stem.T4L

A three-year journey

An overview of the research on the stem.T4L Project

BACKGROUND

Since the start of the stem.T4L Project, ongoing research has been carried out to measure the impact and effectiveness of the program in diverse NSW school settings. Research outputs include:

8 reports

2 literature reviews

3 podcast episodes

METHODOLOGY

Mixed-methods approach:

- baseline and follow-up surveys
- focus group interviews
- social media analysis
- school case studies

RESPONSES

Term-based baseline and follow-up online surveys, from approximately:

10,000 students

3,000 teachers
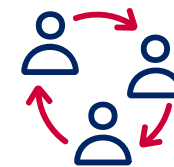
OUTCOMES FOR **TEACHERS**

FINDINGS

1 **Significant improvements** in teachers' STEM confidence and competence

2 **Sustained satisfaction** with stem.T4L Professional Learning

3 **Increased teacher collaboration** through developing a STEM Community of Practice

BASELINE SURVEY SUGGESTED

Teachers felt *"anxious"*, *"scared"*, *"nervous"*, *"overwhelmed"*, *"uncomfortable"*, and *"worried"* as they had limited knowledge of STEM technology.
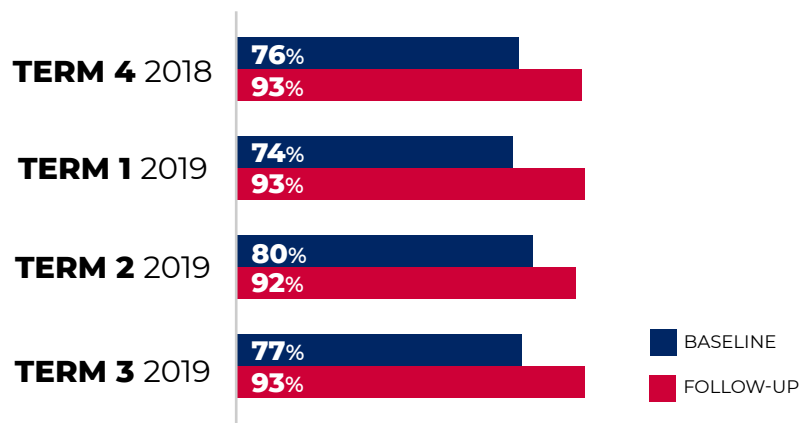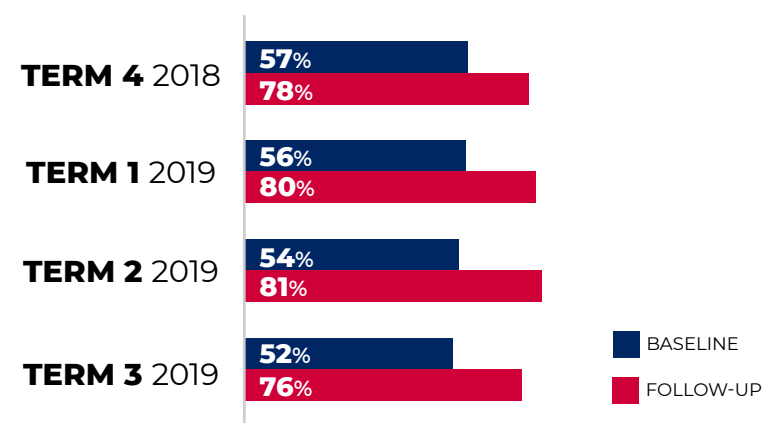
VS

FOLLOW-UP RESPONSES SUGGESTED

stem.T4L Project created a substantial positive impact on teachers' readiness to employ STEM technology... **overall growth of teachers' STEM self-efficacy beliefs and competence shown...**

### Growth in Teachers' confidence in using STEM technology

	Baseline	Follow-up
TERM 4 2018	76%	93%
TERM 1 2019	74%	93%
TERM 2 2019	80%	92%
TERM 3 2019	77%	93%

■ BASELINE
■ FOLLOW-UP

Growth in Teachers' STEM Teaching Competence

	Baseline	Follow-up
TERM 4 2018	57%	78%
TERM 1 2019	56%	80%
TERM 2 2019	54%	81%
TERM 3 2019	52%	76%

■ BASELINE
■ FOLLOW-UP

Data Source: Survey | Over 4 school terms | 1,850 baseline & 609 follow-up

2 Sustained satisfaction with stem.T4L Professional Learning

Consistent satisfaction rating with stem.T4L PL

PILOT	TERM 4 2018	TERM 1 2019	TERM 2 2019	TERM 3 2019
86%	85%	88%	87%	89%
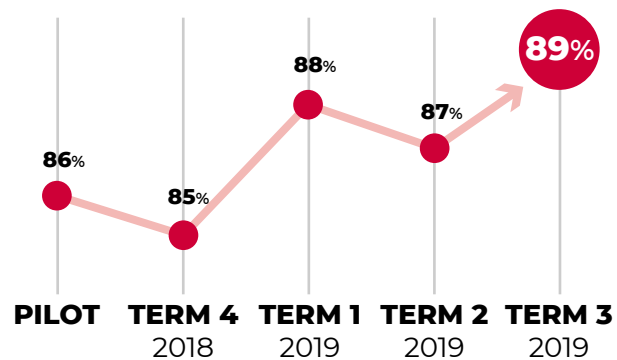
SATISFACTION WITH PL OPPORTUNITIES

Across 5 terms more than **85%** of teachers attested to the **positive impacts of the learning materials** on their professional development

75% of teachers confirmed **STEM collaborations increased at their school** following engagement with stem.T4L

Data Source: Survey | Over 5 Terms | 885 Teachers

3 Increased teacher collaboration through developing a Community of Practice

ROLE OF SOCIAL MEDIA

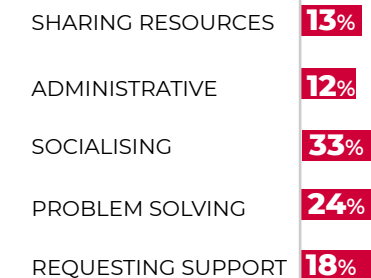We found stem.T4L social media was functioning as an **effective online STEM CoP**

more than 55% of the total postings were classified as 'Active Learning'
... including informal professional learning, advice, sharing classroom experiences, and collaborative problem solving.

Professional use of stem.T4L Social media breakdown

SHARING RESOURCES	13%
ADMINISTRATIVE	12%
SOCIALISING	33%
PROBLEM SOLVING	24%
REQUESTING SUPPORT	18%

Data Source: stem.T4L Facebook, Twitter and Yammer groups, Jan 2019-June 2019

To read the full report and for more information, please visit T4L.link/stemresearch or email stem.T4L@det.nsw.edu.au

NSW GOVERNMENT