page, with the second submission reflective of all author information: name(s), university affiliation(s), and contact information. After a rigorous peer review process, we are thrilled to announce **the winner** of the 2024 **NERA GSIC Best Paper by a Graduate Student Award**: **Jolina Halloran!** Jolina's bio notes her academic activities and, most importantly, the purpose of her research.

> Jolina Halloran is the Associate Director of Academic Advising at Pace University in Pleasantville, NY. She successfully defended her dissertation in March 2025 and will be awarded her Ed.D. in Higher Education from Fairleigh Dickinson University in May 2025. She also holds a Bachelor of Business Administration (BBA) in Management Information Systems degree and a Master of Business Administration (MBA) degree in International Business, both from Pace University.
>
> Her dissertation, *Break the Hold on Stigma: Examining the Relationship Between Self-Stigma, Emotional Intelligence, and Help-Seeking Attitudes Toward Mental Health Among College Students* is lovingly dedicated to her son, Brian Halloran, who lost his brave battle with depression and anxiety during his freshman year of college. Brian's light continues to guide her, and her research, rooted in the urgent need to address mental health stigma in higher education and help students find hope, in a tribute to his memory.
>
> In response to their loss, Jolina and her husband co-founded the Break the Hold (BTH) Foundation, a nonprofit organization dedicated to suicide prevention and mental health advocacy. Through BTH, they provide Dialectical Behavior Therapy (DBT) STEPS–A programming to teens, educators, and parents across several school districts in Westchester County, NY. To learn more, visit https://BTHbreakthehold.org.

She extends her heartfelt gratitude to Dr. Catherine Manly of Fairleigh Dickinson University's School of Education for her unwavering mentorship and support throughout the dissertation process.

Jolina will publicly be acknowledged for her award at the 2025 NERA Conference with a plaque to commemorate her accomplishment. Thank you to each and every peer reviewer who thoroughly reviewed and evaluated all blind copy papers submitted! And a resounding thanks to all graduate students who submitted papers for the 2024 award. Graduate students, your commitment to educational research is needed, welcomed, and encouraged. We look forward to your submissions for 2025!

In the coming months, the GSIC will host informal virtual lounges to meet with graduate students as we work on writing projects and encourage each other to traverse through the obstacles to reach our respective finish lines. Often, the graduate student journey can be an isolating one so the GSIC would like to provide a community space as a means of support. At our first lounge, we will share additional details about the GSIC Toolkit with opportunities for graduate students to contribute! Stay tuned for additional details!

The 2025 NERA Conference is only a few months away! This means that graduate students will be able to convene, in person, at the **GSIC Social**! This will be an opportunity to interact with peers, network, enjoy refreshments, and exchange ideas. Details will be shared in the future via NERA's communication platforms.

The GSIC Committee invites graduate students to join GSIC to cultivate relationships, to serve their peers, and to network with current graduate students and professionals in the field of educational research. Members are accepted on a rolling basis. For more information, please contact the GSIC Chair, Tricia Clarke, at tclarke11@fordham.edu. We will be reaching out soon again with details about our upcoming **GSIC Graduate Student Writing Lounge**.

We look forward to seeing you soon!

Your GSIC Committee,

Tricia C. Clarke (Fordham University), GSIC Chair - tclarke11@fordham.edu

Matthew Speno, Ed.D. (Salem State University), GSIC Past Chair and Committee Member - mspeno@gmail.com

David "Dave" Earls, Ph.D. (Emmanuel College), GSIC Committee Member - earlsd@emmanuel.edu

ENDICOTT COLLEGE
SCHOOL OF EDUCATION

2024 Educator-As-Researcher Awardee

Dr. Jessica Coronel

The Educator-as-Researcher Award is presented annually to an educator who works with PK-12 students and has conducted a self-initiated classroom research project or applied research findings to inform their own practice.

The awardee for 2024 was Dr. Jessica Coronel, a recent graduate of the Doctor of Education in Instructional Leadership program at Western Connecticut State University, Danbury, CT. Jessica has been a teacher of Spanish and has a certification in counseling. She has worked with high school students in the Danbury, CT area to prepare them for entering college. Through her professional interactions and personal experience, she knows for certain that there are not enough teachers of color in our schools. She decided to get to the root of the problem and designed her dissertation research to investigate how to recruit and retain undergrads of color in teacher education programs.

Through her research, *Perceptions of Students of Color Enrolled in a Pre-Service Teacher Education Program*, she explored the college experiences of students of color at a public university in the Northeast. This study followed an exploratory qualitative case study design. Data were collected during the Spring 2023 semester. The sample included 20 full-time undergraduate education students who self-identified as Asian American, Black/African American, or Hispanic/Latino. Her data collection tools included a demographic questionnaire and an extensive open-ended interview protocol.

A thematic analysis approach was used to analyze the data. Five themes emerged from the data: Characteristics of Educators of Color, Education Career Motivators, Education Program Pros, Career Deterrents for an Education Major, and Recommendations to Recruit and Retain Pre-service Teachers of Color. The following suggestions can aid university leaders and faculty to provide effective educational experiences for their pre-service teachers of color.

1. Begin recruitment as early as middle school, certainly by high school.
2. Provide examples of how teachers of color can make a difference in the lives of students of color.
3. Encourage professional collaborations between faculty and cohort members.
4. Market a teacher education program to families, not just students.
5. Provide multiple resources related to academics, financial aid, and social and emotional learning (SEL) support.

A main implication of this research was that pre-service teachers of color are looking forward to their future role and have valuable suggestions for enriching the teaching profession. Dr. Coronel's dissertation is located at https://westcollections.wcsu.edu/items/7af4787d-b5b2-45f0-a9f1-cf8fd327e224. She is currently the Assistant Dean of the School of Graduate, International, and Career Studies, Western Connecticut State University, coronelj@wcsu.edu.

BUROS
CENTER FOR TESTING

Educator-As-Researcher (E-A-R) Award

2025 Call for Nominations

Marcia A. B. Delcourt, *Western Connecticut State University*, Chair

The Educator-as-Researcher Award is presented annually to an educator who has conducted a self-initiated classroom research project or applied research findings to inform their own practice. Candidates may nominate themselves or be nominated by a NERA member or other professional who knows about their research. The award recipient will be invited to attend the NERA conference to present the research to a NERA audience and receive the award.

The nominee must be a PK-12 educator who conducted a school-related research project with their students, faculty, local community partners, or constituents to improve educational practices. The project must be conceptualized, developed, and implemented as part of the nominee's context and practices and have had at least one cycle of trial and evaluation. The project should also be related to a clearly defined theoretical focus and represent an innovation that has led to concrete change in educational practice. The research, conducted during the past two years, could be part of a thesis or dissertation if the educator is primarily responsible for the development and implementation of the project. Research topics may vary but should have some importance in the nominee's branch of education. The theory underlying the research, as well as methods of instruction or implementation, data collection, and analysis, should be well articulated and documented by the nominee.

Send the application cover sheet (see next page or online https://www.nera-education.org/docs/2025_Call_for_Nominations_EAR_Award.docx), and narrative as a Word document to Dr. Marcia A. B. Delcourt, Chair, Educator-As-Researcher Award Committee (delcourtm@wcsu.edu) no later than **June 1**.

EDUCATOR-AS-RESEARCHER AWARD APPLICATION
56th ANNUAL CONFERENCE, October 2025, Trumbull, CT

Name of Applicant: _____

Affiliation of Applicant: _____

Position of Applicant: _____

Mailing Address of Applicant: _____

_____

(after June 1) Phone: _____   E-mail: _____

Signature of Applicant: _____   Date: _____

Attach information regarding your submission using the following four guidelines provided:
  1. DESCRIPTIVE TITLE OF THE RESEARCH (15-word limit)

  2. ABSTRACT (Please summarize the research project in no more than 250 words including its
     purpose, procedure, and outcomes)

  3. DESCRIPTION OF RESEARCH (maximum of 1000 words)
     a. The rationale for conducting the study
     b. Description of project methods including participants, site, and procedures
     c. Report and analysis of research findings
     d. Discussion of the impact of the research on teacher's practices that occurred or will occur as
        a result of the project
     e. Bibliography of relevant references related to the research
     f. Any other information seen as relevant by the nominee

  4. SIGNIFICANCE OF STUDY TO EDUCATORS (Describe how the results contribute to improved
     educational practice or professional knowledge of educators in your field; maximum 100
     words)

Name of Nominating Person (if other than the applicant): _____

Phone Number: _____   E-mail: _____

Affiliation and Position of Nominating Person (Please Print): _____

Signature of Nominating Person: _____   Date: _____

Send the application cover sheet and narrative as a Word document to: The E-A-R Committee Chair
no later than **June 1**.

2025 Call for Nominations

Dr. Samuel Fancera, *William Paterson University*, Chair

The Thomas F. Donlon Memorial Award for Distinguished Mentoring was established in 2000 in recognition of Tom's long and valued contributions to NERA, particularly as a mentor to so many colleagues. Since then, the award has been presented annually to NERA members who have demonstrated distinction as mentors of colleagues by guiding them and helping them find productive paths toward developing their careers as educational researchers.

Mentoring in education has been going on for centuries, and most of us can name a person who helped us move our careers along by being more than just a friend or colleague. That person may have been an advisor in developing your research agenda, or perhaps brought you to NERA for the first time after suggesting that you might be ready for a conference presentation.

Nominations are again being sought for this annual award. Nominees must be NERA members and may be nominated by any member(s) of NERA to whom they served as mentors. If you would like to see a member of NERA who was your mentor be recognized for their contributions to your success, send your nomination, including:

    a. A nomination letter
    b. Three to five letters of support indicating how the nominee distinguished themself as a mentor.

The award will be presented at the annual NERA conference. Please contact the committee Chair if you have any questions about the Donlon Award or the nomination process. Send all nomination materials to Dr. Samuel Fancera via email at fanceras@wpunj.edu by **June 1**.

The 2025 Thomas F. Donlon Award for Distinguished Mentoring Committee:

Samuel Fancera, Chair
April Zenisky, Chair-elect
Marcy Delcourt
Christopher Doyon

Leo D. Doherty Memorial Award for Outstanding Leadership and Service

2025 Call for Nominations

Hank Johnson, *NEIT,* Chair

The Leo D. Doherty Memorial Award is presented to a longstanding NERA member who exemplifies the qualities that Leo Doherty brought to NERA members, his colleagues, and students throughout his career. The award, instituted by the NERA Board of Directors in 1981, honors the memory of Leo Doherty. He was instrumental in developing and growing NERA as a professional association for educational research.

His leadership qualities, both ethical and humane, encouraged others to pursue and achieve their goals. Thus, it is awarded to NERA members who have exhibited outstanding leadership and service to our organization.

Please nominate a NERA member exemplifying these qualities.

Send a nomination letter in Word or PDF format as an attachment via email to Hank Johnson (hjohnson@neit.edu) by **June 30, 2025**. The nomination letter should indicate the name of the nominee, the nominee's e-mail and mailing address, and a concise, compelling indication of the nominee's leadership and service to NERA. Please include input from at least three other NERA members about the nominee's leadership and service either in the nomination letter or separate ones.

This article is the third and final in a series regarding instrument development. The first two articles discussed the importance of constructs and operational definitions, followed by initial item development and instrument validation. This article addresses pilot testing of the instrument to evaluate its reliability and validity.

Quantitative Instrument Development
Part Three: Pilot Testing and Evaluating Its Reliability and Validity

Stacey Kite
Johnson & Wales University

A good questionnaire is like a great conversation that has a clear logical order.
~Dillman et al., 2009

What is Pilot Testing

Pilot testing is the process of operationalizing your instrument to assess its quality, accuracy, and usefulness for use in your research study (Fink, 2006; Fowler, 2014). The overall goal of this phase of instrument development is to determine whether you are measuring the constructs and variables in a way that allows respondents to understand what is being asked and to respond accurately (Dillman, 2000). Pilot testing is essential to test the instrument for its usefulness in addressing the research questions for the study and to help identify possible issues prior to launching the final instrument. In quantitative research, once the instrument is sent to the population, changes and clarification of items are not possible. Schade (2015) refers to pilot testing of an instrument as a "dress rehearsal" for the study (p. 4), and Fink (2006) refers to it as putting the survey on trial.

There are several layers for pilot testing an instrument, beginning with testing the general items and format, and then working toward piloting the final instrument. Conducting several pilot tests will allow you to check the instrument thoroughly and test new items and processes as they change. Pilot testing is vital for many reasons. First, it assesses the wording comprehension, clarity, and understanding of the items. Then, it allows for initial testing of the reliability and validity, as well as determining whether the instrument will produce the complete, appropriate data needed to address the research questions. Pilot testing can also test the functional process of collecting the data and estimate the time necessary to complete the instrument (Fink, 2006; Robinson & Leonard, 2019). Each of these facets is tested several times to reach the appropriate degree of quality and to reduce or eliminate errors before launching the final instrument.

Wording Comprehension, Clarity, and Understanding of the Items

As discussed in the first article in this series, the context in which an individual reads an item on an instrument may change the interpretation and meaning; thus, enhancing the way they respond (Kite, 2024). Testing the way your participants interpret your items will influence the quality and accuracy of the results. Items are often reworded or reordered to improve clarity and scaffold the topics. Although this is addressed during the cognitive interviews, checking again during the pilot will provide another layer of protection.

Reliability and Validity

Following each phase of piloting, you will have the opportunity to test the reliability and validity of the results. If you have dimensions on the instrument, such as the grouping of items to measure a construct, you will need to calculate Cronbach's alpha (Cronbach's alpha tests for internal consistency within a dimension) to test the internal reliability of the items within the dimension. For example, you may have 6 items measuring satisfaction. There should be consistency in the responses for these items. Accordingly, if a respondent is satisfied, they should respond positively to all items. If the alpha score is below .70, the items should be reviewed carefully to determine if they are actually measuring the same construct. During the pre-pilot, it is not recommended that you remove items unless your review reveals a clear concern. A low alpha score may result from the variant in the pre-pilot sample, where the respondent may not understand the items or have the ability to respond with total accuracy. For example, you may be conducting a study with high school teachers in an urban district. For your pre-pilot, you use teachers in a different urban district. These teachers may not have the ability to assess items that are measuring things that are specific to the study district, such as programming, curriculum, roles and responsibilities, etc.

Complete, Appropriate Data to Address the Research Questions

Next, to test the completeness of your research questions, calculate all the statistics you intend to run to address the research questions for the study. This practice ensures that you have all the appropriate variables and constructs necessary for the intended statistics. Moreover, you want to ensure that the response format yields the type of data needed (i.e., metric or parametric).

Once the statistics are run, you should review the findings of the pilot and spend some time interpreting what they mean, writing down your initial interpretation. This step is vital as it will allow you to identify if the results can be interpreted as you expected. For example, you may measure how often educators use technology. When you interpret these results, you may then realize that "how often" does not provide you with enough detail. Additional items may be needed to identify the type of technology and how it is integrated into the educator's workday.

<div align="center">**Functional Process of Data Collection**</div>

Pilots also allow you to test the functionality of the deployment strategies for the first time. Issues may arise with the email or QR code being blocked, issues with response coding in the online survey, clarity of directions, timing of deployment, etc. The pilot is the time to catch these issues and determine ways to improve the deployment process.

<div align="center">**Estimate the Time to Completion**</div>

Finally, the pilot provides you with an initial indication as to the amount of time it will take respondents to complete the instrument. Since response rates are closely linked to the length of time it takes to complete the instrument, this is another essential task. If it takes too long to complete the instrument, you may consider reformatting the instrument for ease of completion or eliminating items.

<div align="center">**Expert Review and Cognitive Interviews**</div>

The second article in this series discussed the instrument development process, including validation using expert reviews and cognitive interviews (Kite, 2025). Expert reviews assess the content validity of the instrument through an expert lens, whereas cognitive interviews assess the interpretation, understanding, ability, wording, and need for context cues from the view of individuals who are similar to the study population (Willis, 2005). Although expert review and cognitive interviews are listed first, you may conduct them prior to or following the pre-pilot, depending on the complexity of the items. If you are creating new items for your instrument, you always want to conduct an expert review and cognitive interviews before any piloting. If you are using existing instrument items, as is or modified, then the expert review should be completed first, and the cognitive interviews may be completed at the same time or after the pre-pilot. In any event, the expert review and cognitive interview may be completed multiple times, if needed. The goal is to create an instrument that is understandable and measures what you intend to measure; therefore, the process should be repeated until a final instrument with appropriately tailored items is achieved.

Once you make changes to the instrument based on the expert review and cognitive interviews, the piloting of the instrument begins, starting with a pre-pilot and then conducting several full pilots until there are no major issues or changes.

<div align="center">**Steps to the Piloting Process**</div>

Step One: Pre-Pilot

The first step in the piloting process for a quantitative instrument is a pre-pilot. This pre-pilot is conducted mainly to ensure that you have all the items necessary for the study prior to conducting the final pilot tests. Although the goal is to assess whether you can fully address the research

questions, you may also conduct an initial check on word choice issues, test the deployment methods, and determine the length of time to completion. The sample you deploy in the pre-pilot does not need to be as close to the final sample as the final pilot(s). In this phase, you are just looking to see if you have the appropriate items and categories on the instrument.

During the pre-pilot, you want to gather feedback on struggles with understanding or response choices. It may be conducted using comment boxes following each item or at the end of each section. You may also conduct the pre-pilot using a paper version of the instrument and ask respondents to provide feedback on all aspects of the instrument. This process may be duplicated on pilots as needed; however, the closer you get to the final version, the more you want to replicate the deployment procedures you will use for your study.

Once changes are made from the pre-pilot, you need to assess whether there is a need for additional expert reviews or cognitive interviews prior to conducting the first pilot with your pilot population.

Step Two: Pilot

The pilot, or in most cases, pilots, are conducted to provide you with a glimpse into what you will find in your study. It is vital to ensure that what you are gathering meets your objectives prior to utilizing the sample you plan for your study. If appropriate pilots are not completed, and you are missing items or individuals do not understand what you are asking, you cannot send the instrument out to your population a second time to clarify what you meant (Fowler, 2014).

Pilot testing is conducted to provide you with an opportunity to determine if the wording of the items is appropriate with individuals very similar to your final sample. Many of the benefits are similar to those discussed under the pre-pilot, with the difference being that the sample is closer to the study sample; therefore, your results will more likely mirror your study results. Following the pilots, you should review the data to determine if there is consistency in responses across areas. Did many respondents skip the same item, or is there high variability in the responses? The answers may indicate an issue with the wording of the item.

In piloting, it is crucial to choose respondents who are similar to your study population, without contaminating your final population. Using respondents who participated in any phase of your instrument development (cognitive interview or a pilot) in your final study may bias the results and threaten both reliability and validity. It is also imperative to conduct the pilot exactly as you will conduct the final survey and distribute the instrument to the sample. You may add a comment box after each item for feedback. As participants are completing the instrument, ask them to comment on how they felt while attempting to answer each of the items. Additionally, once piloted, check your results for issues. Then, run psychometrics such as Cronbach's alpha and the statistics you wish to run for your study. Next, interpret the results. Finally, modify the instrument as needed and repilot until you are not making any major changes.

Considerations

- There is no magic number of instrument items. You want your instrument to be as short as possible, while still addressing the construct as completely as possible.

- Language is important. You need item consistency in terms of person, perspective, and of what you are asking them to assess (e.g., attitude, behavior, affective responses).

- Avoid double-barreled questions, leading questions, and loaded questions.

- Consider the visual design, layout, and look of the instrument. The appeal of an instrument may influence the response rate and may influence the interpretation and response behaviors of the respondent (Dillman et al., 2009).

- Consider the best order of items. Earlier items may bias the view of later responses. Moreover, the flow of the items may assist the respondent in thinking about the topic prior to responding to later items. Scaffold your instrument to make it easier for the respondent to participate.

- Consider the burden on the respondent; Recall, context, thinking, etc. The respondent has likely not reflected on your topic to the same degree as you. They may need cue items to stimulate their thinking and provoke thought.

- Consider the challenge of device screen size. Many respondents will complete your electronic questionnaire on their cell phone. View the instrument as it will appear on the small screen to identify ways to increase clarity.

- In a perfect world, the pre-pilot and pilot samples would all match the study population; however, this is often very difficult, especially when a study is targeting a particular, unique group. Since you cannot include individuals from your pilot who may also be in your study, it is crucial to think through what individuals would best serve in the pilot sample. You should plan to conduct at least four rounds of pilot testing, and you want to save the best sample for the final pilot test.

What to Look for in Your Pilot Results

- Do the questions seem to provide consistent answers when compared to each other?

- Is the entire range of choices used by respondents, or are almost all answers clustering around one or two choices in the range?

- Are there strange or unexplainable patterns in your data? Could it be caused by confusion around your items?

- Can you accurately interpret the results?

- Are you able to answer your research questions using the data?

- Is the length of time it takes to complete the survey appropriate?

Conclusion

"The limit of survey research is what people are able and willing to tell us in the context of the survey" (Fowler, 2014, p. 153). The wording of the items, procedures used to collect the data, and the political landscape may influence how a participant views the items and thus responds. The goal is to gather data that "corresponds to the truth as much as possible" (Fowler, 2014, p. 11).

This series presented a three-stage approach to instrument development: operationalizing your construct, creating and validating your measure, and pilot testing the instrument. It is my hope that this series will support new researchers in the development of useful, valid, and reliable instruments. The quality of a research study rests heavily on the data collection. Understanding how to create an instrument that accurately measures the desired construct and that your respondents understand is vital in ensuring the quality of the results. Data are not helpful if they are not measuring your intended construct through the eyes of the participants.

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