Classroom-based research

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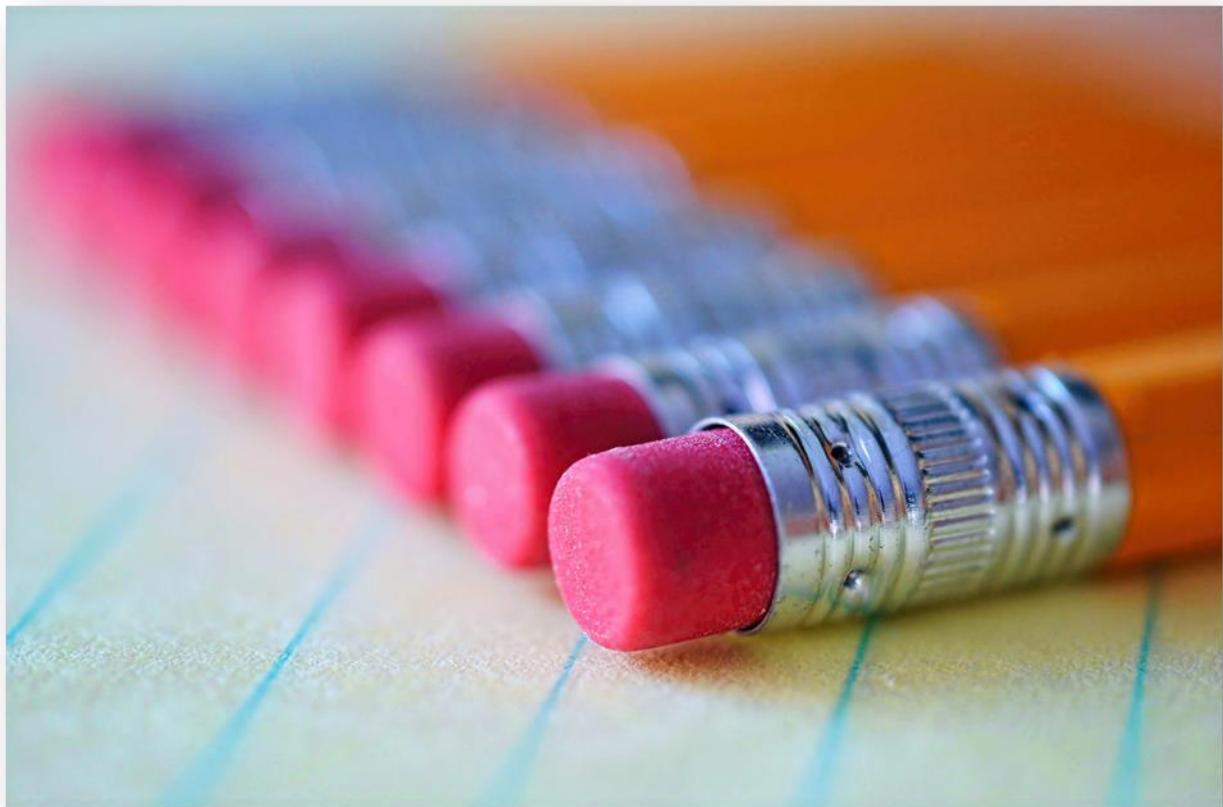
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What is classroom-based research?

Classroom-based research is a teacher-driven activity that aims to find out what works best in our classrooms, so that we might improve our practice, and – ultimately – make learning more effective for the benefit of our students. We can learn a lot about good teaching and learning by referring to the literature, and large-scale studies, such as the ones carried out by universities and educational authorities, which can also provide us with useful insights. However, every teaching situation is unique: what works well in one class may be completely ineffective, or even counterproductive, for a different group of learners. This places a burden on us, as teachers, to try to find out more about the teaching contexts in which we work.

Good teachers invest a lot of time in learning about themselves, their learners and the classes they teach. They do so by being attuned to what their learners say, or avoid saying, by being sensitive to their surroundings, by studying the curriculum and the literature and by reflecting on their practice. Classroom-based research is an extension of these processes, which is carried out in a more systematic way. Although it is more grounded on data than teacher reflection, it is still considerably less abstract than the kind of research that is carried out by professional educational researchers. This is its strength, because it means that the findings generated by classroom-based research are more personally relevant to teachers, and they can have a much more direct practical impact.

> *A teacher who is interested in setting up an extensive reading programme could conduct a small-scale study to find out what kinds of books his or her learners are interested in reading.*

Benefits of doing classroom-based research

Classroom-based research can involve an investment in time and effort, but it's time and effort well-spent, for several reasons.

Firstly, classroom-based research can have a direct impact on teaching, because we can use the findings of our research projects to **inform** our **teaching decisions**. For instance, we can find out more about our student's needs and aspirations, about what motivates them and what they find challenging, and more; this information can help us plan our courses more effectively, and it can also be used to inform teaching interventions whenever necessary.

In addition, classroom-based research can help us to **become better teachers** on the long run, by highlighting our strengths and opportunities for development. By trying out new teaching methods, and then collecting data on how effective these were, we can continue to develop professionally.

Furthermore, classroom-based research can help to **strengthen collaboration** among teachers. While classroom-based research projects can be designed and implemented by a single teacher working on her own, they offer great opportunities to work together with

colleagues who are interested in the same topic. Plus, sharing the findings from classroom-based studies can help to foster a culture of co-operation in the staffroom.

Last but not least, classroom based research provides **data-based evidence** on the effectiveness of different teaching methods. Such evidence can be very useful, when arguing for extending or expanding successful programmes; it can be equally helpful in deciding how effective educational policies are, for our classes.

Challenging assumptions

When thinking about research, we all tend to make a few assumptions about what it might involve. For instance, we may think that it is necessary for our study to include extensive footnotes and references to the literature, or that we have to discover something ground-breaking. We may also believe that, to do educational research properly, that we need to have an academic background and extensive training, or that we should know statistics. Or we might assume that we need time and resources that are not normally available in schools.

All these assumptions are true when it comes to large-scale, formal studies, but only partly so when dealing with classroom-based research. Let us examine them one by one:

Research expertise

Educational researchers need to draw on specialized knowledge and skills in order to conduct large-scale research projects. For instance, they may require data management skills to deal with large data-sets from multiple schools, or they may have to use statistical knowledge to condense information so that it is manageable. They will also use research expertise to turn concrete data into abstract ideas, in order to generalise from particular instances to broad populations.

Teachers who use research, on the other hand, have to rely on an entirely different skillset. For one thing, they can rely on their rapport with their learners to get access to rich information. They also have considerable background information on their learners, their teaching situation, and on aspects of school life that are often opaque to outside observers, and they can draw on this knowledge to make sense of the data they gather. All this expertise is very useful when it comes to developing understandings that are practically relevant to their teaching.

Grounding in the literature

Articles reporting on educational research are often heavily annotated with references to the literature. This is necessary, because it orient the readers, by connecting to work that has already been done. Such references are also useful, for showing how the findings of the study extend, confirm or challenge what we already know.

Similarly, teachers who do classroom-based research need to connect to the knowledge base that they share with their colleagues. This knowledge base may include references to the academic and professional literature: for instance, we must give appropriate credit for

teaching ideas that we used in class, or we may want to talk about points that are raised in the literature which we find puzzling when thinking of our own teaching. But as much of classroom-based research is addressed to colleagues working in the same context, connecting to the shared knowledge base usually means talking about concrete situations, rather than making abstract references to the literature.

Making a contribution to knowledge

The acid test by which formal educational research, and research in general, is evaluated is *originality* (i.e., whether the study has discovered something that was previously unknown). This criterion does not apply well to classroom-based research for two reasons. Firstly, classroom-based research aims at discovering something that we did not know about a particular class or teacher, in a specific place and time. Whether or not the findings appear trivial from a global perspective, they are valuable in that they help us make sense of a very specific teaching situation. More importantly, the criterion by which classroom-based research is evaluated is not originality; it is *pedagogical utility*. That is to say, it is assessed in terms of whether it helped us to improve learning outcomes for a particular group of learners, and in terms of how it has helped us to develop professionally on the long run.

Resources & time

It is a regrettable fact that most educational settings are stretched when it comes to finding the resources they need. Equally regrettably, educational authorities seem keen on placing increasingly more demands on teachers, much as they seem increasingly reluctant to compensate teachers for work they do outside the classroom. In face of these challenges, it is understandable that classroom-based research may be viewed by some teachers as a luxury that they cannot afford.

For this reason, it is important not to think of classroom-based research as an add-on to the work that teachers have to do. Rather, in classroom-based research the processes of collecting information and making sense of it are largely integrated in our professional lives. In practical terms, this might mean re-conceptualising language learning tasks so that they also help us to learn more about our learners.

If you are interested in finding out more about your learner's preferred language learning strategies, you don't have to administer a questionnaire! You could integrate this into your normal teaching, by having students write language learning tips for an imaginary friend.

The research process

There are several types of classroom-based research (see next section). Despite their differences, they all share some common steps.

Finding a research topic

The first step to doing a classroom-based research project is to decide the topic which you want to study. This might be suggested by your long term professional development goals. For example, you might read about a new approach to teaching writing, and you may feel uncertain about how effective it is for your classes, or you may feel less than confident in putting it to practice. In such a case, you might want to conduct a small-scale project experimenting with this new method. Alternatively, you might decide on a topic depending on your students' needs. So, for instance, you may have noticed that learners are not using the library you have set up. You may decide to find out more about their reading preferences, so that you can buy books that are more appropriate.

Defining a research question

Once you have decided on a topic or puzzle to research, you then need to formalize it into a **research question,** i.e., a question summarizing what you are interested in finding out. Research questions need to be: (a) *answerable* within the timeframe and with the resources at your disposal, and (b) *focused*.

Example 1, below, is not a very effective research question, because it's not focused enough:

Example 1

How can I become a better teacher?

Example 2, on the other hand, is much more focused, and seems more helpful for making sense of our teaching practice. The thing to remember is that classroom-based research is not about making a generalized claim about teaching or learning; rather it is about generating a local understanding.

> **Make your research questions:**
> - answerable
> - focused

Example 2

Why are students in (class) reluctant to use L2 in speaking tasks?

Example 2 is quite appropriate for classroom-based research, but one could argue that it seems oriented towards satisfying personal curiosity rather than solving a problem. Sometimes, it is more useful to ask *solution-oriented* questions, as is done in Example 3.

Example 3

Does increasing preparation time help students in (class) use L2 more during speaking tasks?

Thinking about pedagogical utility

The third step in planning your classroom-based research project is to think about the impact it might have on teaching practice. One way to do this is to list all the people who might be affected by the project, and to describe how you expect that the project will help them. This will most likely include yourself, as a teacher who develops professionally. It should also

include the learners, who should benefit from participating in the project. You may also want to consider whether colleagues in your school, or in your professional community, or other stakeholders, might be interested in learning about your findings.

Table 1 (below), is taken from a classroom-based research project in which a teacher tried out Task-Based Learning (TBL) with a group of learners who had been accustomed to traditional, teacher-fronted instruction.

My study is useful to…	because…
me	*I will learn how to design TBL lessons* *I will be able to decide whether TBL is effective with teenage students in (school)* *I will identify difficulties and challenges in implementing TBL*
students	*They will be exposed to a new, potentially more useful method of instruction* *They will get additional speaking practice* *They will develop autonomy*
colleagues	*They may be encouraged / inspired to experiment with TBL in their classes* *I will identify potential challenges, and help them avoid similar problems in their own teaching*
(name of school)	*The outcome will help to decide whether to introduce TBL more widely*

Table 1 – *thinking about the pedagogical utility of a classroom-based project*

Generating data

Once you have decided on your research question, and have satisfied yourself that the project is useful, you need to collect the data that will help you answer the question. This involves deciding on the source of information, and on the method of information collection.

Some possible sources for collecting information include:

- yourself
- your students (whom you might approach individually or as a class)
- colleagues
- parents
- other stakeholders

Information can be collected in a variety of ways, including:

- questionnaire surveys (with open-ended or closed questions)
- interviews
- student-generated data, such as homework assignments, narratives etc.
- test data
- diaries and journals

It is possible to combine multiple sources and methods, in order to confirm that the data you are collecting are complete and accurate (i.e., to achieve *triangulation*). While this is good practice, when doing classroom based research, one must be aware of the dangers of over-extending the data collection process. In addition to creating additional work for the teacher-researcher, an over-ambitious data collection process could be ethically problematic: research depends on the good will of volunteers, and participants should not be asked to spend time and effort on producing data that we cannot use.

Analysing data

Broadly speaking, data falls into two categories: numbers (*quantitative data*) and words (*qualitative data*). The former are usually generated by questionnaires and assessment scores, whereas the latter are often extracted from narratives, open-ended questionnaires, interviews and the like. Quantitative and qualitative data are treated in very different ways, but the objective is the same: to answer the research question.

	Quantitative data	Qualitative data
Type of data	Numbers	Words
Analytical processes	Central tendency Dispersal Comparisons	Data reduction Identifying patterns Generating understandings
Data display	Charts and graphs	Quotes

***Table 2** – Qualitative and quantitative data (overview*

In dealing with the **quantitative data**, our objective is to reduce a large set of numbers into a more manageable set of information. We do this by calculating measures of central tendency (e.g. averages) and dispersal (e.g., maximum and minimum numbers), and by comparing these measures across different groups. So, for instance, we might compare the average test score of a class who were taught using a coursebook against the average score of a class who were taught using authentic reading materials. Quantitative data can be visually displayed using graphs, such as bar-charts and pie-charts. It is a widely held misconception that such analysis requires statistical expertise and specialised statistical software. In fact, most of calculations that we need to do rely on general mathematical knowledge, and can be easily done on widely available software such as MS-Excel.

Qualitative data analysis is based on the processes of data reduction, identifying patterns and generating 'understandings' (i.e., small-scale subjective theories). Data reduction and display involves reading and summarizing the data. It is sometimes useful to create matrices showing how data is organized into categories. Identifying patterns involves seeing common themes in the data, and generating understandings involves trying to figure out why these themes emerged, how they connect to each other and what their implications are for teaching. Qualitative data is usually displayed using well-chosen quotes that illustrate our argument.

	Anxiety	Attribution	Mindset
Participant 1	High	Internal	Fixed
Participant 2	Low	Internal	Fixed
Participant 3	Low	External	Growth

Table 2 – *Example of a data analysis matrix*

Sharing findings

Classroom-based research is often a solitary enterprise, carried out by an individual teacher researching his or her practice. Even so, the findings generated by such research projects might be relevant to other teachers working in similar situations. It is therefore good practice to share the findings of classroom-based research. This can be done in a number of ways, ranging from completely informal to more formal outlets, including:

- posters,
- in-house presentations, or presentations in teacher conferences,
- blogs and other online outlets, e.g., Slideshare (www.slideshare.net) or YouTube (www.youtube.com)
- reports to the school administration or educational authorities,
- articles in newsletters or professional journals.

The way in which the research is described depends on the dissemination outlet and the audience, but it is always useful to include information about: (a) what prompted you to do the research, (b) what you did and how you did it, (c) what you discovered, and (d) why you think it is significant, or how you think it has helped you and the learners.

Types of classroom-based research

There are many formats of classroom-based research, and it would be impossible to provide a comprehensive listing in this handout. What follows, then, are just two examples, intended to show some of the possibilities that classroom-based research offers.

Action research

Action Research is a form of disciplined inquiry that aims to understand, improve and reform practice. It has become an umbrella term subsuming a broad range of research approaches, such as emancipatory action research, participatory action research, feminist action research etc. Central to all these approaches is the notion that **research should aim to generate knowledge that can be brought to bear on specific practical problems**. Some of the areas in which Action Research has been applied include: teaching methods, learning strategies, evaluative procedures, attitudes and values, Continuing Professional Development, management and control in education, and educational administration.

Action Research is methodologically eclectic. This means that any number of methods can be used in the process of doing an action research project, although qualitative methods have

tended to be used more frequently. An action research project starts from a specific practical or applied problem in teaching practice. It approaches this problem using research and action components in a cyclical way: research is used, in a very applied way, to develop a better understanding of the problem, and then this knowledge is used to inform an procedure that addresses this problem (action). Then, research methods are used to evaluate the procedure, and identify possible next steps. This process, which is variably termed an action research **cycle** or **spiral**, is illustrated in Figure 1.
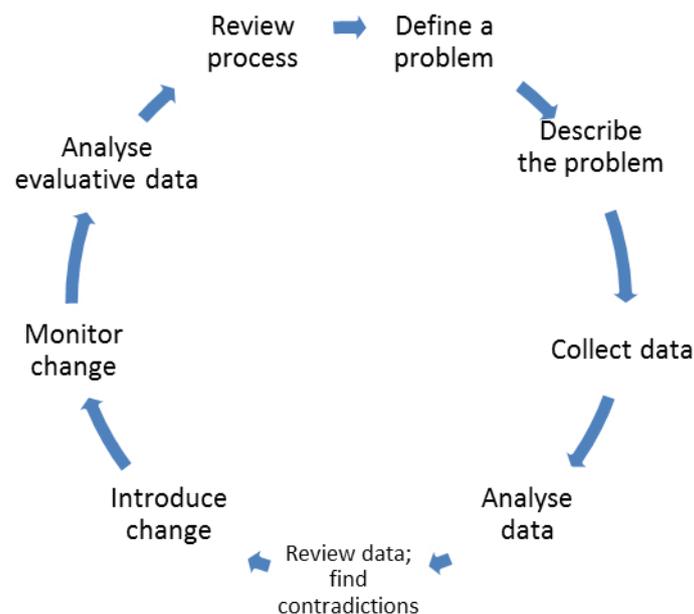
Review process → Define a problem → Describe the problem → Collect data → Analyse data → Review data; find contradictions → Introduce change → Monitor change → Analyse evaluative data → Review process

Figure 1 – *Action research cycle[1].*

Exploratory practice

Exploratory practice is a form of classroom-based research that aims to develop understanding and the well-being of teachers and learners, by focusing on issues that are relevant to their teaching and learning. The starting point of an exploratory practice project is a local "puzzle" (the word is used deliberately to avoid the negative connotations of terms such as "problem".

> *An example of a puzzle generated by a teacher in the course of an Exploratory Practice project was: "Why don't students ever listen to my instructions?" To study this, she decided to observe the student listening behaviour during normal classroom activities where listening is expected, and to adapt a discussion activity so that learners would reflect on how they listen.[2]*

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[1] Based on Bassey, M. (1988). Action research for improving educational practice. In R. Halsall (ed.). *Teacher research and school improvement : Opening doors from the inside*. Buckingham: Open University Press.

[2] Examples suggested by Susan Dawson and Juup Stelma (University of Manchester)

A key feature of exploratory practice is that it adjusts to the regular routine of the classroom, so as to minimize the burden on the teachers (and the learners) involved in the project. This means that the data collection process will be integrated as seamlessly as possible in the normal classroom procedures (e.g., speaking and writing tasks might double as data generation procedures). Another characteristic is that it is methodologically inclusive: that is to say, it is considered desirable to have students participating in the research process, both by suggesting possible research topics and by being engaged in the data generation and analysis.

Thinking about ethics

Classroom-based research projects are motivated by a desire to improve educational outcomes for learners, and build on relations of trust between teachers who research and participants who volunteer their time and effort to make the project possible. This means that they are not burdened by many of the usual ethical complications associated with classroom-based research. That said, there are a few things that the teacher who researches needs to be conscious of.

Basic principles

It is imperative that the classroom-based research projects are not conducted at the expense of actual teaching and learning. Put differently, the teacher who researches should make sure that the participants benefit directly from the project, and that the benefits for the participants are commensurate to the effort they invest.

Obtaining consent

Before a project begins, teachers should make sure that the participants have all the information they require in order to decide whether they want to participate or not. This includes information about the purpose of the project, what they might be expected to do, and any possible benefits and drawbacks. When working with underage students, teachers have to obtain consent from their parents as well.

It is usually a good idea to obtain consent in writing, e.g., by asking students (and their parents) to sign a letter where the project is described. However, there may be instances where such a procedure feels unnatural. If you choose to obtain consent only in oral form, it may be helpful to do so in a way that cannot be challenged later (e.g., during a plenary discussion in class). An added consideration in classroom-based research is that teachers should make sure that students should not feel coerced, due to the difference in status between them and the teacher.

Reciprocity and incentives

Researchers sometimes use small tokens of appreciation to reward participation in a research process, or to compensate participants for the time and effort that went towards the project. In classroom-based research, this practice can be ethically problematic, as it may create the impression of favouritism, or discrimination against learners who chose not to participate in

the project. Teacher researchers who feel compelled to use rewards in the spirit of reciprocity may want to highlight the educational benefits of the research project.

> *A teacher who used interviews in a classroom-based research project pointed out to his or her learners that participants would get additional practice in using English.*

Anonymity & confidentiality

When reporting on a classroom-based research project, teachers should make sure to protect the anonymity of research participants. One compelling reason to do this is practical: participants will feel less inhibited and more honest if they are assured that their identity will not be revealed. In addition, there may also be legal issues to consider, as laws might be in place regulating the collection and storage of personal data.

Some steps a teacher can take to protect the participants' identity include collecting data anonymously (e.g., through anonymous questionnaires), or replacing the participants' names with pseudonyms. Even such measures may prove inadequate in a school setting, because readers (or the audience in a presentation) may be able to make educated guesses about the identity of participants. In such cases, it may also be useful to change some personal details, such as the participants' gender, when reporting on the findings, as long as such details are not theoretically significant.

Useful resources

Publications

Bell, J. (1999). *Doing your research project : a guide for first-time researchers in education and social science*. Buckingham: Open University Press.

Burns, A. (2010). *Doing action research in English language teaching : a guide for practitioners.* New York: Routledge.

Miles, M. B.,Huberman, A. M., Saldaña, J. (2014). *Qualitative data analysis : a methods sourcebook.* Los Angeles: SAGE.

Miles, M. B. & Huberman, A. M. (1985). *Qualitative data analysis : a sourcebook of new methods*. Beverly Hills: SAGE.

Wallace, M. J. (1999). *Action research for language teachers*. Cambridge : Cambridge University Press: Klett.

Digital Resources

Doing classroom based research

✓ Online survey tools: https://de.surveymonkey.com/
✓ Tips on writing effective questionnaire items: http://wp.me/p2aFDK-r5
✓ More tips on writing effective questionnaire items: http://wp.me/p2aFDK-qS
✓ Working with demographic data: http://wp.me/p2aFDK-t2
✓ Some ideas about questionnaire layout : http://wp.me/p2aFDK-vH
✓ More information on action research: http://www.aral.com.au/arhome.html

Writing about research

✓ Writing for scientific publication: 3 common mistakes: https://theresearchwhisperer.wordpress.com/2013/10/22/scientific-writing-mistakes/
✓ 30 Writing Tips: https://www.insidehighered.com/advice/2010/04/02/bonk
✓ Academic phrasebank: http://www.phrasebank.manchester.ac.uk/

Sharing your research

✓ Blog platforms: www.worpress.com, www.blogspot.com
✓ Presenting at conferences: http://wp.me/p2aFDK-DB
✓ Dealing with feedback: http://wp.me/p2aFDK-DK

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