

# Qualitative and quantitative data analysis for teacher research

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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).

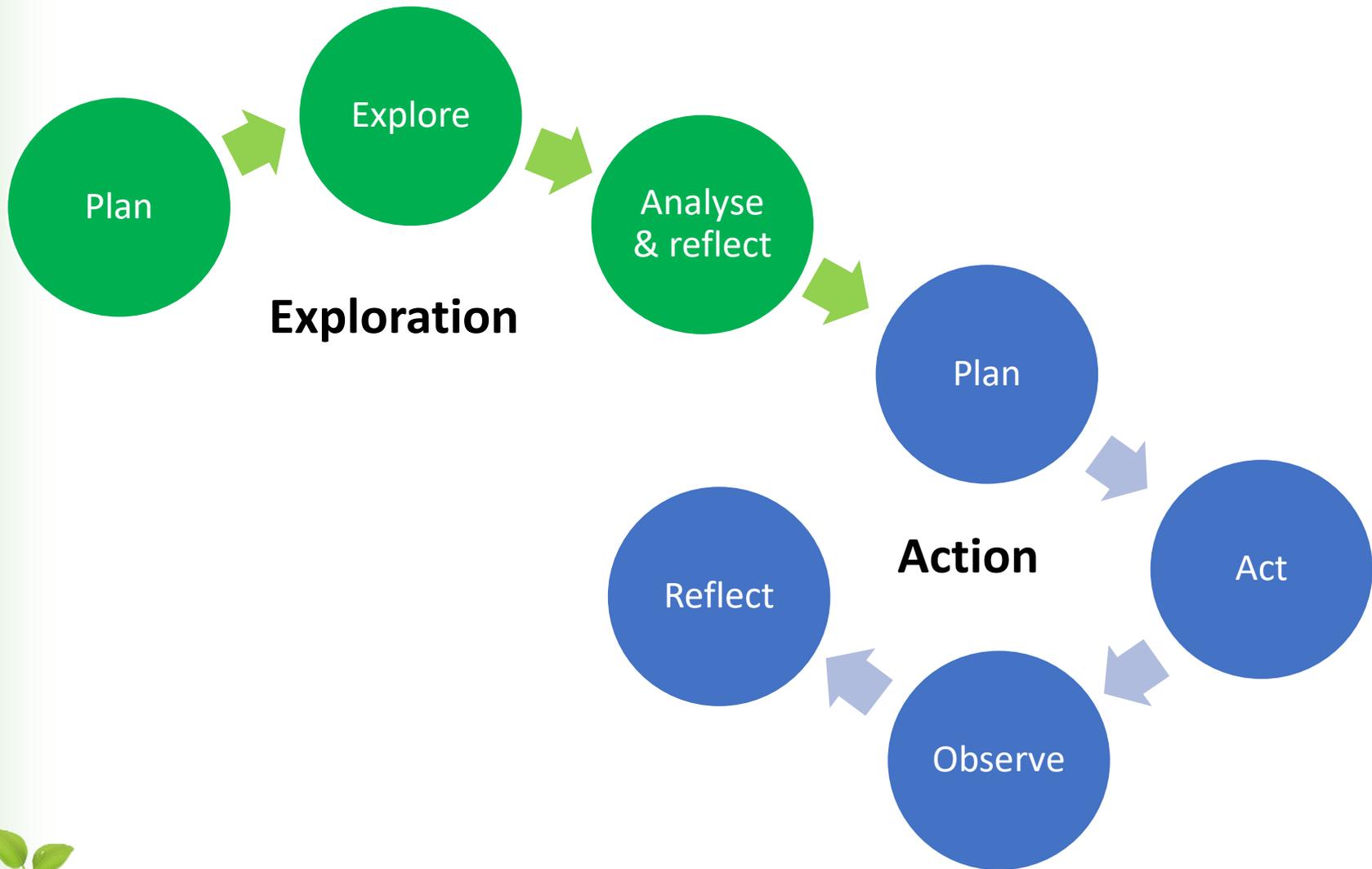
Teacher research is research **by** teachers, **for** teachers.

**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

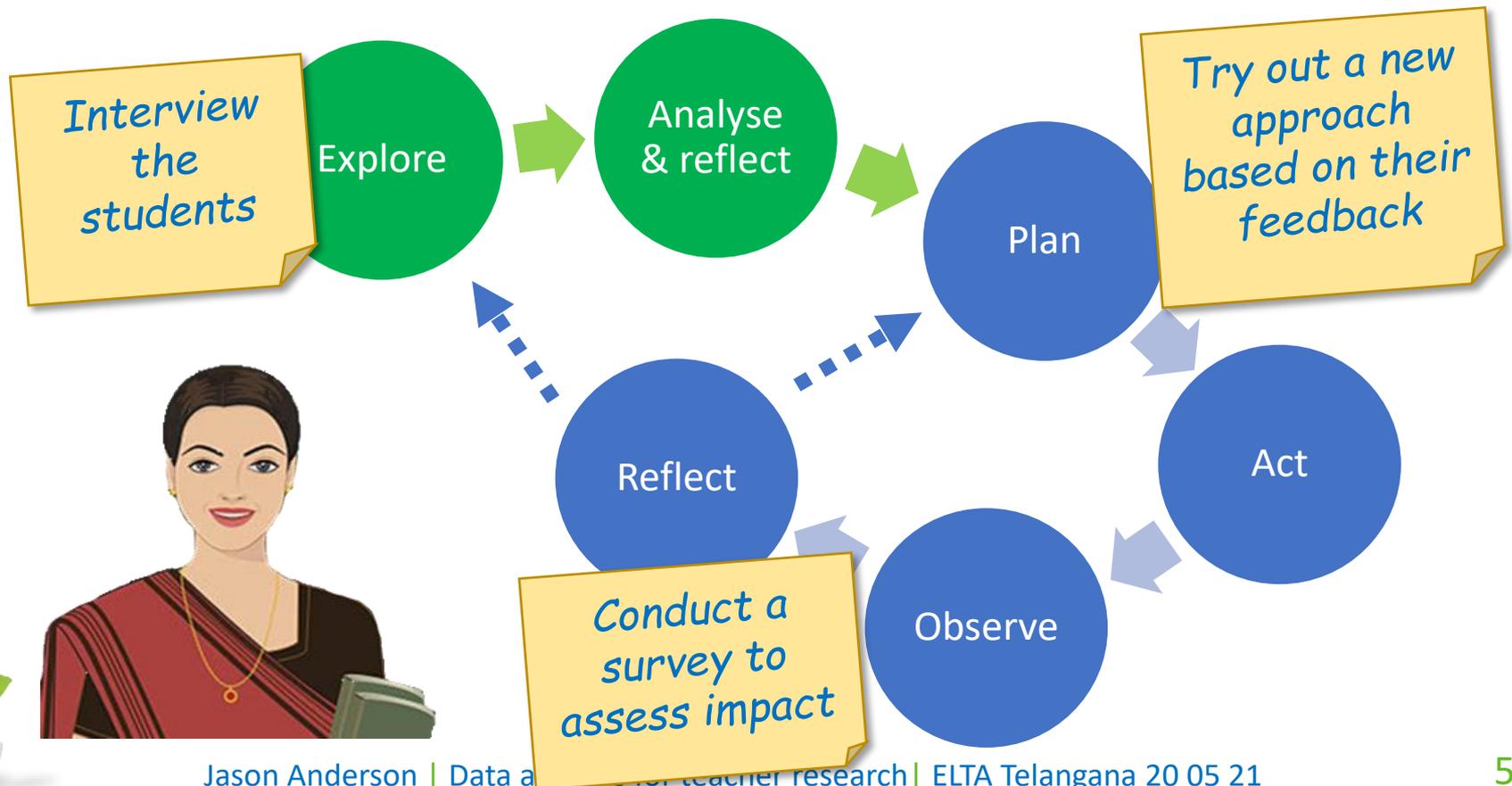


# Exploratory action research



# 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.



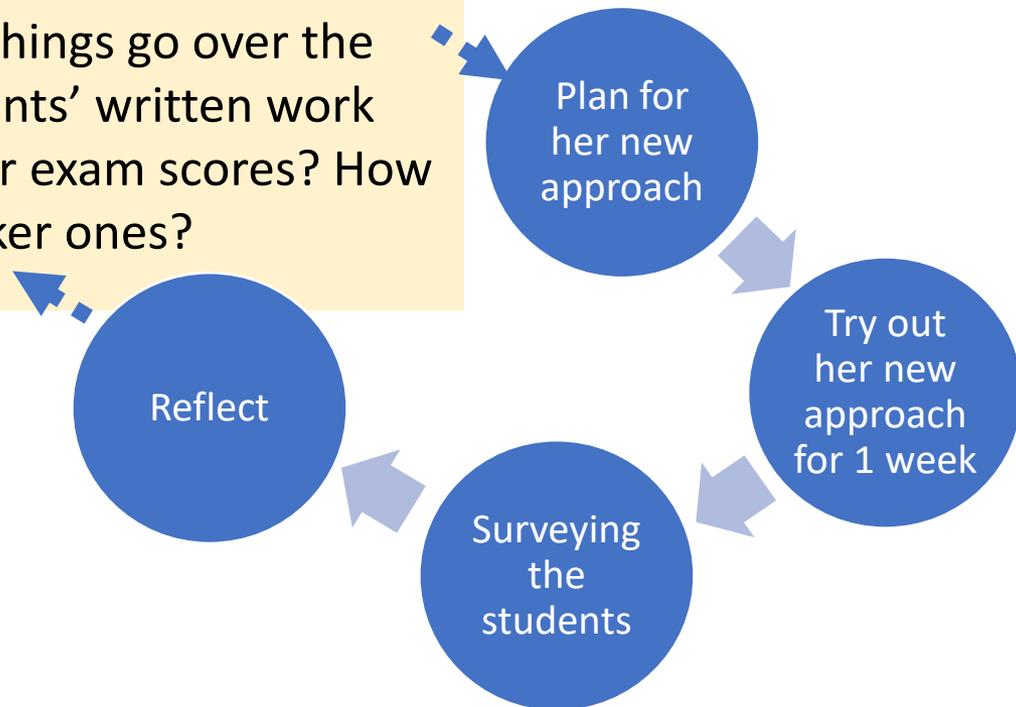
# Rumana's analysis – Additional interviews

- 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.



# Teachers' Voices: Capturing the Dynamics of Change

## 1.1

### Shamima Sultana, Grades II & IV

The story of improving students' speaking skills



#### Background of the study

I used to speak very little English and so did my students. They were not interested to learn English as I was not able to motivate them. So, their involvement in lesson activities was not rich. I thought I needed to evaluate my own teaching: How am I doing? How are my students progressing? In this way I can bring changes in teaching and learning, make students confident in speaking more English, enrich my own professional skill in speaking English and, finally, build the classroom as a centre of excitement and speaking English through increased motivation to learn English.

#### Research questions

Through my study, I've mainly explored these questions:

1. How can I improve my speaking skills as an English teacher?
2. How can I make the lessons fun and include everyone?

#### Description of the study

During my research, whenever I planned to apply a new technique in classroom, I followed these steps:



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Even previously, I used to make lesson plans, but now, I follow these steps. I plan my lesson and decide in which part I want to apply a new technique. Then I put it into action in my class by actually implementing the technique. Then comes observing, which is done by videoing, either by myself, or by my peer teacher, students or other observer. Then I reflect on what I have done in my classroom and what I could do differently. On the basis of these results, I plan what I will do in my next class. I started Cycle 1 with very easy techniques: like silent mouthing, the bingo game, chain drill. I started to use more English in the lesson to motivate students to learn English through the techniques.

Using a particular technique in three or four classes, I collected data and reflected on it in comparison with techniques. I used a classroom evaluation form which I gave to my peer teacher, Head Teacher, students (Class 4) and other observers. My students also gave feedback through a smiley (emoji) especially in Class 2, orally and in writing. I wrote a reflective journal a minimum of once a week.

#### Comparison between the cycles

In Cycle 1, changes came in this way:

1. Students were not able to understand English well and I decided to focus on more practice with repetition, which could change learning.
2. Students could learn well by listening to more English and they realised that they needed to help each other.

Here I focused on vocabulary-related techniques.

Serial	Title	1	2	3	4	5
1	How much did I use the new methods?	-	1	1	4	40
2	How well did I use these methods?	-	-	1	17	28
3	How much did the students enjoy these parts of the lesson?	-	-	-	5	41
		-	-	5	19	22
		-	1	-	8	37

I used more English and changed after considering the results of Cycle 1. The changes were:

of students think that speaking English is difficult. So I tried to involve in speaking English by using simple room language. I tried to increase students' attention and monitoring.

I put emphasis on grammar structure and collaborative learning. I concentrated more on silent and slow learners and tried to involve specific learners. I divided lessons into small parts to make it easier.

I started the study in two different classes 2 and Class 4. I tried to increase speaking time for both my learners. Here I present the findings from

Cycle 2



Cycle 3



This is directly related to my research question no. 1. Here, I'm trying to improve English speaking skills by speaking more and more English in the class and, in this way, to motivate my students according to my study.

I also collected these statements from the classroom evaluation form to get answers for research question no. 2 (how to make lessons more fun and include everyone) at the end of each cycle.

Cycle 1: Data table (number of tally in each column from classroom evaluation form).

- 1 = Lowest, 5 = Highest
- Class 4, No. of students : 46, Boys: 21, Girls: 25



Students are discussing in groups with the help of leaders

Section 1: Developing language skills | 15

As I'm implementing the study in two different classes, I also found that Class 2 can be very slow to respond, so sometimes I can't apply the same techniques here.

#### My learning from the study

I never thought of writing about my classroom experience focusing on feelings, love, hopes, smiles and a small degree of frustration. As I

I started this unique and amazing journey with the mentors' workshop in December 2015.

Now, I'm thinking about my classroom deeply. If my students don't learn anything, it makes me think about why they are not learning. My plan is to get more reflective experience of research by implementing more studies in the classroom and also to use different sources of evidence. I hope to inspire other teachers to

professional and personal aren't the group members participating in the classroom activities and what are their expectations from my class. The leader was asked to discuss the questions with their group members. At the end of the group work, I collected data from my group leaders and it became clear to me. Some girl students said, 'If I say something in English, I may make mistakes and the boys will laugh at me.' Some students said that they were slow or nervous. So, I found the students do not have confidence to represent themselves. That meant I had to increase motivation to face this problem and I planned activities on the basis of this finding.

Cycle 3: Class 4, Number of students: 53, Boys: 22, Girls: 31.

	1	2	3	4	5
	-	-	-	-	51
	-	-	-	13	38
	-	-	-	5	46
	-	-	2	7	42
	-	-	-	7	44

	1	2	3	4	5
How much did I use the new methods?	-	-	-	3	50
How well did I use these methods?	-	-	-	11	42
How much did the students enjoy these parts of the lesson?	-	-	1	15	37
How much did I get all the pupils to join in with the lesson?	-	-	-	10	43
How much was my pronunciation of classroom	-	-	1	12	40



Students of Class 2 give feedback in the form of smileys



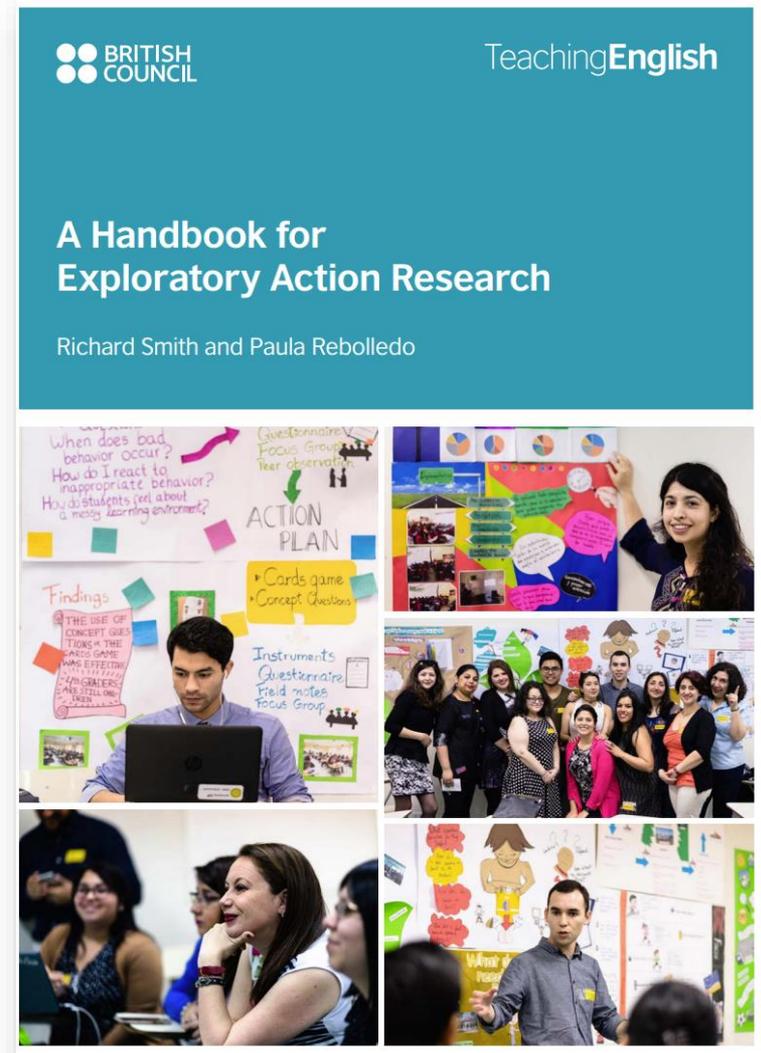
Interviewing students to get opinion



<https://www.camb-ed.com/article/479/teachers-voices>

# 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!



[https://www.teachingenglish.org.uk/sites/teacheng/files/pub\\_30510\\_BC%20Explore%20Actions%20Handbook%20ONLINE%20AW.pdf](https://www.teachingenglish.org.uk/sites/teacheng/files/pub_30510_BC%20Explore%20Actions%20Handbook%20ONLINE%20AW.pdf)



# 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.



[https://www.teachingenglish.org.uk/sites/teacheng/files/pub\\_british\\_council\\_champion\\_teachers\\_1.pdf](https://www.teachingenglish.org.uk/sites/teacheng/files/pub_british_council_champion_teachers_1.pdf)



# Questions, comments, ideas

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