

# Qualitative and quantitative data analysis for teacher research

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# Aims for this webinar

We will explore...

- Differences between teacher research and academic research
- Rumana's EAR project
- Why analyse? What am I looking for?
- Why 'puzzles' are good!
- Taking your research further (if you want to)
- Useful examples, publications.
- Your questions, comments, opinions.



# Teacher research and academic research

## Teacher research

- ✓ based on something important to my work in my classroom.
- ✓ increases my understanding of an aspect of my teaching.
- ✓ relevant and useful to my context.
- ✓ I don't have to share it with anyone, but I may want to share it with colleagues.
- ✓ It doesn't have to include a detailed report (or any report).

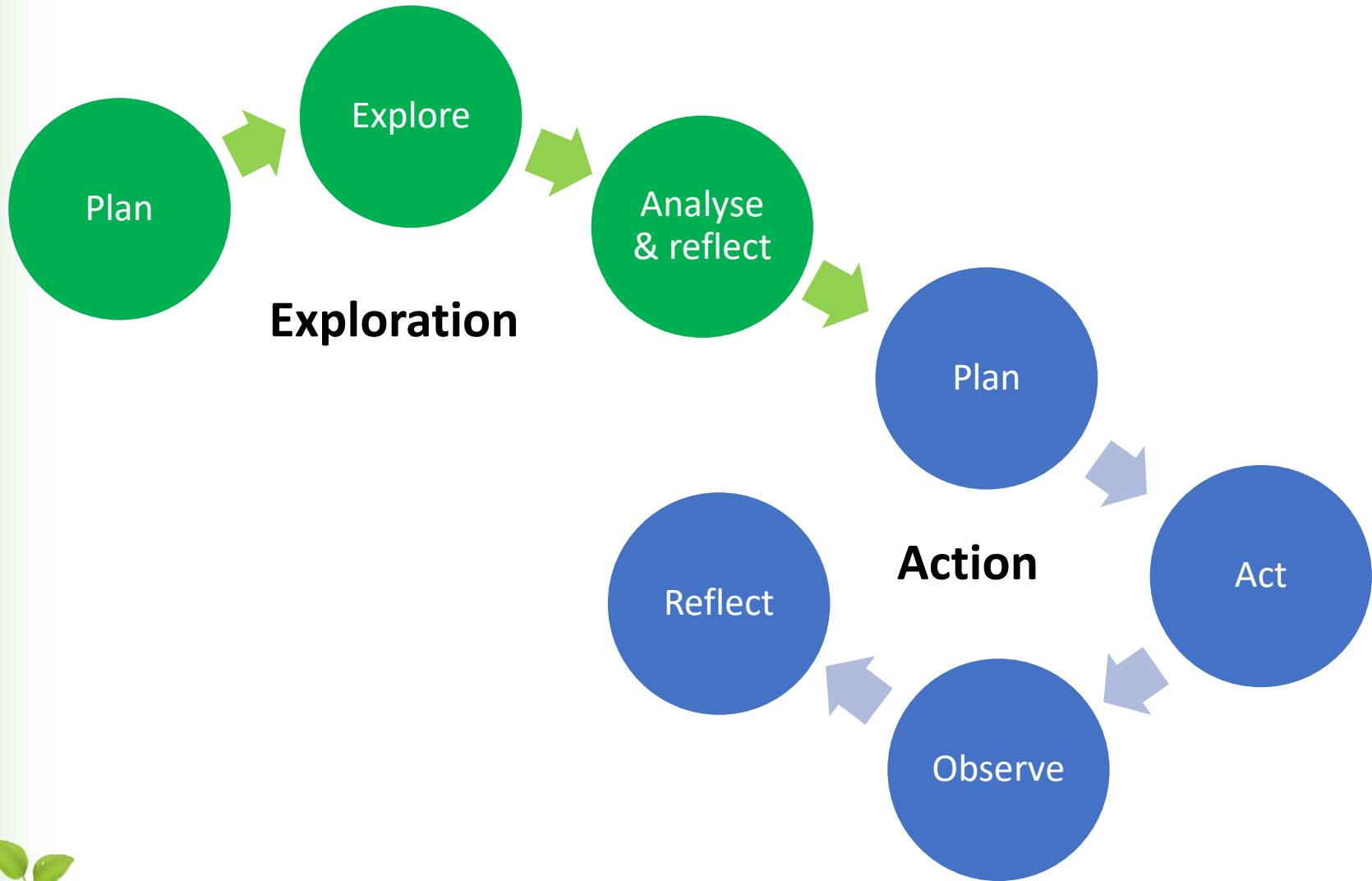
Teacher research is research **by** teachers, **for** teachers.

**Academic research** may be conducted for qualifications (e.g. MA, PhD), or for public dissemination (e.g. publication).

- ✓ Often 'supervised' by an academic/university professor.
- ✓ It *may* or *may not* be directly useful for the classroom.
- ✓ It often requires time consuming and complex analysis of data.
- ✓ It requires detailed written reporting.
- ✓ It may not be relevant to my classroom

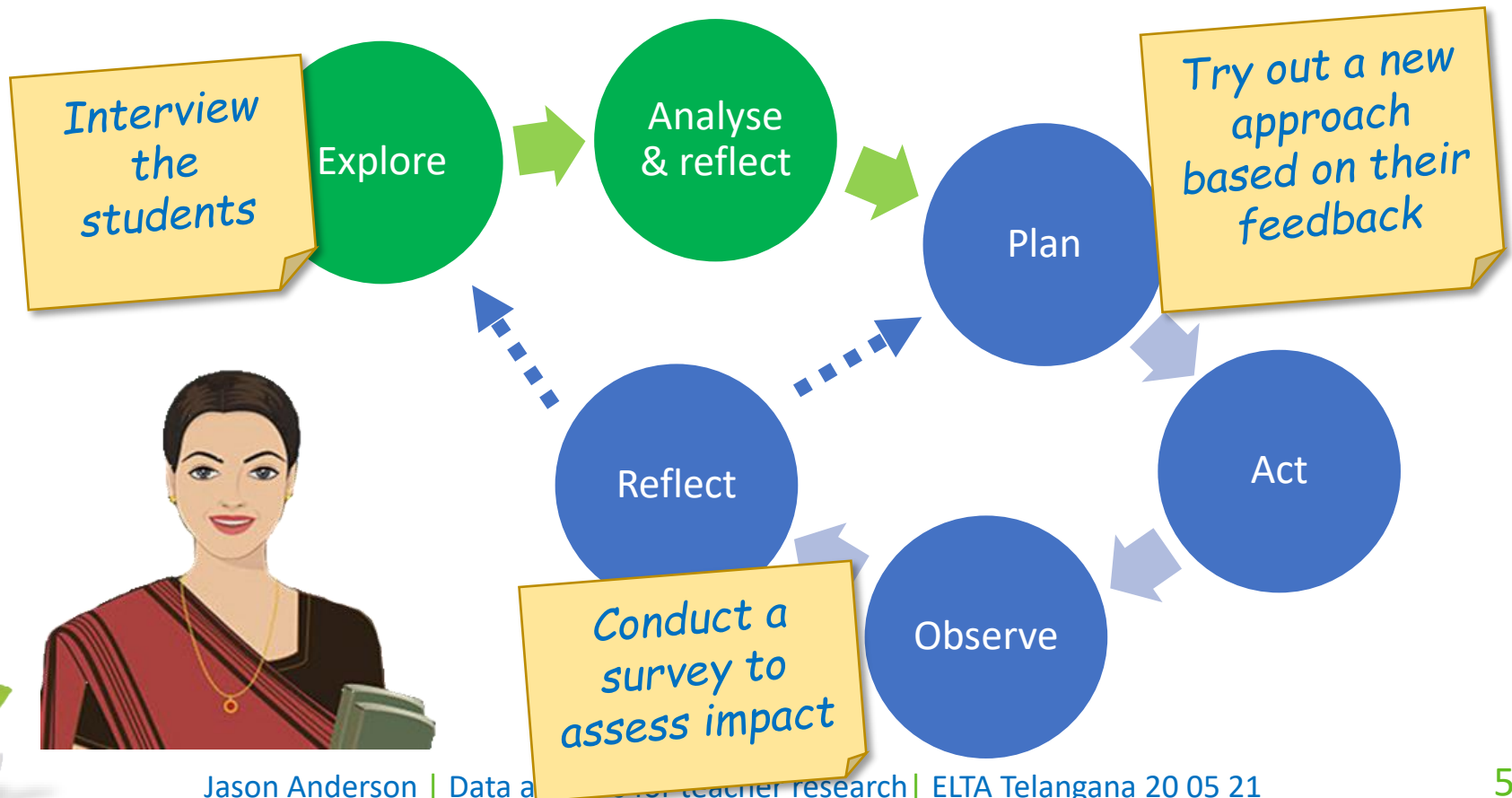


# Exploratory action research



# Example: Rumana's EAR project

Rumana reads an article that recommends that English teachers should not only correct mistakes in students' writing, but also write positive comments (i.e. praise). She investigates: How important is positive feedback when correcting student work?



# Rumana's analysis – Exploratory phase

## Qualitative data: Initial student interviews

- Rumana interviewed 3 focus groups from 3 classes in Telugu, including strong, average and weaker students.
- She asked open questions. The students talked quite a lot.
- She comes away with a better understanding of their needs.
- She thinks the students said that both correction and positive feedback/praise were important.
- But are her first impressions correct?
- She listens to the interviews again, **carefully**, this time with a colleague from a different school (who agrees to keep the data confidential).
- Her colleague notices that the interviews were each dominated by one student, and some said very little.
- But one girl said something strange: “I try not to make mistakes so I don't get the red pen.”
- The next week, confidentially, Rumana asked this girl what she meant. The girl explained that her father punished her if she got a lot of 'red'. He couldn't read, but he knew from his own school days that red pen was bad.

- **What did she decide to do?**



# Rumana's analysis – Action phase

## Quantitative data: Survey

- After trying out her new approach for 2 weeks, Rumana gave a survey to 10 learners in each class (total 30) in Telugu.
- The survey asked simple questions to investigate her research questions directly. Here are some of her results:
- Correction useful? 30 (everyone!)
- Praise useful? 30 (everyone!)
- Which did they prefer? Correction: 18. / Praise: 12
- Which colour pen should I use? Blue: 26 / Red: 4.
- Which is your favourite 'praise' emoji? 😊 14 ❤️ 16
- She noticed that most girls preferred ❤️ but the boys preferred 😊
- **What did she decide to do?**
- She decided to do more interviews. This time, she interviewed the strong and the weak students separately.



# Rumana's analysis – Additional interviews

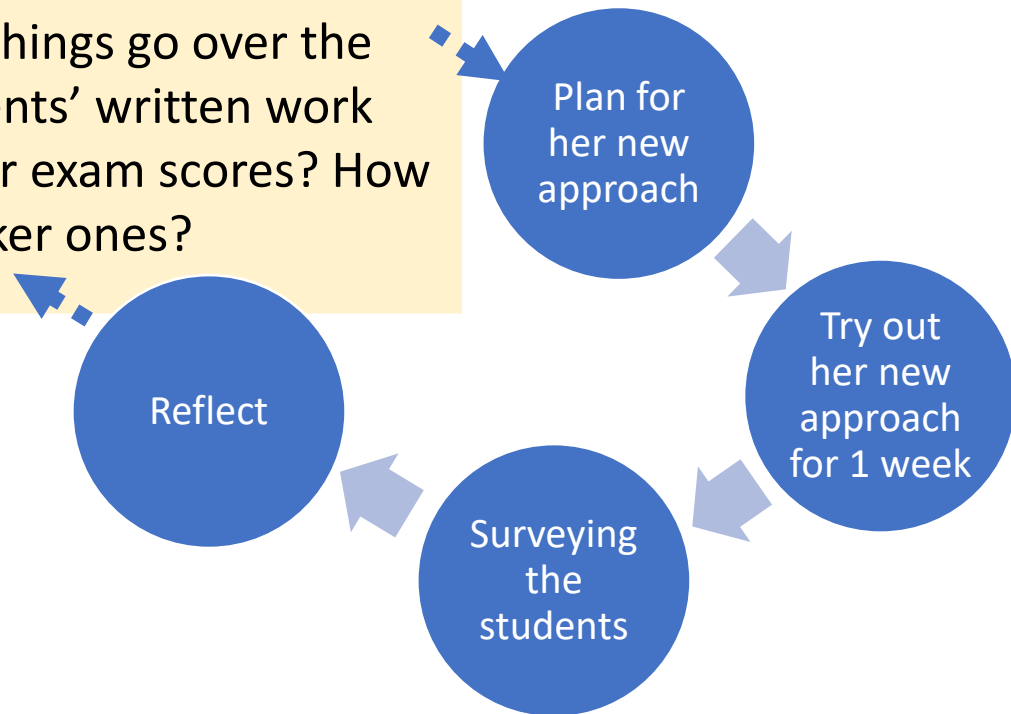
- She found out that all the stronger students wanted more correction:  
“Praise is nice, but I want to know my mistakes. Otherwise, how will I improve?”  
“If you give me correction, my private tutor can help me. She can explain the mistake to me.”
- But the weaker students helped her to understand why her praise was important:  
“If you give me a tick or a smiley for a sentence, I know it's a good one, so I remember it to use again in the future.”  
“Praise makes me feel happy, and I show it to my parents who are happy. My father bought me a new copybook, and the next day I was so proud of it. I showed it to my friends, and I started to try harder in English...”
- So what did she decide to do?





# The outcome of Rumana's EAR project

Rumana decides to balance praise and correction in future, avoiding red pen and crosses (✕), and use a variety of positive emojis. However, she will increase praise for less confident learners, and gently 'push' her stronger learners with a little more correction. But she'll also check how things go over the rest of the year: Will students' written work improve? What about their exam scores? How else can she help the weaker ones?



# Why analyse data? What am I looking for?

- Analysis in teacher research is mainly about trying to understand our data well: What is the data telling me?

## Qualitative

- Transcribing and coding can be useful, but aren't always necessary. They often take a lot of time.
- Listening to an interview carefully and taking notes is a simple but effective way to analyse interview data.
- Team up with a colleague and listen to/watch/read each other's data.

## Quantitative

- Statistical data often just needs counting, but percentages can be useful. Statistical tests are rarely necessary.
- Graphs look nice, but aren't always necessary.
- Ask maths teachers for help if necessary! ;)
- Statistical data can often lead to a 'why?' or 'what?' question. This may be your most important finding – follow it!



# Puzzles are good!



- In teacher research, we are trying to find something we didn't already know, so it's useful to focus on anything new, or something that 'puzzles' you (e.g., Rumana's 'correction' / 'praise' puzzle).
- There is no need to stick simply to one design. Sometimes new questions will arise.
- You can even go back to the data source (e.g., students, observation), and ask a new question, develop a new tool, collect more data, etc.
- You can modify your plan, even your research questions, if needed.
- You are in control!
- **If, at the end of the process, you are confident you have a better understanding, your analysis was a success!**



# What if I want to take my research further?

Some teachers find the research process interesting. If so, you may want to share your findings:

- Arrange your own MELA, and prepare posters.
- Present at a conference (e.g., AINET; ELTAI), or arrange an online webinar.
- Write for a publication (e.g., [Fortell](#), [Indian Journal of Educational Technology](#)).

Tips:

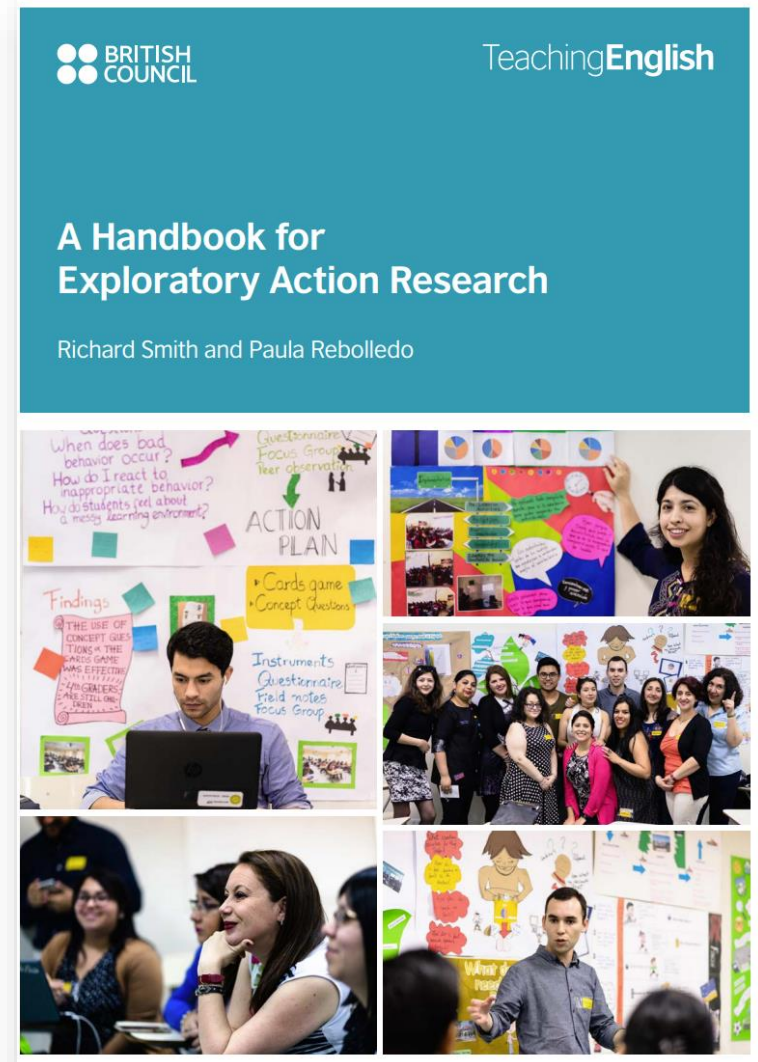
- Focus on what you learnt from the project: What will you do differently in future?
- Analysis procedure may be important to others – here's where you may need to do transcription and coding (qualitative data) or statistical tests and graphs (quantitative data).
- Consider carefully: Do your findings apply to other teachers' classrooms? Why (not)?
- If you are writing, read example articles from the journal. You could co-write with your mentor.





# Some useful resources

- A simple action research model for teachers
- Exploration → Action
- Step-by-step explanation
- Not technical
- Basic research techniques explained
- Lots and lots of examples
- Practical activities you can do with teachers to help them understand AR.
- If you are having difficulty understanding AR, start here!



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# Some useful resources

- Even more examples of real, useful AR projects by English teachers.
- From a different country (Chile, S. America), so there are some 'fresh' ideas here.



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# Questions, comments, ideas

## References

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