Mapping Educational Specialist knowHow (MESH): The Building of a Knowledge Management System for Research Informed Practice


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Abstract

In this invited article the authors present an evaluative report on the development of the MESHGuides project (http://www.meshguides.org/). MESHGuides’ objective is to provide education with an international knowledge management system. MESHGuides were conceived as research summaries for supporting teachers’ in developing evidence-based practice. Their aim is to enhance teachers’ capacity to engage actively with research in their own classrooms. The original thinking for MESH arose from the work of UK-based academics Professor Marilyn Leask and Dr Sarah Younie in response to a desire, which has recently gathered momentum in the UK, for the development of a more research-informed teaching profession and for the establishment of an on-line platform to support evidence-based practice (DfE, 2015; Leask and Younie 2001; OECD 2009). The focus of this article is on how the MESHGuides project was conceived and structured, the technical systems supporting it and the practical reality for academics and teachers of composing and using MESHGuides. The project and the guides are in the early stages of development, and discussion indicates future possibilities for more global engagement with this knowledge management system.
Keywords: Educational knowledge management system, research engagement, online publishing, evidence informed practice, professional development

Introduction:

Mapping Education Specialist knowHow (MESH) is an international project working to provide research summaries to teachers. MESH is part of a larger knowledge management strategy under the governance of Education Futures Collaboration (EFC), which is a charity and was set up by education sector organisations in the UK and internationally. The original thinking for MESH arose from the work of Leask, Jones, Procter and Younie, who have been researching the use of digital technologies to inform the teaching profession for the last 20 years. MESH addresses current concerns in the UK that teachers should engage more actively with research (BERA/RSA, 2014) and that in order to do this they should be well supported by online support materials that are evidence-based and research-informed (DfE, 2015, p. 18).

The stimulus for the growth in interest in developing a research-informed teaching profession came from an OECD report identifying a need to transform and customise learning in schools for the twenty first century (OECD/CERI, 2007); the rationale being that teaching draws on the knowledge base of its own profession in order to develop self-improving enhancement of its own practices. The OECD report set a context for educational reform that embraces the notion of teachers who engage with research in order to make the best pedagogical choices they can in the classroom. In turn this demands that educationalists across the sector seek practical ways in which research can inform teaching, and how the knowledge-base that might support this is best presented (Leask & Younie, 2013).

The rationale for MESHGuides (www.meshguides.org) is that it acts as an innovative tool for supporting knowledge-rich and evidence-informed teaching through the publication of on-line research summaries. These act as guides for teachers and other classroom practitioners seeking to support their teaching and potential classroom research. MESHGuides build on UK and
international initiatives and research on how to harness the power of digital technologies to support teaching as an evidence-based profession and to develop teachers’ research skills (OECD 2009). In a number of countries early investments by governments in web-based repositories for teacher knowledge were lost when there was a change of government (Younie and Leask, 2013). This led to the realisation that an education-sector run organisation that was independent of government was needed to allow for the building and sharing of knowledge unconstrained by changes in government. In essence, MESHGuides is currently developing readily available and free access for teachers and educators to research summaries relevant to their particular context.

The development of MESH has involved considerable work at a strategic level, at a technical level and at the practical level of writing the guides since 2011. In this article we present an overview of the MESH initiative’s progress to date. The paper starts by identifying the problems of teachers accessing research data, followed by the complexities of developing systems for supporting the teaching workforce through digital technologies; next the paper considers the technical aspects of setting up an online publishing arena, followed by consideration of the composition of MESHGuides for two different areas of teaching and learning. We conclude with reflections on the strengths of the MESH approach for knowledge mobilisation (Levin, 2013) and we consider future global directions.

1. **The management of MESHGuides’ content: editorial boards**

The MESHGuides initiative provides a global knowledge management strategy through a website ([www.meshguides.org](http://www.meshguides.org)) that can be accessed by teachers, researchers, policymakers and teacher educators. This provides online access to research summaries in education, which are free at the point of access. It uses a systems approach, designed to engage educators in building and updating the evidence base for practice. MESHGuides operate like a professional
association with volunteers taking on leading roles in developing and quality assuring research summaries in their own specialist areas.

It is designed to be managed as a professional association, managed by members, in order to ensure sustainability. MESHGuides does three things:

- connecting educators with summaries and sources of educational research
- supporting professional judgement with evidence
- providing feedback loops so practitioners can inform academics fostering partnership working

The MESHGuides website enables research to be accessible at the touch of a button, as any Internet enabled device provides access to the guides, which act like knowledge maps. This means that the widespread uptake of mobile technologies will enable practitioners as well as academic researchers to connect to a large body of knowledge, in the form of previously published research, which can support their own professional practice and foster teachers as research-informed.

MESHGuides provide a summary or overview of research, in any given topic or area, represented in the form of an online guide, which are like multimodal maps or pathways, or like a graphical flowchart; an example of a current MESHGuide currently in composition is that focused on the learning and teaching of English as an Additional Language which is explored later in this article (Figure 1).
The long term aim is to have a completed A to Z index, which covers all curriculum subjects and areas of educational interest, alongside key concepts and generic issues, such as assessment, pedagogy, Special Educational Needs (SEN), threshold concepts, barriers to learning and so on, so that the index is searchable by key term. The use of an A to Z index mirrors how the successful Map of Medicine is organised for the medical profession to access research evidence. The Map of Medicine is a freely available resource, which can be accessed to inform doctors, other healthcare professionals and patients of medical research and treatment options.

The current organisation for the production of MESHGuides is by curriculum subject, with each subject having an editorial board of expert academics and teacher practitioners who review the guides once they have been written and submitted. The guides are then subject to blind peer review and an editorial process, which provides a quality assurance process that is the same as
print publishing of educational research. Thus MESHGuides are a form of online publishing and are subject to editorial scrutiny prior to publication on the MESHGuides website.

This approach utilises advances in web 2.0 technologies, which provide opportunities for collaborative knowledge building and publishing, and which are subject to the same quality assurance processes as print publishing. Specifically, these technologies enable professionals (academic researchers and teacher collaborators) to publish swiftly and easily, which alongside the development of online networks, enable future and further peer challenge of those very publications. This online peer challenge enables an ongoing interrogation of the research that is published, in a way that makes the knowledge-base dynamic, as comment boxes on the published MESHGuides allow the reader to provide feedback. Such interaction creates a dynamic feedback loop from collaborative creation of a MESHGuide to publishing online on the MESHGuide website to teachers engaging internationally with the research, and providing feedback on that research with respect to what works (or does not work) for them in their specific context. This feedback then informs the development of further research such that the knowledge-base builds over time for the teaching profession.

These affordances of web 2.0 technologies, to publish and interact and give feedback can be done both effectively and efficiently with respect to both time and cost. This vision of creating translational research in education, which MESHGuides are developing, aims to extend and deepen teacher’s professional knowledge for practice. Currently, the MESHGuides have been accessed by 142 countries across the globe (Figure 2).
Figure 2: Image from Google Analytics demonstrating the current reach of MESHGuides

As already noted the MESHGuides are developed through subject specific editorial boards, which oversee each MESHGuide that is produced. This participatory process allows academic researchers to contribute to a range of guides within their area of expertise and to both network and interact with teacher practitioners in the same field. Thus collaboration is between researchers and teacher practitioners, who have a dynamic expertise between them, which links theory and practice and aims to end the perceived hermetically sealed circle, in which research resides behind a paywall of academic journals normally read almost solely by other academics. Such paywalls prevent teachers having their practice informed by research, unless they can access the research databases behind university libraries, which normally requires payment of course fees (Pearce et al., 2010). In contrast, the vision of the MESHGuides is to be free at point of access and provide an overview of educational research on a given topic with reference to previous published research, thereby mapping the terrain to inform teachers’ future practice and research.
The rationale for adopting a web 2.0 technology to publish the MESHGuides as research summaries for teachers is about creating easy and free access to the research. Not only is the research that is published in journals lengthy to read and expensive, there is also the issue of the time delay between the data collection and final publication date. Pearce et al (2010) identify this as the 'journals crisis' (Edwards and Shulenburger, 2003; Willinsky, 2006; Cope and Kalantzis 2009; all cited in Pearce et al., 2010) in which they refer to long time delays between submission and publication, and the increasing subscription costs which culminate in an expensive model of publication. Significantly they discuss the business model for this traditional form of publishing and identify that the journal market in 2004 was worth $65 billion US dollars and was dominated by 12 publishing corporations. Thus, when it comes to making research accessible to practitioners, the business model "restricts access to those working within the universities and research institutes that can afford to pay the subscriptions" Pearce et al., (2010, p38).

MESHGuides founder members’ philosophical approach is one of democratic open access that engenders the notion of the 'open scholar'. The open scholar "is someone who makes their intellectual projects and processes digitally visible and who invites and encourages ongoing criticism of their work and secondary uses of any or all parts of it - at any stage of its development" (Burton 2009, cited in Pearce et al., 2010, p, 41). Our shared vision is one of 'open scholars' with a moral purpose to enhance teachers' professional practice through access to the knowledge base that can lead to research-informed practice.

2. The systems and software for MESHGuides: technology development,

The MESHGuides site has been through a number of developmental iterations and is using a Drupal instance (https://www.drupal.org) on our own servers as the current platform. Drupal is a free and open source content management framework written in PHP (a server-side scripting language designed for web development). This platform provides an excellent programming interface for developers, which allows the site to be modelled to the exact needs of the project.
Drupal also has a good user management interface. This allows very fine-grained control over which roles can be set up for the various users and exactly which permissions can be set which allow users to edit and publish content on the site. This has an excellent fit with the model of editorial boards that the MESHGuides project uses and which was introduced above.

Editorial boards are open to both academics and practitioners to join as peer reviewers of guides once they have been submitted in draft. Practitioners are encouraged to review so that they can provide a practice-based perspective. Editorial boards facilitate the development of a professional dialogue between colleagues around practices within a field allowing for reflection on practices. Examples of these professional conversations can be seen further on in this article in the sections presenting early work with guides on clinical teaching and on teaching pupils with English as an additional language. Thus it is hoped that “lived examples of implementation” (Black and Wiliam, 1998, p.15) as practice can be developed and linked to the MESHGuides in composition.

Each editorial board has an editor account on the platform which allows the editorial board to edit their own MESHGuides and no others on the platform. The use of Cascading Style Sheets (CSS) to create images on the platform also allows editorial boards control over both the images to be used and the content to be displayed next to the image. Once an editorial board has finalised a MESHGuide it is passed on for final checks and proof reading before the guide can be published. At this point editorial boards may need to respond to any queries that may be raised in the final quality assurance process. Again the Drupal platform allows for all these roles to be added and the permissions to be set up for each role. This flexibility means that the publishing workflow of each MESHGuide can be replicated or changed on the platform by the site administration.

One issue of having a knowledge management project that is international is that editorial boards need to be aware of the international audiences for their work and thus editorial boards need to consider the contextual setting of their work. To this end, each editorial board has
recruited members from across the world, and where possible, aims to have academic and practitioner representatives from each of the UNESCO regions, providing a global perspective.

3. Use of Google Analytics

Google Analytics (GA) has been used extensively on the MESHGuides site (Procter and Leask, 2014) to provide data as to the number of users the site has, where these users are accessing the site from and which guides they have a particular interest in. In the year April 2014 to April 2015 the MESHGuides main site (http://www.meshguides.org), which is used to disseminate information about the project and provide an index of the available guides, had been accessed overall by 7,201 unique users who have generated 25,983 page views in 10,031 sessions (Table 1).

Table 1: Data on users of the MESHGuides website

<table>
<thead>
<tr>
<th>Title</th>
<th>Date</th>
<th>Sessions</th>
<th>Users</th>
<th>Page views</th>
</tr>
</thead>
<tbody>
<tr>
<td>MESHGuides site</td>
<td>April, 2014 to April 2015</td>
<td>10,031</td>
<td>7,201</td>
<td>25,983</td>
</tr>
</tbody>
</table>

These data are based on users accessing the MESHGuides website for the project and do not include data on the usage of individual MESHGuides, this is covered in more detail below. GA also shows that in this time users of the MESHGuides website have come from 142 different countries including users based in Sri Lanka. Table 2 below shows the top ten countries that have accessed the MESHGuides website by number of sessions.

Table 2: Top ten countries accessing the website by number of sessions
<table>
<thead>
<tr>
<th>Country</th>
<th>Sessions</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>4,803</td>
<td>47.88</td>
</tr>
<tr>
<td>USA</td>
<td>1,275</td>
<td>12.71</td>
</tr>
<tr>
<td>Australia</td>
<td>984</td>
<td>9.81</td>
</tr>
<tr>
<td>Brazil</td>
<td>303</td>
<td>3.02</td>
</tr>
<tr>
<td>Pakistan</td>
<td>291</td>
<td>2.90</td>
</tr>
<tr>
<td>Canada</td>
<td>198</td>
<td>1.97</td>
</tr>
<tr>
<td>Philippines</td>
<td>169</td>
<td>1.68</td>
</tr>
<tr>
<td>India</td>
<td>132</td>
<td>1.32</td>
</tr>
<tr>
<td>New Zealand</td>
<td>132</td>
<td>1.32</td>
</tr>
<tr>
<td>Germany</td>
<td>83</td>
<td>0.83</td>
</tr>
</tbody>
</table>

It can be seen that the UK, USA and Australia occupy the top three positions but that four of the following five positions are occupied by the countries Brazil, Pakistan, Philippines, and India. This demonstrates that the format has appeal in countries where English may not be the first language and that the approach of MESHGuides has potential international appeal. MESHGuides as a knowledge management system for teachers is keen to support users in countries where access to and resources for educational research by teachers may be very limited. Of course this does not negate technical problems with access to web based resources but this method of publishing was selected to reduce the cost to the MESHGuides’ project in disseminating material. Equally the unique approach using both images and textual content, and linking to other resources on the web, lends itself to the use of the web for this project.
This innovative methodology was developed by the MESHGuides project to disseminate research to the teaching profession internationally.

Google Analytics also provides data on the number of sessions for individual guides. Table 3 below shows the top five guides that have been accessed in the last year. This provides some insight into which areas are of most interest to users.

Table 3: The top five MESHGuides accessed 2014-15

<table>
<thead>
<tr>
<th>Title</th>
<th>Sessions</th>
<th>Users</th>
<th>Page views</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spelling</td>
<td>1,106</td>
<td>851</td>
<td>4,745</td>
</tr>
<tr>
<td>Using iPads</td>
<td>471</td>
<td>360</td>
<td>2,720</td>
</tr>
<tr>
<td>Mathematics and AfL</td>
<td>355</td>
<td>303</td>
<td>1,683</td>
</tr>
<tr>
<td>Neuromyths</td>
<td>260</td>
<td>180</td>
<td>1,484</td>
</tr>
<tr>
<td>Reluctant Writers</td>
<td>246</td>
<td>177</td>
<td>1,329</td>
</tr>
</tbody>
</table>

It can be seen in table 3 that the Spelling MESHGuide has been accessed by 851 unique users viewing 4,745 pages in 1,106 sessions. This is followed by the guide on the use of iPads in the classroom with 2,720 page views. Even MESHGuides that may have a limited appeal have generated over a thousand page views. GA allows more fine grained analysis of user's interaction with individual guides which has previously been carried out for example on the Spelling guide (Harrison, Leask, Procter and Younie, 2014). Overall these data show that international users (teacher practitioners and academic researchers) are interested in MESHGuides. The approach may be a useful way of disseminating research knowledge to an international audience and provide focus for continuing professional development (Jones, Procter and Younie, 2015, forthcoming).
The above sections have highlighted both the moral purpose of providing research summaries to teachers as part of an international knowledge management strategy and the technical thinking that has been involved in the creation of the MESHGuides website. This includes the development of a network of academic and practitioner authors and reviewers who have come together to be involved in the process of generating research summaries for the global teaching profession. The following two sections discuss the practicalities of developing MESHGuides in the areas of clinical teaching and the teaching of pupils who have English as an additional language. Each vignette highlights the practical issues that are involved in the creation of a MESHGuide. Overall it can be seen that this form of publishing research is as complex and rigorous as writing for traditional print media and that it requires the same peer-review quality assurance process.

4. An account of using MESH to develop a framework for disseminating clinical teaching approaches

Clinical Teaching - a local and global concern

The development of a MESH guide for clinical teaching has been initiated by academics involved in the pre-service Master of Teaching at The University of Melbourne, as part of a research project into the ways in which clinical approaches to teaching assist teachers to improve practice through the development of clinical professional judgement or reasoning (Kriewaldt and Turnidge 2013). Over the past decade, there has been increasing international interest in the concept of clinical teaching (Alter and Cogshall 2009). This approach, which appropriates concepts from medicine, has been used particularly with regard to the development of pre-service teacher preparation courses (Burn and Mutton 2013). While each of the programs differ, concepts such as a close partnership between the university and the site of practice (the school); sustained support on placement; and the development of professional, clinical
judgement are some of the key attributes of these initiatives (McLean Davies et al, forthcoming), which can be broadly understood in the context of a ‘practicum turn’ in teacher education (Mattson et al 2011), and the desire to improve the quality of teacher preparation and the impact of pre-service teachers on student learning (Darling-Hammond and Baratz-Snowdon 2005; Darling-Hammond 2006).

The following section will offer a brief account of the development of this MESH guide in the context of this project and the impact that, at this early stage, it has had on those working in the Master of Teaching program, particularly with regard to facilitating essential professional conversations about praxis. This will be followed by an outline of the ways in which the guide will be developed in the next stage of the clinical judgment project – through the involvement of school-based staff and teacher educators in other Australian states and overseas. By showing the ways in which the MESH Clinical Teaching guide is being created alongside the research and engagement agenda of those working in the Melbourne Graduate School, it is hoped that colleagues in Sri Lanka will see ways in which the development of guides stemming from a research and teaching agenda can be used to enhance practice locally and globally.

The Clinical Teaching Project

In 2013, a small group of staff involved in the Master of Teaching and related programs received internal funding for a project to support research into clinical teaching, and look particularly at the ways clinical judgement is developed through the clinical Master of Teaching Program at the University of Melbourne, which commenced in 2008. Those involved in the project—key program leaders and practicum coordinators across the primary and secondary streams of the Master of Teaching—constituted the project team. While some projects and scholarship had been undertaken with regard to the Master of Teaching (see Dinham 2013, Kriewaldt and Turnidge 2013, McLean Davies et al 2013, Redman 2013), this project represented a coordinated initiative to bring research associated with different aspects of the clinical program together.
The new team was divided into three sub-groups: one working on a literature review of Clinical Teaching (which is in preparation for publication); a second group developing the MESH Guide on Clinical Teaching, drawing on the existing research and scholarship undertaken by team, and key learning from 7 years of the clinical partnership with schools; and a third group responsible for collecting qualitative data from Teacher Candidates, school-based staff and other key stakeholders on their understandings of clinical judgement. While it was initially thought that the MESH guide would be key part of the project, it has become clear that it is central to our intention of undertaking translational research (McLean Davies et al forthcoming) with a high impact on the practices of teachers and teacher education, and that it serves as a space for both disseminating and generating research.

The Clinical Teaching MESHGuide: teacher educator professional learning and research

It is important to note that while groups one and two started at the same time, but were separate, they soon joined together, with the work on the literature review of clinical teaching informing the design of the MESH guide and vice-versa. Although the audience focus for MESHGuides is on their function once created and available to an international audience, we found as writers that the activity of putting together, debating and contesting a framework for the MESH guide assisted the project team to sharpen their understandings of Clinical Teaching research and praxis. This provided the opportunity for the necessary collegiate ‘nexus’ conversations that support teacher educator professional learning.

Debate and discussion over the framework for the MESH guide on Clinical Teaching took place from July – September 2014. During these fortnightly conversations, the academic team drew on the work done towards the literature review of clinical teaching, testing this against the philosophies and practices inherent in the Master of Teaching program to inform a robust
design for the MESH guide, effectively coalescing research and ‘self-study’ in a way that furthered their own professional learning (Loughran, 2014). In September - December 2014 presentations at international conferences in the UK and Australia provided opportunities to receive feedback, which will be considered in further iterations of the guide.

As we commence the next phase of the project, the MESHGuide framework will serve as a catalyst for conversations about Clinical Teaching with school-based staff and principals and early childhood centre directors. Critical conversations with these key school staff will further inform the development of the guide, and the text and resources that sit behind the categories identified. In addition to this, the current editorial team will be expanded to include colleagues from other Australian and overseas institutions--such as the University of Glasgow, where clinical approaches to teacher education are also appropriated and employed (Conroy et al 2013; Menter et al 2012). As the Clinical Teaching MESHGuide is populated, modified and developed, it is anticipated that it will become a key resource for both pre-service teachers in clinical preparation programs, and for in-service teachers and school leaders as they consider the affordances of a clinical approach to teaching for the development of teachers’ professional judgement and pupils’ learning.

5. Developing a MESHGuide for the Teaching of English as an Additional Language

This section outlines the development of a MESHGuide for the teaching of English as an additional language (EAL) (Figure 1). Like the MESHGuide for Clinical Teaching it has been constructed in response to perceived need in the teaching profession. Understanding effective pedagogy for the teaching of EAL learners (children whose first language is not English) in schools in England has become an issue of growing importance in recent years because the number of pupils in the UK school system whose home language is not English has grown significantly: from 7.6% of the school population in 1997 to 16.2% in 2013. Alongside this growth in the numbers of EAL learners is the acknowledgment that there is insufficient research from which teachers can identify effective pedagogy for teaching English to non-native
speakers (Andrews, 2009; Murphy, 2015) and that funding that was traditionally in place to support their teaching has been reduced considerably (Strand, Malmberg and Hall, 2015).

It is important to reflect on the fact that the linguistic and political context of the use of English in England is different from that in Sri Lanka. In England there is an assumption that pupils in school must speak English as a first language in order to succeed educationally, and bilingualism is uncommon among British-born native-speakers. Conversely Coperahewa (2009) explains that post-colonial Sri Lanka is a multilingual society with a plurality of major languages, where the place of English as the second language taught in schools has complex historical and political roots. The authors of MESHGuides work on the assumption that their publications will have an international reach, and that acknowledging differences in context for the teachers who may access the guides has a crucial part to play in their future success. Thus this paper focuses on early stage creation of the EAL MESHGuide with teachers in England but it is hoped that there will be an opportunity to work with colleagues in Sri Lanka to develop its use in a Sri Lankan context.

The EAL MESHGuide structure and the role of participant teacher practitioners

The aim of the EAL MESHGuide was to address the issues raised earlier; that is for teachers to access research summaries through the creation of an on-line MESHGuide for the teaching and learning of EAL that would support evidence-based practice (Levin, 2013). The composition process involved teachers informing the content from the ground up and evaluating it through small-scale action research. Interviews prior to writing the guide, at the planning stage for the action research, and at the end of the project, provided feedback to inform the drafting and subsequent re-editing of content. It is intended that the MESHGuide will potentially serve teachers effectively because it was written as a collaborative act between practising teachers, specialist teacher advisors for the teaching of EAL and an academic with a research interest in the teaching and learning of EAL. This co-construction of content and collaborative knowledge
creation is an essential feature of MESHGuide composition, which can be understood as communal constructivism (Leask and Younie, 2001). This potentially makes MESHGuides responsive to their audiences in ways that support knowledge mobilisation as a reality rather than an ambition.

The participants in the project were two specialist teacher-advisors who co-authored the guide with the academic, and a group of teachers in schools in the south of England in an area that had recently experienced a rise in the numbers of EAL learners in school. There were six teachers and a learning support assistant from four primary schools (pupils age 4 – 11) one teacher and a learning support assistant from a large secondary school (pupils age 11 – 16 years). The teachers were selected for their experience teaching children with EAL and were identified as appropriate for the project by the teacher–advisors who had worked alongside them to support their EAL learners.

A review of existing research into the teaching of EAL was undertaken by the co-authors in preparation for the research-basis supporting the MESHGuide’s content. In this way early decisions about the research informing the guide mirrored those involved in the Clinical Teaching guide. Interviews were undertaken with the participants in order to identify what teachers might find most useful in terms of the guide’s content and its structure. The results of the literature search and the outcomes of the interviews were then combined to inform the drafting of the MESHGuide.

**Interim Project Outcomes of the EAL MESHGuide**

At the point of writing this article the EAL MESHGuide is still under trial by the participants in the project, but the outcomes of the initial interviews with them, and the subsequent design of the MESHGuide are reported here. Coding of the initial interviews revealed some key themes in terms of what teachers would find potentially valuable in guidance for EAL teaching that is published in an on-line MESHGuide, and these were:
• That guidance should reflect current features of the curriculum for English (which in England means a particular focus on the teaching of phonics and grammar)
• That guidance should present teachers with research in an accessible way that is matched to practical examples
• That the guide should lead teachers to well-regarded, web-based resources which the authors endorse
• That the guide reflects the needs and curriculum content of EAL learners of different ages, of different languages, of different levels of fluency and at different stages in their education.

In reflecting on the interviews the co-authors devised a structure that took account of teachers’ requirements and which also reflected our agreed principles from research (this draft structure is presented at Figure 1). In order to make research accessible we chose to present introductory sections making clear the key findings that support classroom practice for EAL learners so that we could make links to these in the later sections, thus giving the MESHGuide some coherence in its design and in its core messages for teachers. In responding to teachers’ requests that the MESHGuide represent children learning English at different ages and stages we focussed on children’s different levels of fluency in English. In this way sections of the MESHGuide could be used to support teachers with children of any age because English fluency is the starting point for planning support rather than the nature of the curriculum which in England is specified centrally for each phase of education. Section content blends accessible summaries of research with links to practical activities, often on other websites that the co-authors endorse.

The co-authors met some challenges in creating the MESHGuide for EAL, in particular, how to make research accessible to busy teachers and how to provide information that was succinct and yet could adequately inform both classroom practice and potential classroom research. The initial pilot version of the MESHGuide therefore contains information presented in different
ways for teachers in order that we can draw on their feedback to revise and redraft towards final publication on the MESHGuide website.

Perhaps most interesting as an outcome for the authors, and an outcome shared with the authors of the Clinical Teaching MESHGuide, was the opportunity to reflect on what really matters in terms of teachers’ subject knowledge for teaching EAL learners. We look forward to dialogue with other practitioners on how a MESHGuide supports this professional analysis of what works in the classroom. Furthermore we invite academics and teachers in other countries to take part in our research which will inform the EAL MESHGuide’s future content, indicate how the guide might look different for teachers in different countries, and support teachers globally in action research to improve their practice for EAL teaching.

6. Conclusions and future plans for MESH as a global knowledge mobilisation initiative

This review of MESHGuides development to date demonstrates the potential for MESHGuides to provide a unique public space between subject experts, academics and classroom practitioners. Furthermore, to produce research summaries and resources that are based on the best evidence available from both research and from practice. Thus MESHGuides aim to reduce the distance between theory and practice in the field of education. Although examples presented above have involved teachers and academics working face-to-face, other editorial boards developing MESHGuides have an international make up and thus types of interactions around guides are carried out through online tools such as Skype and Google Hangouts. Thus teachers and academics internationally are able to contribute to guides beyond the limits of their own face-to-face networks (Procter, 2014).
For Sri Lanka, involvement in the MESHGuides knowledge management project would facilitate the vision outlined by Chinthana (2010 p. 72), in which he states that Sri Lanka can be transformed to be the 'Pearl of the Asian Silk Route once again, in modern terms... [to] develop our motherland as a ... Knowledge Hub, serving as a key link between the East and the West.' Whereby, most importantly, “the education system should not be focused on the next ten years but should be focused on the next century (Mahinda Chinthana 2010 p. 72)”.

MESHGuides have potential use as a dynamic resource for continuing professional development; allowing for inter-professional dialogue around the development of improvements in and understanding of what matters in teachers' practices. Most importantly, as the OECD (2009) highlights, the teaching profession needs to actively engage with its own knowledge base in order to create a self-improving system that knows the efficacy of its own practices; MESHGuides expedite the realisation of this vision.

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• *MESH provides a sustainable system using resources already in the education system to generate, quality assure and update evidence-based summaries written for educators. Available from* [http://www.meshguides.org/](http://www.meshguides.org/) *(accessed 21.05.15)*


