This is the accepted manuscript (post-print version) of the article. Contentwise, the accepted manuscript version is identical to the final published version, but there may be differences in typography and layout.

How to cite this publication
Please cite the final published version:


Publication metadata

**Title:** Teacher capabilities in a multicultural educational environment: An analysis of the impact of a professional development project  
**Author(s):** Karen M. Lauridsen & Ole Lauridsen  
**Journal:** International Journal for Academic Development  
**DOI/Link:** [https://doi.org/10.1080/1360144X.2017.1357557](https://doi.org/10.1080/1360144X.2017.1357557)  
**Document version:** Accepted manuscript (post-print)
Teacher capabilities in a multicultural educational environment: An analysis of the impact of a professional development project

Karen M. Lauridsen* & Ole Lauridsen

Centre for Teaching and Learning, Aarhus University, Aarhus, Denmark

*Corresponding author:
Karen M. Lauridsen
Centre for Teaching and Learning, School of Business and Social Sciences
Aarhus University
Fuglesangs alle 4, DK-8210 Aarhus V, Denmark
E-mail: kml@au.dk
Telephone: (+45) 8716 5105 (office); (+45) 2443 8938 (mobile phone)

Ole Lauridsen
Centre for Teaching and Learning, School of Business and Social Sciences
Aarhus University
Fuglesangs alle 4, DK-8210 Aarhus V, Denmark
E-mail: ol@au.dk
Telephone: (+45) 8716 4859 (office); (+45) 2145 8528 (mobile phone)
Karen M. Lauridsen is an associate professor and carries out research and development at the Centre for Teaching and Learning at Aarhus University, where she specialises in teaching and learning in international, particularly English Medium Instruction, programmes. 2012-15 she coordinated the IntlUni Erasmus Academic Network addressing the opportunities and challenges of the multilingual and multicultural learning space (www.intluni.eu).

Ole Lauridsen is an associate professor and carries out research and development at the Centre for Teaching and Learning at Aarhus University, where he specialises in mind, brain and education, and in so-called supermentoring of academic staff. He observes lecturers in the classrooms and offers individual feedback, and he coordinates the English-medium teacher training programme for the university’s assistant professors.
Teacher capabilities in a multicultural educational environment: An analysis of the impact of a professional development project

With more programmes being taught through English in non-Anglophone contexts, higher education lecturers are faced with new challenges. This article briefly presents a professional development initiative carried out at departmental level as an intervention for all English Medium Instruction lecturers. In order to assess the effect of such an intervention, a mix of different data sets are used, moving from self-assessment by participants to observations of individual teaching practices in the classrooms. It is shown how corroboration of surveys and observation reports in an explicit feedback template can be used to evidence the value of the intervention in context.

Keywords: internationalisation of higher education; English Medium Instruction; professional development; demonstrating impact; evidencing value

Introduction

Globalisation and the internationalisation of higher education (de Wit et al., 2015) have meant that an increasing number of higher education programmes and modules are taught through English in the non-Anglophone parts of the world (Dearden, 2014; Wächter & Maiworm, 2014). This development in English Medium Instruction (EMI) programmes has led more lecturers to teach and more students to learn through a language other than their own first language. This applies not only to those lecturers and students who are mobile and are working or studying outside their countries or regions of origin; it also applies to the non-mobile (local) lecturers and students who teach and learn together with the mobile students and staff (Internationalisation at Home, cf.
Beelen & Jones, 2015). As a result, we have multilingual and multicultural learning spaces where lecturers and students have different first languages and ethnic cultures, and where the educational backgrounds – the teaching and learning processes and practices that lecturers and students are familiar with – are also quite diverse (Lauridsen & Lillemose, 2015). At one and the same time, this linguistic, cultural and educational diversity may be considered an opportunity as well as a challenge for students and academic staff (Airey, 2011; Carroll, 2015; Dimová & Kling, 2015; Jensen & Thøgersen, 2011; Kling, 2015; Lauridsen & Cozart, 2015; Tange, 2010).

One of the ways to meet these challenges, and reap the benefits of these opportunities, is for the lecturers to be well prepared for teaching in the international classroom and to develop their teaching skills as a result of appropriate professional development (Lauridsen, K.M., 2017; Lauridsen & Lillemose, 2015). Such development programmes are obviously not offered everywhere, but where they do exist, they may be offered as optional training courses or workshops, or they may be mandatory – at least for young faculty members applying for fully tenured positions; in other institutional or national (regional) settings they may not be offered at all (Fink, 2013). While this is the current situation for general higher education teacher training and professional development, professional development initiatives addressing teaching in the multilingual and multicultural learning space is even scarcer (Lauridsen, K.M., 2017).

This article is about a professional development programme addressing the challenges – and opportunities – in specific EMI programmes in a Danish university department. It was established as an intervention in response to serious concerns about the national accreditation of one of the department’s EMI programmes, partly because students had evaluated the lecturers’ English proficiency negatively. Based on existing
knowledge and experience in the field of EMI, we – the academic developers who were given the task of developing and managing the intervention – were convinced that this was not only a question of language proficiency, but would have intercultural communication and general didactic dimensions as well (Lauridsen & Cozart, 2015; Lauridsen & Lillemose, 2015). This is reflected in the way we designed the intervention described below.

Due to the detrimental effects that doubts about the quality and accreditation of programmes would have for the department and the university, the school and department management teams agreed to make the programme mandatory for all EMI lecturers in the department – young researchers as well as more seasoned lecturers. Moreover, it was required that the impact of the intervention could somehow be measured and demonstrated. The intervention involved three cohorts of lecturers in 2014-2015. 34 EMI lecturers enrolled in the programme in the course of the two years; 24 of them completed the whole programme, while the remaining 10 left the department without having completed the programme (due to promotion, transfer to another department, or retirement). The programme in question has subsequently been fully accredited.

The purpose of this article is, first, to briefly present the intervention as a professional development programme specifically targeted at EMI lecturers and, second, to use this programme as a case of systematic professional development at programme level to gauge to which extent it is possible to demonstrate the impact of such an initiative. A more thorough description of the intervention may be found in Lauridsen & Lauridsen (2017). Before moving on to the description of the programme, the challenges of demonstrating impact or effect of professional development programmes will be addressed.
Demonstrating impact of professional development

Assessing the outcomes of a professional development programme is not a straightforward matter. While the improvement or the quality of the students’ learning may be an ideal aim of such programmes, it seems to be generally accepted that it is not feasible to establish a direct causal relation between a professional development programme, or pedagogical training of lecturers, and the students’ learning. More often than not, educational development centres or individual trainers therefore limit themselves to measuring participant satisfaction (output rather than outcome) or to relying on participants’ self-assessment but, as pointed out by Pleschová & Simon (2013) reviewing previous research in the introduction to their book (Simon & Pleschová, 2013), self-assessment alone does not suffice, and other methods of assessing the impact or evidencing the value of interventions are needed (Bamber & Stefani, 2016; Chalmers & Gardiner, 2015; Spowart et al., 2016).

Given that reliable quantitative data measuring impact are hard to come by, and at the same time acknowledging the need to demonstrate a positive outcome of educational development, Bamber & Stefani (2016) suggest the corroboration of mixed data sets within a context-sensitive framework to evidence the value of such an initiative and, based on previous research and concrete examples, they claim that corroborating such data sets in a systematic way will allow educational developers to do that. In the same vein, Pleschová & Simon (2013) state that ‘[m]ost publications that measure factors beyond teachers’ self-assessment suggest that instructional development programmes yield positive effects’; similar conclusions are found in Roxå & Mårtensson (2013). So, while it is difficult to measure immediate direct impact from educational development interventions, indirect impact or outcomes may be evidenced
by corroborating different data sets (Bamber and Stefani, 2016). Below we will follow Bamber & Stefani’s recommendations to evidence the value of our intervention.

Assessing effect or outcomes of professional development interventions may be carried out at different levels:

(1) *Participants’ immediate reaction to or evaluation of the professional development programme* (Bamber & Stefani, 2016; Guskey, 2000; Stes & van Petegem, 2013). This level focuses on the extent to which participants’ immediate reaction provides evidence for the intended outcome of a programme; while this does not in itself suffice to demonstrate an effect, it may provide an indication of the participants attitude to the programme content and their willingness to continue working with it, that is, also taking it to the next levels.

(2) *Increase in participants’ knowledge and skills leading to conceptual change* (Bamber & Stefani, 2016; Guskey, 2000; Roxå & Mårtensson, 2013; Stes & van Petegem, 2013). This is the self-assessment level where participants claim to have – or not to have – absorbed new information (learned new content and skills) and developed a raised awareness of the issues at hand, but they have not yet applied it in their own teaching practice. Based on previous research, Roxå & Mårtensson establish that ‘[t]eacher training has a positive effect on academic teachers’ way of thinking about their practice and on the teaching practice itself’ (2013, p. 213).

(3) *Participants’ behavioural change* (Guskey, 2000). This is the level where it is possible to demonstrate that participants have applied their new knowledge and skills in their own professional practice. It may, however, not have been propagated into their local professional context (Roxå & Mårtensson, 2013) and, as pointed out by Stes & van Petegem (2013), more research is still needed on this level.
(4) *Organisational change and support* (Guskey, 2000). While the first three levels focus on the effect on the individual lecturers and their teaching practice, this level addresses what Roxå & Mårtensson (2013) term the meso level and seeks to establish to which extent changes in teaching practice (level 3) have been adopted in the local context, for instance by the other lecturers teaching in the same programme or same department and thereby also creating a sustainable development of new practices. Such propagation into the local professional context requires not only institutional support in the form of professional development programmes, but also a willingness from the leadership level down through the organization to promote and support such developments and ensure the necessary institutional capabilities (Gregersen-Hermans, 2016).

(5) *Changes in student learning* (Guskey, 2000). As already indicated above, it is not a straightforward matter to demonstrate a direct causal relation between the lecturers’ professional development and their students’ learning. While it may be feasible to establish at least parts of such a link, it falls outside the scope of this paper to attempt to go further into details with this level of assessment.

In our efforts to gauge the effect of the intervention described below, we have in fact followed Bamber & Stefani’s recommendations before they came to our attention and corroborated a mix of data sets in a structured fashion: We have the participants’ immediate reaction to the intervention in the evaluation forms (level 1); we are able to demonstrate an increase in most participants’ knowledge and skills leading to conceptual change in the seminar and workshop discussions and in the survey (level 2); we have evidence of participants’ behavioural change in developments from the first to the second classroom observation (*supermentoring*) and in the survey (level 3); and we have organizational support in the whole context of the intervention (level 4). We, the
educational developers, assess the corroborated outcomes, using what Bamber & Stefani (2016) term our experience or practice wisdom. The different elements in the intervention are briefly outlined in the section below.

**The intervention (professional development programme)**

As already indicated in the introductory section above, this intervention was established in response to concerns about the quality and accreditation of a specific programme of study taught through English in a non-Anglophone context (English Medium Instruction).

The programme had the following components: Supermentoring I followed by a seminar at the end of the first semester; supermentoring II in the course of and a half-day workshop at the end of the second semester.

Supermentoring is an observation of the individual lecturers in the classroom (2 x 45 minutes for each observation) followed by written formative feedback according to a specific template. The template comprised two sections. First, the lecturer’s oral and written English proficiency under the following headings: pronunciation, word stress, prosody, pace, grammar, and spelling; second, the lecturer’s teaching through English, including interaction, vocabulary (avoiding complicated metaphors, colloquial phrases, etc.), paraphrasing, signposting, and visual aids (cf. under Results below; Lauridsen, O., 2013; Lauridsen, O., 2014; Lauridsen & Cozart, 2015; Lauridsen & Lauridsen, 2017).

At the end of the first semester there was a two-day seminar (retreat) for all lecturers in the cohort. Based on the first observations of the first cohort, the intended learning outcomes for the seminar were developed: At the end of the seminar, participants should be able (i) to account for the basic concepts of active learning in an EMI context, (ii) to relate them to their own teaching practice, and (iii) to apply them in
the planning and teaching of their own courses. The topics of the seminars included student-centred active learning as well as linguistic and cultural issues in the international classroom; for each cohort, the concrete focus of the topics was determined by the overarching aim of the programme compared with the observations made in the classrooms, that is, by the development needs identified among the participants. There was no significant change in the seminar content from one cohort to the other, however. At the end of the seminar, participants were requested to outline their individual professional development goals in view of the individual observation feedback they had received and what they had learned at the seminar. In the second semester, all participants were observed again during supermentoring II and developments were noted in the second version of the feedback report.

Rather than exclusively assessing the individual lecturers’ proficiency in English (the original cause for concern), this approach allowed us to also assess the participants’ teaching through English, that is, how they took the students’ learning through English as well as the diversity of the multicultural learning space (Lauridsen & Lillemose, 2015) into consideration in their teaching practice. As it turned out, less than a handful of the lecturers actually needed language training, and the question is whether the students who had originally complained, actually misinterpreted the lecturers’ communicative-didactic skills, or lack thereof, as lack of formal language skills. This kind of misinterpretation has been seen in other contexts as well (Studer, 2015).

Almost all of the participants benefitted from the components of the programme that ended up addressing general higher education didactics, including student-centred active learning, group dynamics, intercultural communication, and more (Lauridsen & Lauridsen, 2017).
Methods of assessment

As already mentioned above, the different components of the professional development programme allow us to assess the outcomes of the intervention on several levels and to draw conclusions based on this mix of data sets:

1. Participants’ immediate reaction the programme
2. Increase in participants knowledge and skills leading to conceptual change
3. Participants’ behavioural change
4. Organisational change and support

The outcomes at four levels will be outlined and discussed in the next section based on an evaluation form filled in by all participants at the end of the last workshop (n=24), the written feedback forms from observations I and II (n=24 x 2), and an electronic survey with quantitative as well as qualitative data (text comments), conducted among all participants after the completion of the programme for the third and last cohort (23/24 responses; December 2015). In order to make the feedback as objective as at all possible, both educational developers observed all participants once: When educational developer I had carried out the first observation, educational developer II carried out the second observation and vice versa.

Corroborating the self-assessment data in the electronic survey with the observed changes noted in the observation feedback forms filled in by the educational developers allows us to draw conclusions not only about conceptual changes (level 2), but actual behavioural changes (level 3) as well. Organisational change and support (level 4) becomes evident, at least to a certain extent, in the survey responses and in the context of the whole intervention. Thus corroborating the various levels of outcomes will allow us to draw conclusions about the general outcomes or effect of the intervention in its specific context (Bamber & Stefani, 2016).
Results

In the following the results will be presented for the four levels of evidencing value mentioned above.

(1) Participants’ immediate reaction to or evaluation of the professional development programme

On the first level, participants’ immediate response (satisfaction) was surveyed at the end of the final workshop for all three cohorts (n=24); participants were asked to indicate how useful they found the individual components of the whole intervention on a 4-point Likert scale:

<table>
<thead>
<tr>
<th>Component</th>
<th>Very useful</th>
<th>Useful</th>
<th>Less useful</th>
<th>Not useful</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision and written feedback I</td>
<td>18</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seminar programme</td>
<td>13</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English course</td>
<td>1</td>
<td>3</td>
<td></td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Supervision and written feedback II</td>
<td>16</td>
<td>7</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Workshop</td>
<td>3</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Participant evaluation form

As it can be seen in table 1, with one single exception, all participants evaluated all the components of the intervention as very useful or useful. It is noteworthy that the supermentoring, individual supervision in class with written feedback, seems to be the component that participants appreciated the most even though many of them were very
sceptical about this particular part of the intervention and dreaded that the written feedback would be used by the management if/when one or more of the participants would have had to be made redundant due to severe budget cuts more or less coinciding with this intervention (personal communication). We would consider this positive result an indication that the participants found the intervention as a whole meaningful in their specific context. This is corroborated by the responses on the next two levels.

(2) Increase in participants’ knowledge and skills leading to conceptual change

Two questions in the electronic survey allow us to draw conclusions at this level. Participants were asked whether the project had meant that they had become more aware of the quality of their English:

- Yes, to a large extent 35%
- Yes, to a certain extent 52%
- No 13%

As it appears in the figures above, the participants' awareness of English language issues was raised significantly; this is all the more gratifying as the supermentoring reports (written feedback) show that half of the participants (50%) did not have any or only minor, insignificant language issues (one participant was a native speaker of English).

The second level 2 question asked participants whether the project had meant that they had become more aware of pedagogical or didactic issues:

- Yes, to a large extent 48%
- Yes, to a certain extent 43%
- No 9%

The responses here clearly show that the pedagogical or didactic factors in EMI was an area that needed and also caught participants’ attention; this is corroborated in the
supermentoring reports where these issues ended up being more prominent than
originally anticipated, and therefore also in the content covered in the two-day seminars
between the first and the second supermentoring sessions.

Overall, the responses in the survey show that the intervention had a significant
effect on participants’ knowledge and awareness of linguistic as well as pedagogical or
didactic issues in the EMI classroom.

(3) Participants’ behavioural change

Behavioural change is noticed in the supermentoring reports as well as the survey,
demonstrating that the raised awareness (level 2) has in fact been used and applied in
the participants’ teaching practice. Electronic language resources were made available
from the beginning on the learning management platform to which all participants had
access. In the online survey (n=23), 21 participants had elaborated on how they had
worked with their (oral) English proficiency (more boxes could be ticked): vocabulary
(43 %), grammar (10 %), pronunciation of specific sounds in English (24 %),
pronunciation of specific words (33 %), intonation (29 %) and pace (43 %). This is
considered a significant effect, not least because 50 % of the participants were assessed
as having no or only minor, insignificant language issues in the supermentoring reports
(n=24); 21 % had a few issues that were not consistent throughout their performance; 17
% had some language issues, but demonstrated considerable improvement from the first
to the second supermentoring session; 12 % had issues, but did not show any noticeable
development in their English proficiency.

When it comes to teaching though English, the following topics were originally
included in the grid used to structure the reports from the supermentoring sessions:
interaction with and among the students in class, clear and unambiguous expression of
content, vocabulary (avoiding metaphors, fixed expressions and colloquialisms that will typically create problems for students learning through a foreign language), paraphrasing, linguistic signpostng (extended and targeted use of anaphoric and cataphoric references), and visual aids; these topics were derived from relevant literature in the field of EMI (for some the most recent literature on this, see Carroll, 2015; Dimová & Kling, 2015; Lauridsen & Cozart, 2015; Valcke & Panón, 2015).

While it turned out that clear and unambiguous expression of content, vocabulary, and the use of paraphrasing to support the students’ learning were not issues that called for much further attention, it became evident that too much communication was one-way and more interaction was needed to support the students’ learning in class, and that most of the participants needed to pay more attention to signposting and visual aids in order to scaffold the students’ learning. As a matter of fact, this part of the written feedback offered in the supermentoring reports as well as the topics of the two-day seminars ended up being much more about general higher education didactics and didactic choices than originally anticipated; this as opposed to issues particular to an EMI setting.

In the online survey, most of the participants indicate that they have made changes in their didactic choices as a result of the intervention (n=23):

- Yes, to a large extent 39 %
- Yes, to a certain extent 48 %
- No 13 %

When asked to elaborate on this answer, 20/23 tick one or more of the following boxes, where the topics are a reflection of the advice offered in the reports and at the seminar:

- Activation of the students in a Think-Pair-Share or other interaction activities in class – 60 %
Exploiting the students’ linguistic and cultural differences (diversity) in group work – 10 %

The options are related to interaction with and among students in class. When it comes to signposting, the supermentoring reports show that there is room for improvement though most of the participants did work on it; in the course of the intervention we repeatedly stressed the importance of signposting, including also clear indication of programme and learning goals for each classroom session, of having visual aids like PowerPoint, etc. and of using the blackboard / whiteboard to write key concepts, ideas, etc. Thus the two following options in the survey:

- Written indication of the programme for each individual teaching session – 25 %
- Written indication of clear learning goals for each individual teaching session – 60 %

Other topics were

- Keeping time so that students have sufficient time for breaks – 30 %
- (Short) breaks or time outs in class – 80 %
- Communicating exclusively in English in the physical learning space and online (in order not to exclude students who did not have Danish) – 35 %

When corroborating the comments in the supermentoring reports and the survey results outlined above, it becomes clear that while most of the participants have worked on their teaching practice, they have not used their raised awareness of pedagogical and didactic issues and the need to scaffold the students’ learning to quite the same extent as it was the case with their own language proficiency. Moreover, the reports reveal there were considerable diversity among the group of lecturers. As the responses in the online survey are anonymous, no direct link can be made for each participant between the supermentoring reports and the responses in the survey.


(4) Organisational change and support

The organisational change and support was not surveyed in relation to this intervention. The only indication available is the fact that the department management decided to involve all EMI teachers in the intervention rather than limiting it to the ones teaching modules in the programme that created the burning platform for the initiative. In conversation with the participants we have learned that some of the lecturers participated in professional development within the area of higher education teaching for the first time ever as they are too old to have been invited to what is now the mandatory teacher training programme for young researchers. Therefore, this intervention has allowed all of them to share a language about and discuss their teaching in a way that has not been possible before, thereby also to move towards a community of practice (Arthur, 2016; Steinert, 2010). This diversity among participants also explains the great diversity among them and the need to focus also on basic didactic issues in higher education.

Discussion

As indicated in the introduction, the initiative analysed above was not originally designed as a research project. Rather, it was an intervention established to ascertain the English proficiency of EMI lecturers in a given department and the extent to which these lecturers took into consideration the fact that students were learning through a foreign language when enrolled in an EMI programme. Subsequently, this intervention developed into a professional development programme with a wider scope, which has had some unavoidable implications for the results we were able to present above.
As the point of departure was the department’s concern about the lecturers’ English language proficiency and, added by the educational developers, their ability to teach through English and scaffold the students’ learning in an EMI context, these are the topics included in the original template for the supermentoring sessions. The lecturers’ language proficiency in itself does not ensure that they are able to teach through English to a student cohort learning through what also for them is a foreign language. However, during the first round of supermentoring, it became clear that there were also issues of a more general nature in higher education didactics that needed attention. Therefore, the interaction between lecturers and students and among students – in other words, a more student-centered and active learning approach (Biggs & Tang, 2011) were added to the original template of the supermentoring reports. Moreover, it was included in the seminar programmes and addressed in the final survey. There is therefore a slight lack of consistency between the topics covered in the original supermentoring template and the topics covered in the seminars and final survey.

Secondly, and as a consequence of this extension of the focus, there is an implicit standard that was not explicitly stated at the beginning of the intervention, that is, the concepts of student engagement and active learning in and between classes. This standard reflects the content and norms of the – nowadays – mandatory teacher training programme for assistant professors (cf. Aarhus University, no date; Biggs & Tang, 2011), but turned out not to be well-known to all participants in the intervention.

Thirdly, the context of the intervention only allowed us to establish a final survey to which participants responded anonymously, and we are therefore not able to draw any conclusions on an individual level between the different data sets discussed above. Still, as explained in the presentation of the results, it is obvious that most of the participants have worked on developing their teaching and, as pointed out by Roxå &
Mårtensson (2013), the full effects of such an intervention ‘might not show until a period of practice has passed’ (2013, p. 214).

Finally there is the role of the educational developer. There is no denying that we, the educational developers responsible for this intervention, have had multiple roles at one and the same time. We have designed the intervention, carried out the supermentoring, taught and facilitated the seminars and workshops, and conducted the final survey. Therefore, in essence, we are also assessing our own work when we assess the outcomes of the intervention as a whole. However, while it needs to be kept in mind when one assesses the outcomes, it is also unavoidable and, as far as we can see, it has not negatively impacted the intervention.

Conclusion

In this article we have outlined and discussed an intervention that was established for all EMI lecturers in a given department. Corroborating data from a short questionnaire given to all participants at the end of the final workshops, two supermentoring reports per participant, and a final online survey conducted after the end of the whole intervention for all three cohorts, allows us to demonstrate the outcomes of the whole initiative. We have a case of systematic professional development at programme level, and the available data sets allow us to draw significant conclusions.

One of the main purposes of the article was to gauge to which extent it is possible to demonstrate the impact of such an initiative. Using the terminology introduced by Bamber and Stefani (2016), we are in fact able to evidence the value of the intervention. Participants are now able to, and most of them do in fact, teach in such a way that they facilitate the students’ learning in an EMI context to a much higher degree than it was previously the case. The more long-term effects – positive or
negative – would require a longitudinal study that has not been an option in this particular context. The same applies to a more elaborate research design as that suggested by Chalmers & Gardiner (2015) in their Academic Professional Development Effectiveness Framework. Using that framework requires that demonstrating the effect is part of the original design of the intervention. Unfortunately, that was not the case in the initiative described in this article.

References


