Using professional learning communities to improve student outcomes

This case study comes from Ms Sonia Loudon, Assistant Principal at Elevation Secondary College in Melbourne, Victoria. You can reflect on these ideas and consider how they might relate to your own approaches and context.

Overview

Effective professional learning communities develop teachers' confidence and self-efficacy, build effective leadership and create a consistent learning experience for students. Professional learning communities involve collaboration and critical interrogation and can work in different ways. This case study describes one approach.

Context

Elevation Secondary College is a newly established school catering for 320 students in Years 7 and 8. More than three quarters of students identify as having a language background other than English and 3% of students are Aboriginal and/or Torres Strait Islander.

Being a newly established school, the teachers felt that 'much needed to be done', yet work needed to be prioritised to achieve change. To help with this, teachers engage in professional learning communities. The professional learning communities run in subject-based teams and are the school's main vehicle for professional learning. They run regularly, for one hour per week in addition to the time allocated for lesson planning. This case study uses an example from the school's science professional learning community.

Identifying a focus for the professional learning community

> "We allowed ourselves to be vulnerable about our practice to be able to identify what we could change"

Instead of getting professional learning communities to work on a school-wide initiative, we ask teachers to identify something they would like their students to get better at, and in turn, something about their own practice that needs improving. But that only has meaning if you agree on what the problem is. The Data Wise Inquiry Cycle has been useful in our professional learning communities in that it helps us to identify problems and actionable solutions. It has 2 main parts: identifying a 'learner-centred problem' and developing an action plan.

Teachers have an instinct to fix problems very quickly, but the first part of the inquiry cycle isn't about finding solutions. The first part involves identifying what students can and can't do. For example, our science teachers noticed that Year 7 and Year 8 students weren't demonstrating in their assessments the ability to select and use data to support their scientific claims. Science teachers examined the student learning data to identify where students' skills and understanding broke down.

Teachers reviewed student work and assessment tasks. Findings revealed:

- many students can correctly read and interpret scientific data but struggle to write about it

- students can pick out the correct data when asked for it explicitly

- when given feedback on how to use scientific data in their answers, many students said they didn't realise they had to go back to previous pages to find relevant data

- some students thought they were referring to scientific data but they either gave the explanation of what happened without stating the evidence or wrote in a way that assumed the teacher would pick out the data for them.

These findings led teachers to conclude that the most pressing learner-centred problem wasn't general data interpretation or literacy but knowing how to select and communicate data as part of a scientific claim. It's not to say that other aspects weren't affecting students' outcomes, but that the evidence had identified this as a critical barrier to demonstrating the skill. We would not have been as invested in the professional learning that came later if we had rushed in, or if the focus for the professional learning community was selected for us.

> **Learner-centred problem:** Students don't know how to select and communicate data as part of a scientific claim.

Addressing the learner-centred problem

> Our saying is: "If we already knew how to teach this well, our students wouldn't have a problem doing it".

Teachers then proceeded to examine their own practice. They looked at their instructional materials and observed each other teach. This revealed questions, weaknesses and curious wonderings about their practice. Teachers observed:

- teachers only using oral and ad hoc questioning to ask students for data to support claims, with only one or two students called on to answer

- lots of praise for answers that didn't use data to back up claims

- teachers, not students, doing the work of linking data to claims

- marking guides could be clearer

- the skills teachers expected to see in the marking guides were not taught

- unit plans did not include much time for explicit teaching

- unit plans did not include opportunities for students to use data to make claims.

This helped teachers identify the 'problem of practice'[1]. By articulating a 'problem of practice', teachers could then form an action plan to engage in professional learning and implement changes to how they taught.

Problem of practice: We are not providing the time, structure and support for all students to use scientific data to support their claims in oral and written forms.

A few potential solutions were investigated through group discussions and consulting research evidence. One proposed solution was teaching the CER (Claim, Evidence, Reasoning) framework. The suitability of the framework for the 'problem of practice' became the focus of the next few meetings. After consulting evidence of its effectiveness, teachers evaluated how the framework could be used to address the issues raised. Teaching the CER framework was accepted by all teachers as the core of the action plan. Their discussions and critical feedback, such as a desire to make and include more worked examples than in the original intervention, also shaped the plan.

Action plan: Teaching the CER framework

The CER framework comprises:

- **C**laim: A conclusion about a problem

- **E**vidence: Scientific data that is appropriate and sufficient to support the claim

- **R**easoning: A justification that shows why the data counts as evidence to support the claim.

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1 'Problem of practice': An aspect of teaching and learning that if improved would make a big difference to student outcomes

This includes the following steps for teachers:

- Professional reading – what is CER and instructional strategies (Professional development)

- Planning to teach CER, updating unit plan and assessment task (Planning)

- Explicit teaching of CER lesson across Year 7 and Year 8 science (Teaching)

- Lesson refection and student checks for understanding (Reflection)

- CER practise and feedback across 2 more online lessons (re-teach and student feedback)

- Assessment moderation and teacher reflection (Assessment and next steps).

Change in practice and student outcomes

After implementing this action plan teachers reflected that explicit teaching of scientific writing worked well, but context and content need to support it.

- The lessons were more successful when CER was integrated with the topic and tasks students were learning.

- Chemistry topics yielded much better CER opportunities compared to Ecology.

This prompted a plan for to embed CER into Year 7 and Year 8 introductory topics in the following year.

Next steps included:

- supporting students who are still at the stage where they are identifying C, E and R

- creating experiences where students can understand the difference between evidence and reasoning

- examining instruction (again) because of suspected over-use of the framework – not everything students say or write requires CER

- updating all assessment and marking guides

- planning 2022 for complete introduction of the method and better sequencing.

Sustaining professional learning communities

At Elevation Secondary College, our theory is that if teachers identify small parts of their teaching practice to improve in their specific classroom context, then over time they will become very skilled and reflective practitioners. Consolidating small changes over time in very specific areas build powerful, useful and long-lasting changes in the school. Our staff are dedicated to this process to improve student outcomes.

It's important for us to allow for the focus of professional learning communities to be driven by teachers and by their observation of what needs to change in the classroom. Giving teams the time, structure and support to work on something they are really invested in allows teachers to fully engage in professional learning communities much more than if topics were imposed.

A word of advice to running professional learning communities is to look at the name – *professional learning* communities are about professional learning. No teacher deliberately withholds their best practice from students.

'If we want to see a change in student outcomes there will need to be some change to the way we teach.'

Examining instruction can be uncomfortable and changing practice is hard, but these steps are essential to the professional learning community cycle. A good professional learning community process works to address the problem teachers identify by providing the reason, the structure and the support for the professional learning to happen.

More resources

Effective professional learning communities build knowledge, motivate staff and stimulate collaboration to develop and embed effective teaching practice.

For more, see also:

- Education Endowment Foundation effective professional development guidance report

- About professional learning communities, AITSL (PDF)