

Action research



Teacher Education
through School-based
Support in India



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TESS-India (Teacher Education through School-based Support) aims to improve the classroom practices of elementary and secondary teachers in India through the provision of Open Educational Resources (OERs) to support teachers in developing student-centred, participatory approaches. The TESS-India OERs provide teachers with a companion to the school textbook. They offer activities for teachers to try out in their classrooms with their students, together with case studies showing how other teachers have taught the topic and linked resources to support teachers in developing their lesson plans and subject knowledge.

The TESS-India OERs are supported by a set of guidance documents for teacher educators aimed at all those tasked with educating teachers, including initial teacher training and continuing professional development. These guidance documents offer teacher educators further practical guidance on key practices to support them in their work to embed the pedagogy modelled in TESS-India OER and Indian education policy. They include ways of organising networks and facilitating teachers' meetings, guidance on running participatory workshops and developing reflective practitioners, as well as how to use action research to improve practice. Further resources will be added later. These guidance materials will be available on the website for teacher educators or other educators.

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Action research is ...

An inquiry conducted by yourself into what you do day in, day out, with a view to improving or refining your practice to more closely match your values. In such an inquiry you, as a practitioner, think about your own life and work, asking yourself why you do the things that you do, and why your practice is the way it is. Practitioners who engage in action research inevitably find that it is an empowering experience. Action research is always relevant to the participants, as the focus of each research project is determined by the researchers, who are also the primary consumers of the findings.

Therefore, action research is relevant to all professionals in education. It is relevant to teacher educators thinking about their own practice and how that practice can more closely exemplify the principles of good teaching that they believe in, to school leaders thinking about making their school more focused on student learning, and to teachers working on improving the students' learning in their classroom.

Action research is a systematic process of inquiry. Each action research project asks the same question: 'How do I improve the process of teaching and learning here?' Action research can enable a professional to move towards putting their values into practice, living out their ideas about good practice in their day-to-day actions.

Improving your practice and/or your understanding of your practice is very likely to affect (and potentially influence) others around you positively, and it is in this sense that action researchers contribute more widely to improved practice.

Case Study 1: Changing the way I educate teachers

As a teacher educator I know that if teaching is to become more student-centred, then new teachers must teach in an interactive, participatory way. I thought hard about what 'student-centred' meant, and I realised that I had to show these new teachers what it meant, not just tell them. So I needed to change my practice.

I had heard some of my colleagues talking about the TESS-India resources. They had been involved in looking at the MOOC and had seen how the materials gave ideas and a vision about how teaching could be more student-centred. So I started by looking at the TESS-India OER for my subject, which is mathematics. The materials gave me lots of ideas, but I knew that I only had a short time in the curriculum to discuss pedagogy with the students. I planned to use these sessions to familiarise the students with the range of OER so that they knew they could go to them later when they were in school. There are fifteen OER for mathematics so I put the students into fifteen groups, which meant there were four students in each group. Each group was required to study their OER and plan a 'micro-lesson' of five minutes to show their fellow students one idea from their OER. The students got very involved in their planning and then they taught the lessons. Many of the students really enjoyed 'micro-teaching', as that gave them a real chance to be a teacher. However, time ran out and the last few were very rushed. Some of the students who had to rush through what they had prepared were quite upset. I overheard one student say, 'I wouldn't have put so much effort into my preparation if I'd known I only had one minute to gabble through it and no one got to do the activity'.

When I looked back at how successful the sessions had been, I felt that fifteen lessons had been too many – the depth of ideas in the OER was lost, especially when they did not do the activities. I also saw that many of the OER gave me ideas that I could build straight into my sessions, especially the units on algebra and graphs. I used these in my lessons and emphasised to the students where the ideas came

from, so that students could find them later. The next time I wanted to emphasise pedagogy I put the students into groups of four but only used five OER. The students studied part of each unit and then taught their activity to others looking at the same OER. This meant that they really looked at how the ideas developed within one OER.

My students have benefited from the changes in my teaching. They have seen what it means to teach in a student-centred way and I feel that I respond to their concerns much more. They also know that there is a set of resources that they can access online or at the resource centre any time they want, which will give them lots of ideas so that they can become a truly student-centred teacher.

Action research and teacher educators

Teacher educators can undertake action research themselves, as in Case Study 1, but will sometimes have to take a different role with respect to action research; that of encouraging other professionals to use action research in their own practice.

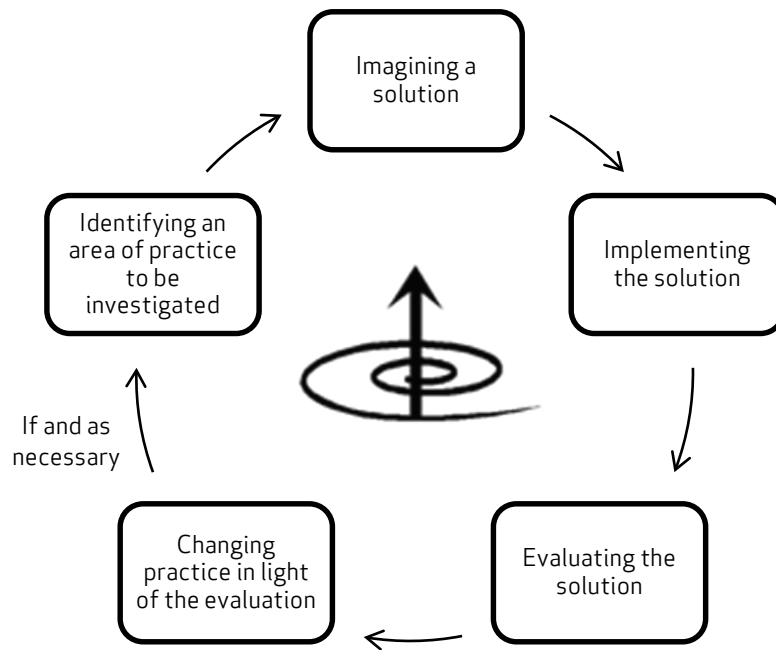
Many professionals will want to use action research to improve their practice. Students in particular may find this way of working useful as they move towards being experienced teachers. The process can be introduced to students as they train, as a way to work collaboratively on a particular idea, such as creating active learning approaches for a small group of students. Then students can be asked to consider this way of working when they are in post as a way to continue to develop as a professional teacher. Professionals using action research in their own practice will need to know the following:

- About the action research cycle, and discussing what type of changes will need to be made.
- How to explore their practice and find suitable ideas for improvement. Encourage reading of relevant material, such as the TESS-India OER.
- That it is a good idea to start off with small changes and make more ambitious changes later when confidence has developed.
- How to evaluate the changes that they make. It is good practice to think about this at the start. It would be a good idea to keep careful notes and work with others, observing one another's practice. Make sure they know that they are looking for what works well, as well as where further developments are needed. They should also know from the start that one cycle is never enough!
- They should produce a written report, as this helps to encourage reflection and know that a difference has been made. Consider publishing the reports in text or on suitable websites.

The action research cycle

Action research can be seen as cycles of:

- identifying an area of practice that seems to need improvement
- imagining a different way of acting or a solution to a problem
- implementing that action
- evaluating the action
- changing practice in light of the evaluation.



Adapted from <http://www.jeanmcniff.com/ar-booklet.asp>

Systematic research

The methodology of action research means reflecting on and evaluating what you are doing in your professional practice, looking for areas that can be improved, and constantly checking that what you are doing really is working. Are you really changing the situation or are you fooling yourself? The process of conducting the research requires changes to be made about which there is good reason to believe that they will result in improvements.

Action research helps you to formalise your learning and to become able to give a clear and justified account of your work – not on a one-off basis, but as a continuing regular feature of your practice. Action research is open-ended, beginning with an idea that you develop.

An action plan for research

What is the problem here (the area of practice to change)?

Identifying an area for improvement can be an individual process, but is often more effective as part of a collaboration. Working with another person or a group can help with generating ideas, as well as evaluating the impact of those ideas. Examples of problems are:

- My students rarely talk in class and therefore I do not know what they are learning.
- I am not sure that I am including everyone in my class when I teach.
- Only I write on the blackboard. Could it make a difference to learning if the students did as well?

What ideas for changes have I seen or read about or has someone suggested to me that might offer a solution? (Imagining the action)

The process of imagining a solution to the problem will involve talking to other people, listening to ideas from others, exploring the internet and reading articles and books. However, the solution imagined is for your context or classroom. The solution is informed by others' ideas but is a way of putting your values into practice.

How can I implement those changes?

Once the change has been imagined, it can be implemented. It is not a good idea to change every lesson you teach, although this may be the ultimate aim. Start by trying out the new way of acting with one class. Reflect on how it went but do not give up quickly. You will have to learn to act differently and so will your students, so give the proposed change time to take effect.

How will I find out if the changes make a difference?

This aspect is important. The way that you evaluate your actions will make your results trustworthy and allow you to influence others, by confidently saying things such as 'It works for me, it might work for you as well.' You do not need questionnaires and control groups, as you are not exploring an hypothesis. However you do need to be able to say 'This really happened, I am not fooling myself!' The data you collect needs to include successes and failures, and what you did about both. If you use notes, write them quickly after the lesson and record positives and negatives. Collaborate with another teacher, if possible, observing each other's attempts at change and recording honest feedback, stating what worked well as well as where further ideas might need to be developed.

What will I need to do next?

The best action research is a series of cycles implementing and evaluating improvements, so 'Where next?' is always a good question to ask. Perhaps you have designed a more inclusive way of teaching where male and female students feel much more equal but now you are concerned about those students who, through no fault of their own, have missed several weeks of school? There will always be a next issue to solve, but action research gives you the tools to find a solution and to know that that solution works for you and your students.

Case Study 2: Nita's action research

Nita realised that she did not know how much her students understood of what she was teaching, as they rarely spoke in class other than to say 'Yes, ma'am' occasionally. 'If I'm going to help them improve, I must know what they think and understand – and that means they must talk to me,' she said.

She talked about this to another teacher, Anju, and they decided to work on it together. They went to see their principal, who was happy to support them and gave them permission to observe one another's classes, provided they could persuade someone to look after their own. Nita and Anju planned a lesson together using the ideas in the TESS-India Key Resource 'Talk for learning'. They thought about what questions they would ask to get the students thinking, and how they would ask the students to stand up and say what they thought.

The lesson did not go well – the students were reluctant to say anything. But Anju was not downhearted: ‘They are not used to talking and some of the words they have to use they have never spoken out loud before. I have an idea. Let’s give it another go!’

This time they planned their questions just as carefully but instead of asking the students to think and then answer, they asked them to talk in pairs, and then in groups of four, before one student stood up and presented what the group of four thought. This time the students were much more talkative, presenting ideas and using the language and vocabulary that Nita and Anju had tried to teach them. In Nita’s class they just stood in their places to answer, but Anju thought the students should come to the front and talk like a teacher. Nita noticed how confident the students appeared in Anju’s lesson.

In the staffroom afterwards Nita and Anju were chatting and Rajan overheard them, he asked what they had done and wanted to try to get his students talking. Nita said, ‘I can listen to them and get to know what they know now – and I know what they don’t know, so I can plan my lessons to really help them.’

A research report

‘Research is systematic inquiry made public’ (Stenhouse, 1981). So the next step is to write a report on what the problem was, what you did about it, and what you found out. When you produce a research report, it shows that you have carried out a systematic investigation into your own practice and the process you have gone through in order to achieve a better understanding of your practice. Many states publish newsletters containing short reports such as those produced from an action research inquiry; talk to people about where you might be able to publish yours.

Case Study 3: Whole-school action research

Nilesh wanted the teachers in his school to teach in a much more student-centred way, but he felt that many of the teachers did not have a vision for how to do things differently. He felt that if he simply told them in a meeting to improve this aspect, he would not be providing a good example – so instead he decided to use the TESS-India resources. He decided to start with groupwork and printed out enough copies for each teacher to have one unit that used this pedagogic idea from either Mathematics, Science, Language and Literacy and English.

At the next staff meeting Nilesh introduced the idea that they were going to be a school where sincere efforts are being made to improve professional practices through action research and reflecting on outcomes. He then asked the teachers to work in subject areas and to look at the unit he had given them. He told them that the problem that he saw in school was that he did not see enough student-centred learning, but he wanted the teachers to work together to imagine a solution, implement it and evaluate the changes they had made. He stressed that he did not expect to see changes made easily or quickly, but that he wanted sustainable changes that his teachers felt worked for the students in their school. One month later he would ask the teachers to report on their progress.

Using the TESS-India units, the teachers worked in twos and threes to develop ideas that they felt they could implement in their teaching. Some teachers made small changes, such as asking the students to talk in pairs to make sure they understood what the teacher had said and gave time for any questions before the students starting doing their independent work. Others changed the way that they taught one group, setting them problems to solve as a group, giving each member of the group a clear role and asking the

students to present what they had found out at the end of two or three lessons. Nilesch was happy that they were making a start, even if some only tried small things.

At the next meeting the teachers reported back. Some were very enthusiastic, they saw their students learning in a different way and were able to intervene when needed instead of treating everyone the same. Other teachers said they had asked their students to talk but they had just talked about the cricket! Nilesch asked the teachers to discuss everything. Why had one idea worked well and another not so well? What could be done to continue to improve? He stressed that this was action research, so everyone should start another cycle, imagining more improvements and implementing and evaluating them. At a third meeting they discussed what had happened and it seemed to Nilesch that the teachers were reading the units much more closely in order to get ideas for changes they could make. There was a buzz within the school: the teachers were more interested in and confident about their teaching, and the students were happy to talk about their learning.

Nilesch now asked each group of teachers to write a report about what they had done, what ideas they had tried, how they had found out if it worked or not, and how they were continuing to centre their teaching in what the students needed. He put the report together and showed it around when he next met other principals. This resulted in his school being known as 'the action research school', and his teachers' ideas being put on the state website.

An action plan for research

What is the problem here (the area of practice to change)?

What issue is causing you concern? The issues may be pedagogical, environmental, organisational and so on. Identify the factors responsible by reviewing what is happening now.

What ideas for changes have I seen or read about, or has someone suggested to me, that might offer a solution? (Imagining the action)

What have you read or talked to someone about that has given ideas for change? Do you need to talk to someone, or read more? What will you try out?

How can I implement those changes?

Make a detailed plan. What will you try? Who with? When? For how long? What resources will you need?

How will I find out if the changes make a difference?

Make a plan to systematically record your observations. You might make notes after the lesson, ask a colleague to observe your lesson, focus on a few students' behaviour or responses or look at the students' work in order to find out what has changed and what still needs changing.

What will I need to do next?

If the experiment is a success, share it with colleagues; if it is not, also share your observations in order to develop a modified plan to implement next time. One cycle is never enough! Record here what you think you might do next and why.