2017 NTC Symposium
28C – Results from a Blended Project to Mentor Australian STEM Teachers

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Interaction

- Ask questions or comment

- URL: www.Slido.com

- Event Code: 7057
Develop your understanding of mentoring, online tools and blended learning strategies

Gain practical insights on mentoring and use of online tools

Our hopes for you

Explore ways to design and lead blended learning and mentoring

Assist your planning about what’s next
Blended learning and mentoring of Australian STEM Teachers

Context for Collaboration
Context for collaboration

- The nature of ‘STEM’
- Quality of STEM teaching
- STEM learning outcomes – trends and comparison
Coming to terms with STEM

Science
Technology
Engineering
Mathematics
STEM education - an approach to learning that removes the traditional barriers separating the four disciplines and integrates them into real-world, rigorous, relevant learning experience for students

Crisis? What Crisis?
Our Project: 

*National Mentoring for Science & Mathematics Teachers*

- To improve science & mathematics teaching by a combination of mentoring and related professional learning opportunities that aim to develop the efficacy and pedagogical content knowledge of teachers . . .
What are your challenges with recruiting and retaining STEM teachers?

- URL: www.Slido.com
- Event Code: 7057
The Project Partners - Collaboration
Project Design - Participants

Year 7 -10 Science and Maths teachers
All types of schools
All locations
Project Design – Phased Delivery

Phase 1: Local Design Phase

Phase 2: National Intensive Program

Phase 3: National Online Workshops & Networking
Workshops and Online Platform

Pedagogy – content – mentoring

Developing relationships

Opportunity for discussion
+ Questacon workshops
Project Coordination – Steering Group

Colleagues – partner organisations

Regular minuted meetings

Follow-up actions
Introduction: Mentoring

Our AMSPP project aimed “to improve science and mathematics teaching by a combination of mentoring and related professional learning opportunities that developed the efficacy and pedagogical content knowledge of teachers”
Our problem in Australia…
Mentoring in our AMSPP Project

1. **Design Phase:**
   May – Sept 2015
   8 Mentors & 8 Mentees (16)

2. **National Intensive:**
   Sept 2015
   30 Mentors and 30 Mentees +
   10 ‘Maths MetaMentors’ (70)

3. **National Implementation Phase:**
   30 Mentors and 30 Mentees +
   10 ‘Maths MetaMentors’ (70)
+ Mentoring in our AMSPP Project

1 wk. F2F Intensive + 1 yr.+ Online = Blended Mentoring
Selection of Mentors & Mentees

- All volunteers
- Applications from each Australian state and territory
- Mentor applications > mentees
- Selection criteria
Selection of Mentors & Mentees

Math Meta Mentors

Mentors: 5-40 yrs. experience

Mentees: early career (0-5yr), new to science or discipline

Intensive:
- Content/pedagogy workshops
- Orientation
- Relationship building
Online Facilitator Institute
Introduction: Platform
## Canvas: Online Community

### Discussions

### Resources

### Video Workshops

### Info

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<tr>
<th>Date</th>
<th>Activity</th>
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<td>1 November continuing</td>
<td>Provide feedback to CPAs on their bonding and periodic table (Chemistry 2) workshop</td>
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<td>11 November</td>
<td>Survey returned to Merryn (mentors)</td>
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<td>29 November</td>
<td>Christmas Party Video share</td>
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<td>29 November to 15 December</td>
<td>Post awesome resources to forum</td>
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<td>20 December</td>
<td>Final AMSPP feedback survey (mentors)</td>
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<td>16 December</td>
<td>Last day to contribute to forum</td>
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<td>30 March, 2017</td>
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Talent: Video Annotation
Video Workshops
Discussion: Design & Context

We invite you to in table groups

- **Share** your insights on the design and context of the project in light their professional background and current roles

- **Focus** on at least one of the following
  - quality, supply and professional development of STEM teachers
  - value and practice of mentoring
  - use of online platforms in supporting in professional development and mentoring.

- Be prepared to share
Findings and Key Learnings
The important thing is that we know what we are doing and why we are doing it.
Creating Coherence

Mapping

Tracking

Assessing

Reporting
Developing vision . . .
Evolving strategy
PLC

Collaboration & networking

Building efficacy through mentoring

Content knowledge and how to teach it (PCK)

Developing relationships - classroom management
Imagine

Plan activities
How – Who – When –
What resources?

Ask

Create ‘project’
Trial – Track - Assess

Improve design
Reflect - What worked? What
didn’t? What changes?
Findings & Learnings: Mentors & Mentees

- Effective/Impactful/Beneficial
- Commitment
- Relationships
Findings & Learnings: Challenges

- Personal & Health issues
- Time & Lack of Support
- Connect beyond the project
Findings & Learnings: Mentors

- Gratitude
- Powerful professional learning
- Access
- Reinvigorated
- Enjoyment
- Confidence

> Confidence
I have been so grateful for the opportunity to be a part of this project. It has helped me improve my content knowledge, sparked creative ideas in the classroom and helped improve my confidence as a Graduate teacher. I could not recommend it highly enough and do have every wish for its success (mentee)

Participation in the AMSPP project has been a great benefit – I was feeling a bit flat before this and considered early retirement. However, there was one clear message from the Intensive week and that was the need to prepare the current generation of teachers for what lies ahead with a clear head and a sound rationale for continuing teaching in a challenging 21st century environment. I have felt a “new lease of life” in sharing experiences and resources with my mentee (mentor)
Voices of Mentees

I have been so grateful for the opportunity to be a part of this project. It has helped me improve my content knowledge, sparked creative ideas in the classroom and helped improve my confidence as a Graduate teacher. I could not recommend it highly enough and do have every wish for its success.

I am really enjoying the AMSPP program. The online lesson recording is brilliant.

As a result of AMSPP, I have been empowered in my teaching and learning. All in all I am a far better Physics and general science teacher for my involvement in the AMSPP project. I have a long way to go but am definitely further down that track as a result of the inspiration from AMSPP.
Our overall Learnings: Blended Model
Findings & Learnings: Platform

Activity Patterns
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A Partnership Approach: Data-Driven

Implementation

Reporting

Check-in Calls

Program Management
Leading blended learning and mentoring
Leading blended professional involves

- Developing shared purpose
- Thinking strategically & acting practically to build alignment
- Engaging the community
- Valuing staff & professional learning
- Organising infrastructure & resources
Leading Change – Guided Improvisation

Leading change is an “improvisational art”

You need an overarching plan but what you actually do from moment to moment cannot be scripted

You have to move back and forth from your plan to the reality

Discussion Q&A:

- As Table Groups we invite you to develop and propose a question about at least one of the following areas:
  - mentoring as means for teacher engagement, learning and growth
  - use of online platforms as tools for teacher professional learning
  - leading and sustaining teacher learning
Please take time to complete the feedback form
Thank you!