Teacher education, mobile learning, and the challenges of scale

Conference or Workshop Item

How to cite:


For guidance on citations see FAQs.

© 2014 The Author

Version: Version of Record

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online’s data policy on reuse of materials please consult the policies page.

oro.open.ac.uk
Teacher Education, Mobile Learning and the Challenge of Scale

1. Laying the foundations for EIA
2. EIA TPD Design Challenges
3. EIA TPD Approach & Outcomes
4. Policy Issues and Evidence
   a) CPD approaches
   b) Educational Technology investment
5. Challenges of Scale & Institutionalisation
the Open University
Founded in 1969
to create access
to higher education
for all

Now a world leader in
distance education

1.7 million total students
700 different courses
20 million OpenLearn visitors
over 27 million downloads on iTunes U
Our model enables people to learn while they remain working in their communities.
committed
to development

through research, teaching and award winning professional development programmes
developed and delivered through partnership

DEEP (2001 - 2007)

- small scale participative research and development programme in rural South African homelands, and urban slums in Cairo.
- rural schools mostly off-grid, isolated, and with little or no resources, beyond blackboard
- 1 laptop, 1 printer-scanner per school, with offline content
- teacher pairs, informal peer support meetings
- Head Teacher and Community support

Leach et al 2005
mLearning: the classroom in your pocket?

Thomas Power & Rhodri Thomas
The Open University

study 2 learning resources

- Expanding software provision
  - Providing interaction with course materials via ebooks
- Enabling multimedia resources with Flash and Audio-Visual files
- Extending educational provision
- Delivering pedagogic and subject content in environments supplied on an a-feed
- Delivering fitted classroom examples and recording via customised web pages and Pocket Media Player files
- Converting electronic documents for viewing on small screen devices
Later I found out that this is an eye opener and a mind opener.

Theme 2:
developing confidence; 'opening up'; enjoyment

interim findings

- handheld digital tools offer ‘anytime, anyplace’ professional learning and practice
- they enable a range of new learning activities in resource poor environments
- they support collaboration and professional learning
- they enable new classroom practices
- the teachers involved felt an enhanced sense of professionalism and self-esteem
final evaluation data

- 85% of the teachers would spend their own money on a handheld computer for work
- 70% of the teachers found the handheld computer as or more valuable to their practice than the laptop computer
- only 14% of teachers found laptop computers more valuable to their practice than the handheld computer

www.tessafrica.net
2005 - ongoing
Part 2: EIA TPD Design Challenges

English in Action (EIA)
**Impact:**
Increased Socio-Economic Opportunities for Bangladeshi Citizens

**Outcome:**
Increased number of people able to communicate in English; with sufficient institutional capacity to sustain increases in the future.

<table>
<thead>
<tr>
<th>Output 1</th>
<th>Output 2</th>
<th>Output 3</th>
<th>Output 4</th>
<th>Output 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary teachers and students</td>
<td>Adult learners</td>
<td>Secondary teachers and students</td>
<td>Research, monitoring &amp; evaluation</td>
<td>Institutionalisation &amp; sustainability</td>
</tr>
</tbody>
</table>

---

**EIA Schools Component: Primary & Secondary [CPD only]**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase II - Pilot (2008 - 2011)</td>
<td>600 GoB teachers</td>
<td>118k students</td>
</tr>
<tr>
<td>Phase III - Scale (2011 - 2014)</td>
<td>12.5 K Teachers</td>
<td>2M Students</td>
</tr>
<tr>
<td>Phase IV - Institutional (2014 - 2017)</td>
<td>64k Teachers</td>
<td>10.5 M students</td>
</tr>
</tbody>
</table>

**Current Funding:**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Funding</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Funding:**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Funding</td>
<td>124k Teachers</td>
<td>17.5 M students</td>
</tr>
<tr>
<td>Programme Requirements</td>
<td>Challenges</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>• Cost-Effective</td>
<td>• ELT &amp; TD expertise: urban; limited; expensive</td>
<td></td>
</tr>
<tr>
<td>• Scaleable</td>
<td>• Limited Infrastructure (travel, IT, professional development networks)</td>
<td></td>
</tr>
<tr>
<td>• Equitable &amp; Inclusive</td>
<td>• Minimise teachers’ absence for training, and time away (gender issues)</td>
<td></td>
</tr>
<tr>
<td>• Sustainable</td>
<td>• Limited success of prior large scale TD programmes</td>
<td></td>
</tr>
</tbody>
</table>

Previous approaches to ELT teacher development in Bangladesh

“…suffered from a lack of planning
....not providing supportive resources...
...lack of co-ordinated long-term focus...

In spite of a general improvement in T’s knowledge about ELT…. there is little evidence of much difference in classroom practice”

A.Rahman on BRAC-PACE (2006)
• teaching from the blackboard was predominant...
  • teachers also read from the textbook and asked closed questions...
  • monitoring and facilitating students... individually.

In 90% of lessons observed, no other classroom activities occurred.
(EIA baseline studies, 2009)

Programme Design Goals

• Minimise dependance upon national or international ELT expertise, for delivery at field level
• Maximise local peer support
• Identify appropriate ICTs:
  • minimum costs, ‘training’ and infrastructure requirements;
  • maximum utility: modelling and supporting target language and practices.
• Minimise teachers’ time away from school
• Maximise impact on teaching and learning
Part 3:
EIA TPD Approach & Outcomes

ELTONS Video
Look at the Picture.

Now read and act.

- Shop assistant: Hello.
- Selim: Hello, can I have a pencil?
- Shop assistant: Sure. Anything else?
- Selim: Yes, an eraser and a sharpener.
- Shop assistant: Here you are.
- Selim: Thanks. How much?
- Shop assistant: Ten taka please.

7 lines, 25 words, of dialogue
IMPACTS

<table>
<thead>
<tr>
<th>ATTITUDES &amp; PERCEPTIONS</th>
<th>CLASSROOM PRACTICES</th>
<th>LEARNING OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers report shift in attitudes towards communicative approaches (86% Pri T; 92% secondary Ts).</td>
<td>Increased Teachers use of English (71%-86% talk-time)</td>
<td>Independent evaluation shows improved learning outcomes for:</td>
</tr>
<tr>
<td></td>
<td>Increase Student talk (25-30% lesson time)</td>
<td>Primary Ts (69%) Secondary Ts (27%)</td>
</tr>
<tr>
<td></td>
<td>Increased Student use of English (88% Ss talk time)</td>
<td>Primary Ss (65%) Secondary Ss (82%)</td>
</tr>
</tbody>
</table>

Further Reading:
www.elabd.com > publications > research reports


TPD video
Part 4: Policy Issues?

Approaches and Evidence Base: International Development and...
- Teacher Professional Development
- Educational Technology Investment
Common forms of Teacher Development

<table>
<thead>
<tr>
<th>Long 'Out of School' Training</th>
<th>Short 'Cascade' Training</th>
<th>School-Based Teacher Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 weeks - 4 months out of school</td>
<td>1-2 days, central, divisional, local trainers, out of school</td>
<td>development activities in school, with peer support</td>
</tr>
<tr>
<td>limited evidence linking to outcomes</td>
<td>‘those at the bottom don’t get wet, or get wet with dirty water.’</td>
<td>limited evidence linking to outcomes</td>
</tr>
</tbody>
</table>

Evidence for CPD approaches?

Approaches to CPD are largely based upon beliefs (Wilson & Berne, 1999)

...our understanding about what constitutes quality professional development, what teachers learn from it, or its impact on student outcomes has not substantially increased [since Wilson and Berne 1999]. (Lawless & Pellegrino 2007, 576)
General principals for effective TD

- **Context**: Classroom / school is best context for teacher development (Leach and Moon 2008).
- **Peer learning**: Practising teachers learn best from each other, but with support from outside (Dembele 2003).

US / EU studies (e.g. CUREE 2008; Cordingley et al. 2005a, 2005b; Bolam and Weindling 2006) also show:
- **Coaching** (e.g. the stimulus of new ideas or practices).
- **Mentoring** (e.g. Providing feedback on actual practice).
- **Collaboration** (e.g. Enabling teachers to work together).

Rigorous Literature Review: …Teacher Education in Developing Countries

How can teacher education and guidance materials best support effective pedagogy?

i) Teacher **peer support**:  
ii) Alignment of professional development with teachers’ needs... and **follow-up monitoring** of teachers;

iii) **Support from head teachers**; and

iv) **Alignment of forms of assessment** with the curriculum.

Westbrook et al, 2013
Educational Technology investment in development contexts

• Majority investment in technology
• Some investment in materials and resources
• Minimal investment in teacher development

- Outcome: little improvement in teaching practices or learning outcomes
- = low cost-effectiveness

After Pimienta 2007
Cawthera, 2001

as many people have gained access to the telephone in the first five years of the 21st Century, as in the entirety of the 20th Century.

affordable mobile phones and a wireless infrastructure represent the first breakthrough in ‘appropriate’ ICT for the global majority

Power & Thomas 2007
EIA handheld technology

Phase 2
iPod Touch
~ £180

Phase 3
Nokia C1
~ £35

Phase 4
SD card
~ £3.50

EIA investment pattern: teacher development based

- relatively small per-capita investment in affordable mobile technology
- large investment in materials and resources for classroom use, and teacher development
- majority investment in 1 year teacher development programme: peer-supported, decentralised, school-based
mobile Landscape review

- Educational media for instruction should be selected based on the ability to deliver a desired educational technique to the intended location at the most appropriate moment.

- Blended learning approaches, where the device or digital content supports a teacher or facilitator in engaging learners in interactive learning, show better outcomes.

- Not enough is known, however, about which characteristics of blended learning or in which contexts blended learning models lead to more beneficial outcomes.

Raftree, L. (2013)
Critical Success Factors for EIA Teacher Development (TD),
by Difficulty of Institutionalisation (June 2013 workshop)

<table>
<thead>
<tr>
<th>Easy</th>
<th>Moderately Difficult</th>
<th>Hard to Achieve</th>
</tr>
</thead>
<tbody>
<tr>
<td>High quality materials carry key knowledge / activities</td>
<td>Quality local AV resources easily accessible</td>
<td>Regular, ongoing support to teachers (not one-off training)</td>
</tr>
<tr>
<td>Programme should fulfill intent of curriculum</td>
<td>Peer support in school</td>
<td>Classroom practice and reflection drive TD</td>
</tr>
<tr>
<td>Programme should improve teachers own EL competence</td>
<td>Supportive Head Teacher participation</td>
<td>Teacher Facilitator role (not Master Trainer)</td>
</tr>
<tr>
<td>Programme should be accessible / relevant to teachers</td>
<td>Supportive local inspection &amp; monitoring practices / personnel</td>
<td>Modelling good learning experiences in TD programme</td>
</tr>
</tbody>
</table>

I&S for TPD: timeline

<table>
<thead>
<tr>
<th>Strand</th>
<th>07.13</th>
<th>10.13</th>
<th>01.14</th>
<th>04.14</th>
<th>07.14</th>
<th>10.14</th>
<th>01.15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negotiation with Partners</td>
<td>Q3-13</td>
<td>Q4-13</td>
<td>Q1-14</td>
<td>Q2-14</td>
<td>Q3-14</td>
<td>Q4-14</td>
<td>Q1-15</td>
</tr>
<tr>
<td>System Design with Partners</td>
<td>Design institutionalised TD programme</td>
<td>Implement TPD system through partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials Development</td>
<td>Outline framework</td>
<td>Materials development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Development</td>
<td>Materials production</td>
<td>Materials distribution: TF &amp; Ed Man</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring</td>
<td>Materials distribution: Ts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TF CPD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ed Managers CDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusions

mlearning
• Powerful, affordable mobile technologies provide new pedagogic opportunities
• Offline media for mass reach and rural education, at present.
• Individual ownership of technology allows for scale and sustainability
• Potentially redefining cost structures of educational technology investment

TPD
• Key Features, EIA & Literature:
  • Classroom activity based,
  • Supported by TPD and classroom resources
  • Peer & Head Teacher supported,
  • Support & monitoring over time
• Wider systematic evidence base needed, on what works, in what contexts, and why

Wider systematic evidence base needed, on what works, in what contexts, and why

“‘You should not underestimate the power of education... It is not beyond our power to create a world in which all children have access to a good education. Those who do not believe this have small imaginations.’”

Nelson Mandela (2007)

Mobile technologies are potential game changes in ELT and TPD provision. Simple, affordable, offline solutions are currently required, for the rural majority.

But the most important thing, is to focus not on the technology, but on the process of teaching and learning, and how people can work together, to share experiences, and improve practice.
ELT Teacher Education, mobile learning & the challenge of scale?

technology

materials and resources

teacher development

experiences, issues & questions?