

Strategies, benefits, and challenges of mixed methods research: Reflections from four studies

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Mixed methods research

A mixed methods research approach “offers dialogic opportunities to generate a better understanding of important social phenomena precisely because it legitimizes and respects multiple responses to these critical issues and invites dialogue among them” (Greene, 2012, p. 757).

“As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone.”
(Creswell & Plano Clark, 2007, p. 5)

Mixed methods research

- Mixed method vs multimethod research
- Requires integration of methods
- Analyze data true-to-form
- Affords divergent and convergent findings
- Affects all levels of research:
 - Planning
 - Collecting
 - Analyzing

Mixed methods research

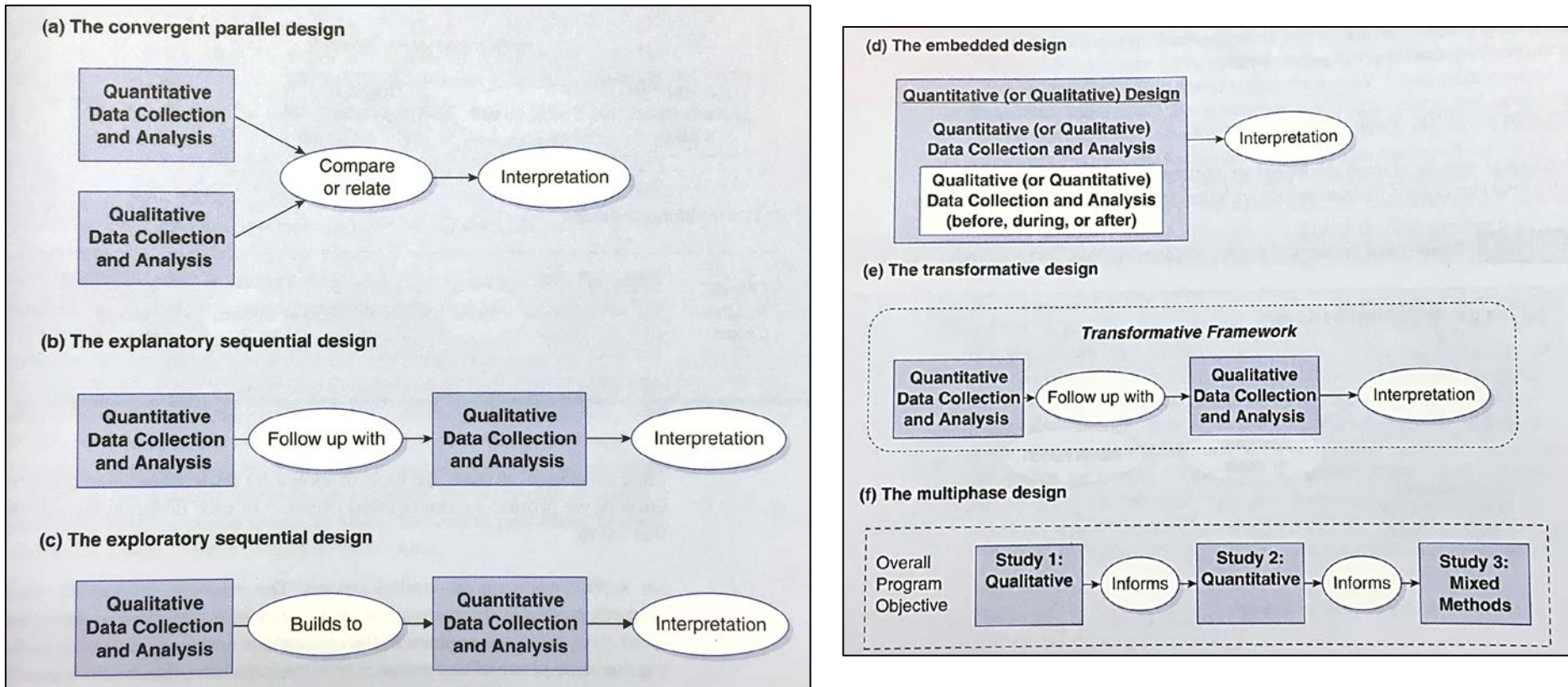


Figure 3.2: Prototypical Versions of the Six Major Mixed Methods Research Designs (Creswell & Plano Clark, 2011, pp. 69-70).

Mixed methods research

Presentation overview

- Illustrative examples
 1. Gender-based socialization beliefs
 2. Ethical decisions in video game play
 3. Measurement development
 4. Social, emotional, and character curriculum

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Research example 1

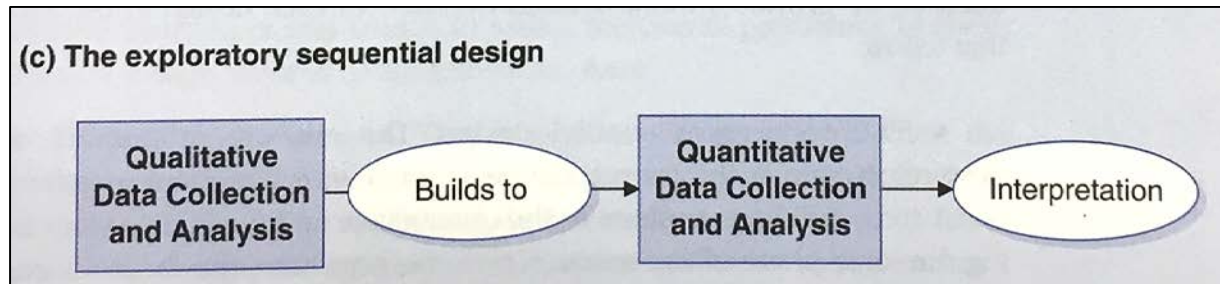
Gender-related socialization beliefs

- Research questions:
 - What are people's own experience with discussions about sexism?
 - How do people think sexism should be addressed with children, if at all?
 - What predicts people's beliefs?

Research example 1

Gender-related socialization beliefs

- Study:
 - 147 undergraduates (64 female); 18-22 yrs, $M = 19.3$
 - Exploratory in nature
 - Participants responded to open-ended prompts



(Creswell & Plano Clark, 2011, pp. 69)

Research example 1

Gender-related socialization beliefs

- Open-ended prompts:

“What do you think sexism means?”

“How do you think sexism should be handled with children?

Should it be explicitly taught?

If so, at what ages?

Who should be involved?”

no need to address sexism w
children if no need to. I was
never addressed it by parents -
figured it out on my own & am fine

Female, 19

*No need to address sexism with children
if no need to. I was never addressed it by
my parents- figured it out on my own and
I am fine.*

Male, 20

*Sexism should be learned about
early to help with equality.*

Research example 1

Gender-related socialization beliefs

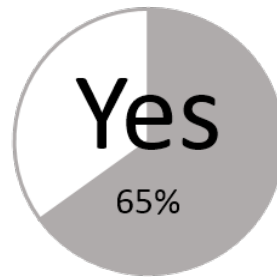
Content analysis (Bazeley and Jackson, 2013; Coffey & Atkinson, 1996; Patton, 2002; Tesch, 1990; Weber, 1990; Zhang & Wildemuth, 2009):

- Identified initial key categories for each prompt
- “Open coding” process
- “Memo-ing” to identify and reflect on our assumptions of the data
- Frequent coding team meetings
- Coding manual development and revision (and revision and revision)
- Team met to discuss discrepancies and to clarify coding categories
- All transcripts were double-coded
- Disagreements between the two coders were then resolved by discussion

“What do you think sexism means?”

Category	Code	Participant example
What sexism is	Advantage	“giving priority or benefits to a certain sex”
	Disadvantage	“discriminating against someone”
	Skill assumption	“when people think men are better at something”
	Social expectation	“when there are specific tasks or duties that a specific gender must do”
Where sexism occurs	Workplace	“when someone doesn’t get hired for a job strictly because of their sex”
	Home	“one sex is thought to be inherently better at one subject like cooking”
	Unspecified	“the other sex suffers from lack of rights or opportunities”
Who sexism affects	Girls or women	“discriminating against a girl simply because she is female”
	Boys or men	“male nurses... generally not widely accepted”
	Unspecified	“favoring one sex over another”
Who perpetrates sexism	Individuals	“when a person discriminates against someone”
	Society/Cultural	“how each gender is treated in society”
	Unspecified	“sexism is favoring one sex over another”

“Should sexism be explicitly addressed with children?”



Why?

Code	Participant example
Bias awareness and knowledge	“children should be taught about it so that they will be able to recognize it when it happens and know that it is unjust”
Preparation for later treatment	“they should be warned about it in order to prepare them for what they might face from other people”
Reactive responses	if something should come up in a child’s life that should call for them to be taught about it then they should”
Proactive responses	“adults should point out inequalities when they see them and why they are wrong”



Why not?

Code	Participant example
Cause more problems	“I don’t think children should flat out be taught the term sexism because I think it has the ability to be misinterpreted and misused in a young mind”
Children will learn on their own	“I think they will learn about it and make their own judgments about it”
Sexism does not exist	“I don’t know what would be addressed because sexism is no longer a problem any more”

Research example 1

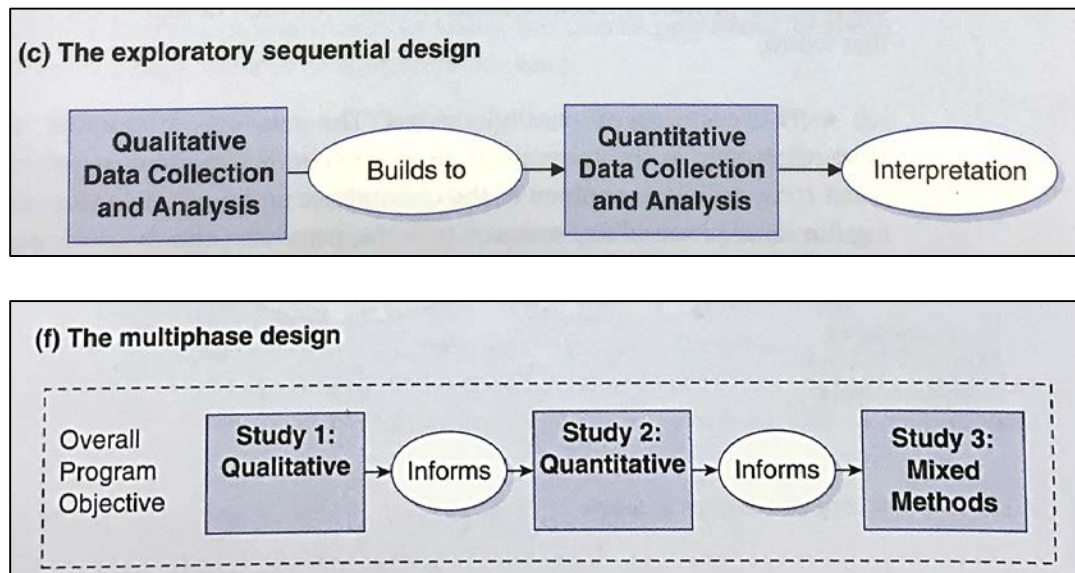
Gender-related socialization beliefs

- Work spurred additional studies
- Scale development
- Additional open-ended items
- Test associations of socialization beliefs

Mixed methods take-aways

Example 1

- Approach
- Analysis
- Lessons learned



Creswell & Plano Clark, 2011, pp. 69

Mixed methods research

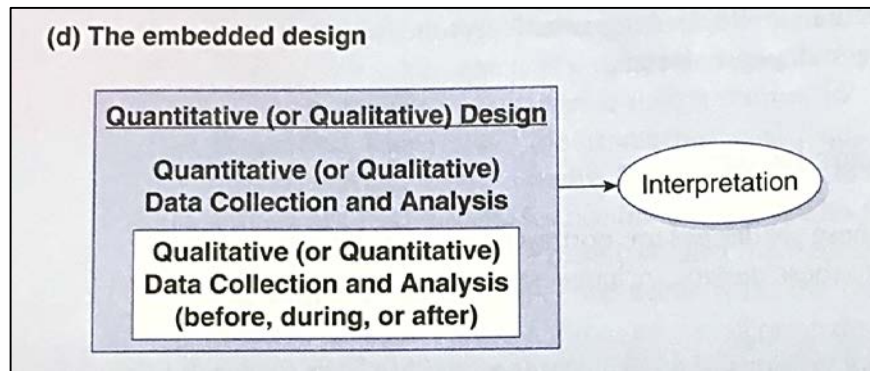
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Research example 2

Video game play on ethical decision-making

- Can an educational video game help promote moral development?



Creswell & Plano Clark, 2011, pp. 70

Quandary video game



- Game Elements:
 - Sorting facts, opinions, and solutions
 - Understanding the consequences of decisions on community and community members
- Designed to promote:
 - Perspective-taking
 - Decision making

LEARNING
games
NETWORK

Project

- Research questions:
 - What is the effect of playing Quandary on moral development?
- Research design:
 - RCT comparing playing Quandary to playing another educational game
 - 131 6th-8th graders in Spring 2014
- Five total sessions
 - Pre-test
 - 3 sessions of game play
 - Post-test and interviews



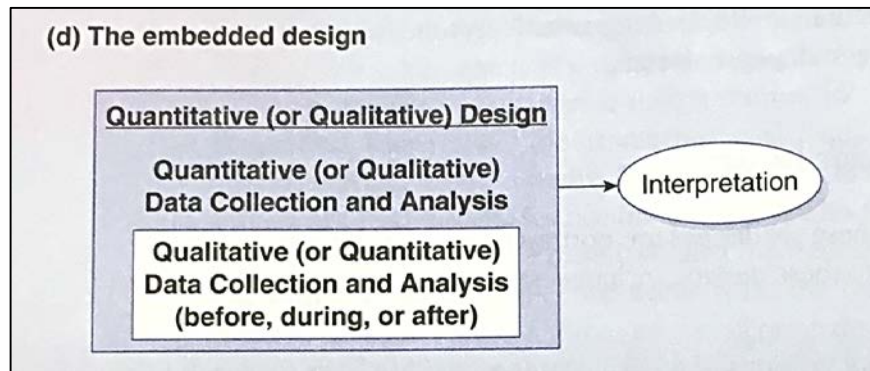
Analyses

- No pre- to post-test change in quantitative constructs for *Quandary* condition (or comparison)
- Qualitative analyses of post-play interviews revealed that youth spontaneously produced themes when asked about what they learned from the experience related to:
 - Decision-making
 - Community impact
 - Consideration of others
 - Leadership
 - Perspective-taking
- Youth in the Quandary condition also linked personal experiences to episodes and related most to **content relevant to their lives**

Mixed methods take-aways

Example 2

- Approach
- Analysis
- Lessons learned



Creswell & Plano Clark, 2011, pp. 70

Mixed methods research

Presentation overview

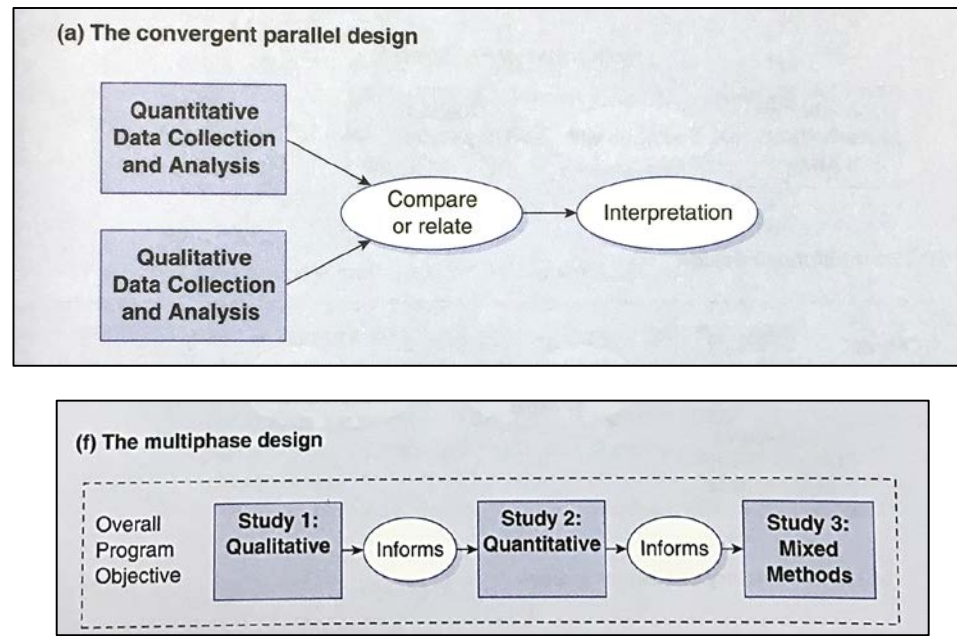
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Research example 3

Measurement development

Triangulating data:

- Surveys
- Cognitive interviews



Creswell & Plano Clark, 2011, pp. 70

Methods and analyses

Self-report student survey
n=141 students
48% female; 67% White

Cognitive interviews
n=31 students
45% female; 65% White

CFAs of the five key character attributes:

*Humility, Intellectual Humility, Generosity,
Honesty, Forgiveness*

Content analysis across three areas:

*Meaning/Comprehension
Confidence
Recall/Contextualization*

Cognitive interview protocol (condensed)

“For this section, I’m going to read the sentence for you and before you answer, I’ll ask you what you think it means. There is NO right or wrong answer, it’s all about you and what you think it means. And after that I’ll let you know when you can choose the answer best for you and I might have some more questions for you. OK? Great! Let’s start”

1. [Meaning] **In your own words, what do you think this (or “this sentence”) is asking/saying? What does it mean to say _____?**

Probes: Does it make sense? How easy or difficult is it to understand? Are there any specific words or phrases that are hard to understand?

2. [Confidence] **How sure are you of your answer?**

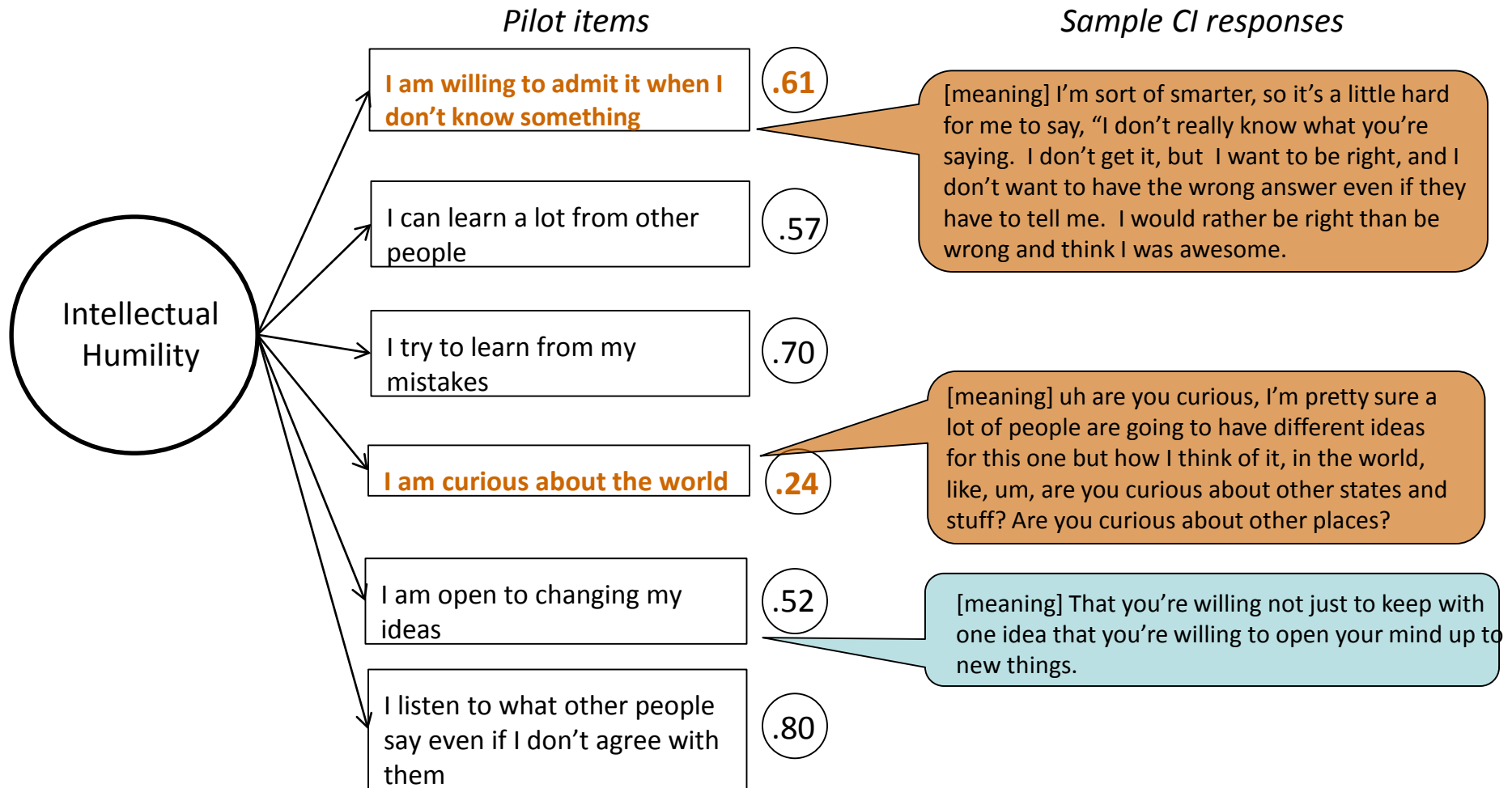
Probe: WHY?

3. [Recall] **What were you thinking of when you answered this?**

Probe: How did you come up with your answer?
Why did you answer that way?

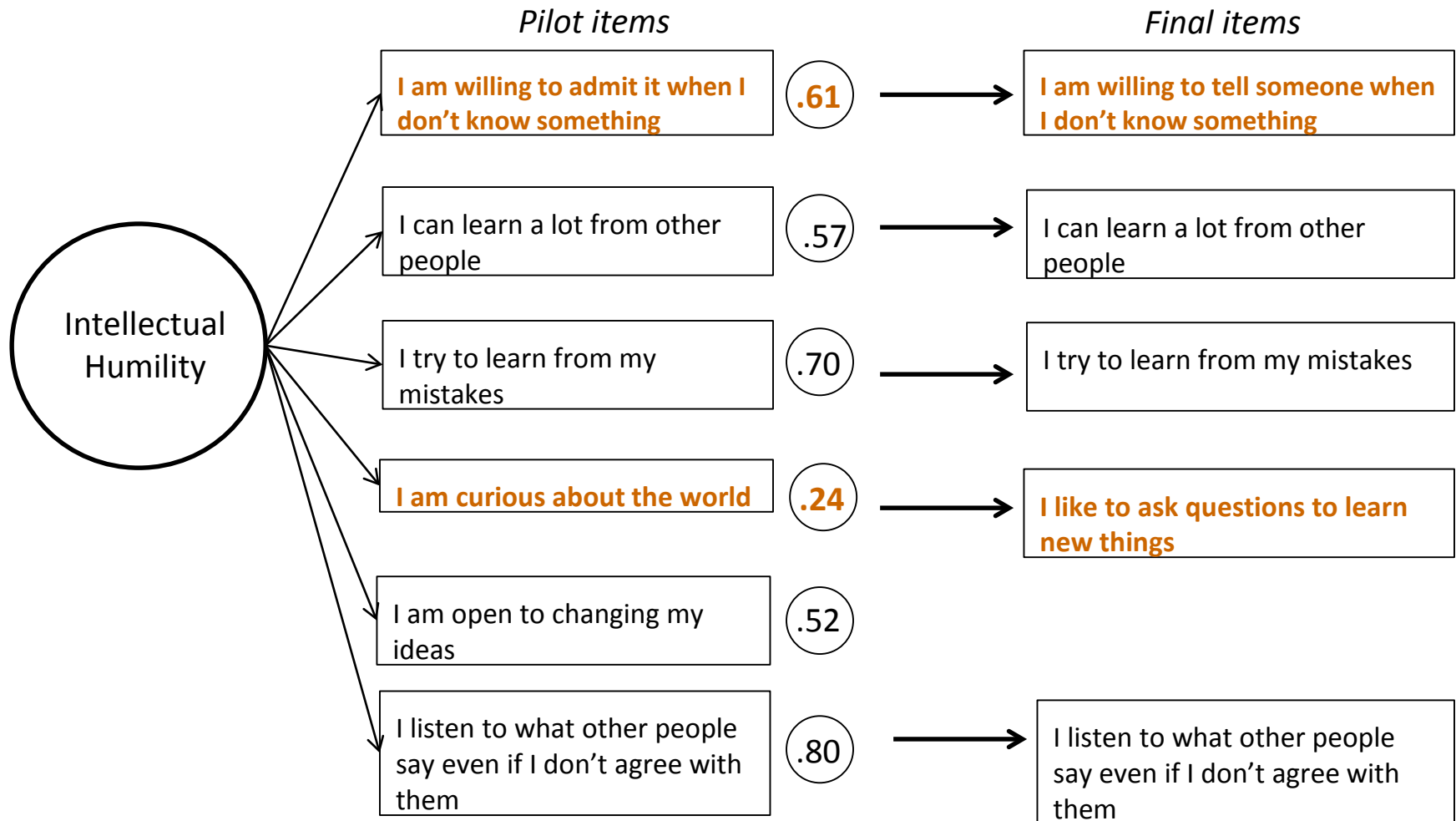


Intellectual humility ($\alpha = .73$)



$\chi^2(9)=5.84, p=n.s. RMSEA=1, CFI=0$

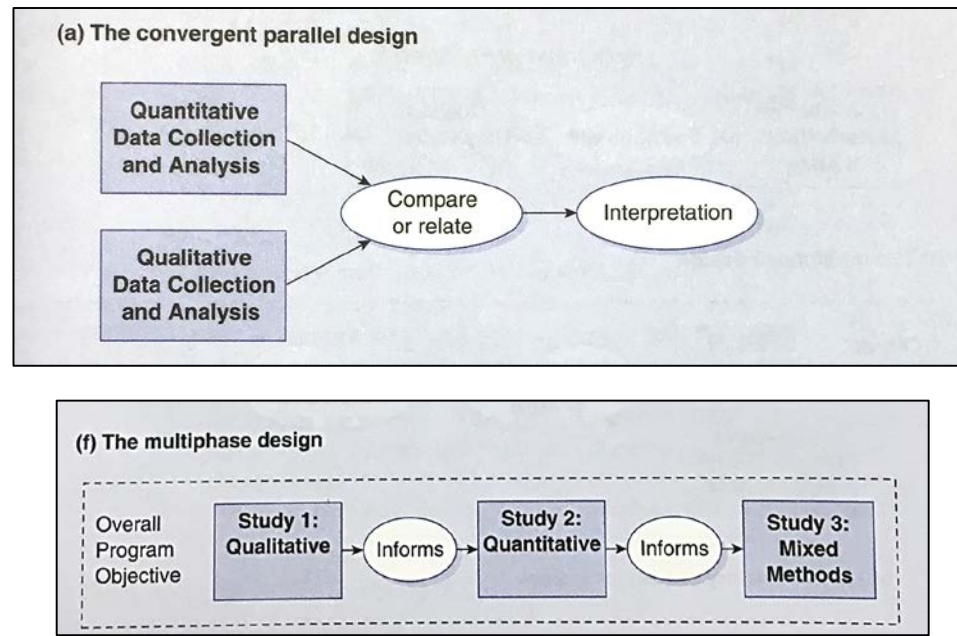
Intellectual humility ($\alpha = .73$)



Mixed methods take-aways

Example 3

- Approach
- Analysis
- Lessons learned



Creswell & Plano Clark, 2011, pp. 70

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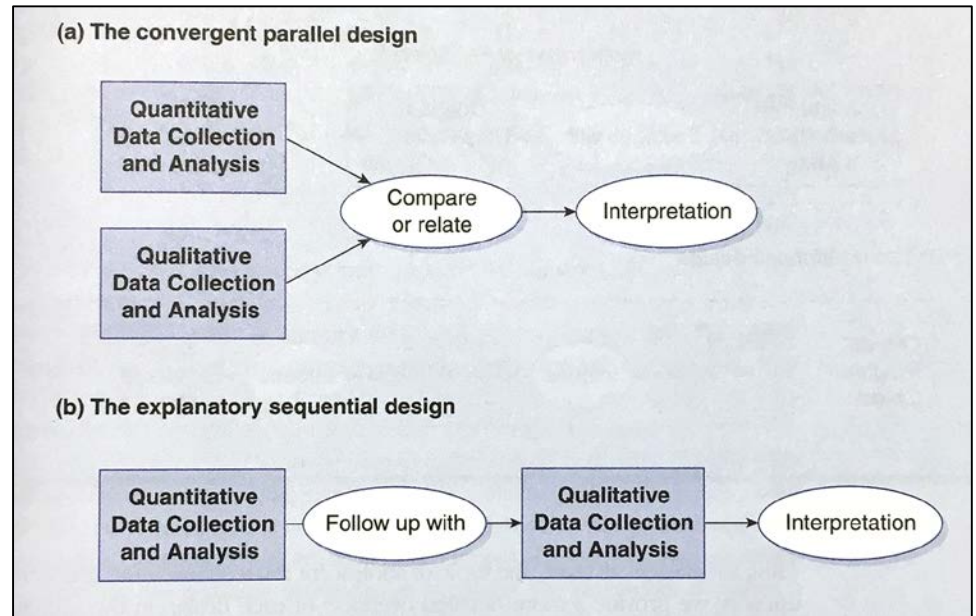
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Research example 4

Social, emotional, and character development program

Program:

- Development
- Implementation
- Evaluation



Creswell & Plano Clark, 2011, pp. 69

Arthur Interactive Media (AIM) Buddy Project



Collaboration with WGBH—Boston PBS affiliate and producer of the *Arthur* animated television series—to design, implement, and evaluate a social, emotional, and character education program anchored around five interactive features (i.e., online comics & games), based on *Arthur* storylines, for use between cross-age peers or “buddies” (i.e., 1st/4th graders & 2nd/5th graders)



Institute for Applied Research
in Youth Development



John
Templeton
Foundation



School of
Arts and Sciences

Implementation (2015-2016)



1. Arthur Interactive Media Buddy Program

4 schools
48 classrooms
 $n=588$ students



2. Martha Speaks Reading Buddies Program Comparison

2 schools
19 classrooms
 $n=266$ students



3. "As-Is" Comparison

3 schools
33 classrooms
 $n=301$ students

Research instruments



All conditions:

- Teacher survey
- Student survey
- Parent/Guardian survey
- (attitudes, behaviors, and character related issues)
- *Mostly quantitative*



Program conditions:

- Teacher feedback booklets
- Student feedback booklets
- Teacher interviews
- Student interviews
- *Both quantitative and qualitative*



AIM only:

- Audio and video records of interactive sessions

Teacher feedback

- Program implementation indicators
 - *Quant*: Ratings of fidelity, satisfaction, and engagement
 - *Qual*: Interviews about program experience

Teacher feedback

- Program implementation indicators (*Quant*)
 - Fidelity
 - 81% of teachers completed all 20 sessions (3 prep sessions, 3 topic sessions each, 1 celebration & 1 conclusion session)
 - Satisfaction
 - 82% reported that they were “mostly” to “very” satisfied with the program
 - 79-86% said that the content was “good” or “excellent” across all features
 - Engagement
 - 80% of teachers reported “mostly” or “very” high student engagement across the program activities

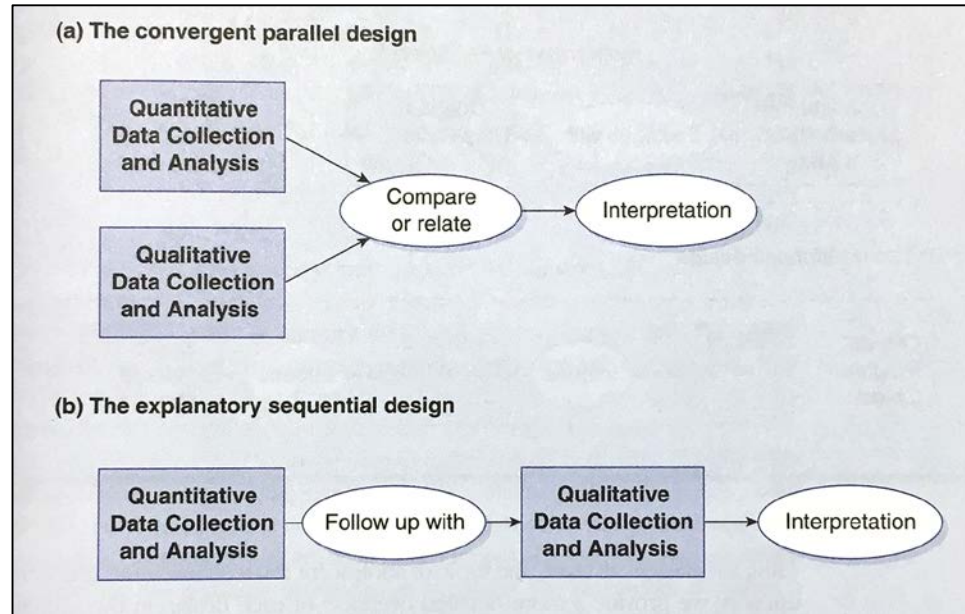
Teacher feedback

- Program implementation indicators (*Qual*)
 - Themes from interviews:
 - Commitment to the program's central mission
 - Capacity for integrating the AIM program curriculum into other curricular subjects
 - Benefits of unique program components (online comics and games, buddy training and buddy experiences, specific shared experiences across school)
 - Connections between buddies (across grades) and teachers
 - Program's relevance to students' lives

Mixed methods take-aways

Example 4

- Approach
- Analysis
- Lessons learned



Creswell & Plano Clark, 2011, pp. 69

Mixed methods research

Challenges and considerations

- Philosophy
- Terminology
- Analysis
- Cost (\$ and time)
- Participant burden

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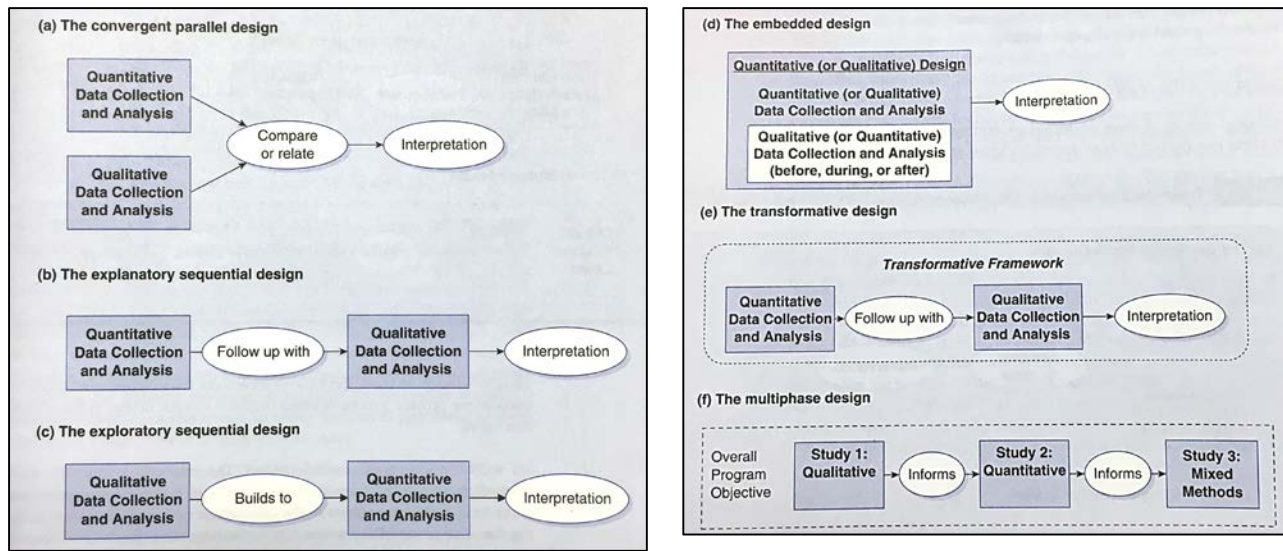
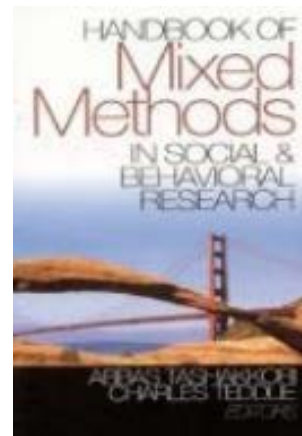
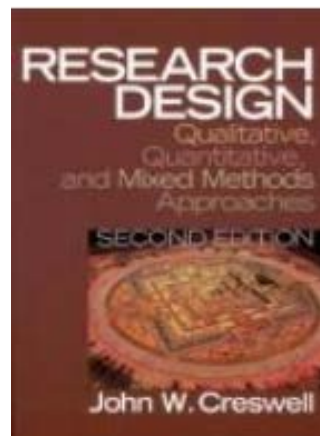
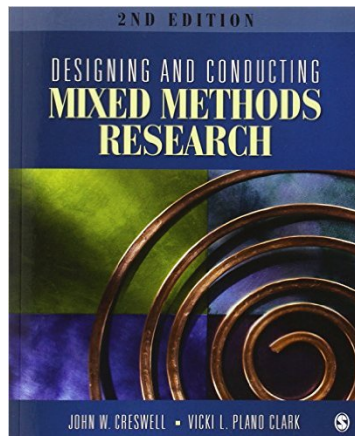


Figure 3.2: Prototypical Versions of the Six Major Mixed Methods Research Designs (Creswell & Plano Clark, 2011, pp. 69-70).

Mixed methods research

Additional resources

- Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks: Sage.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Greene, J. C. (2012). Engaging critical issues in social inquiry by mixing methods. *American Behavioral Scientist*, 56(6), 755–773.
- Tashakkori, A. & Teddlie, C. (2003). *Handbook of Mixed Methods in Social & Behavioral Research*. Thousand Oaks: Sage.
- Yoshikawa, H., Weisner, T. S., Kalil, A., & Way, N. (2008). Mixing qualitative and quantitative research in developmental science: Uses and methodological choices. *Developmental Psychology*, 44, 344.



Thank you!

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