

Strengthening the teaching self-efficacy of early career academics

Brian Colin Hemmings

Charles Sturt University

This article reports on a qualitative study exploring teaching self-efficacy (defined as a belief in capability to execute teaching-related tasks) in a higher education context. It is based on the views of 12 early career academics (ECAs) employed at Charles Sturt University who were interviewed to learn more about how their teaching self-efficacy was developed and what strengthened, or impeded, this development. The interview data were examined using a thematic analysis and four themes emerged from that analysis. The themes were labelled experience, feedback and self-reflection, support from colleagues, and professional learning and are discussed in detail. The discussion is underpinned by social cognition theory and underscores how self-efficacy interacts with other personal, behaviour, and environmental factors. The article concludes by considering the implications of the results for those designing professional learning activities for ECAs, and suggesting possible avenues for future related research.

Introduction and purpose

The notion of lecturer self-efficacy, referred to by Major and Dolly (2003, p. 91) as encapsulating “the way that faculty members see themselves as teachers, researchers, and academic citizens as well as their beliefs about whether they can successfully complete tasks in each of these areas”, has been given renewed emphasis in the literature pertaining to higher education. Studies conducted in Australia, the USA, the UK, and Malaysia (Hemmings, Kay, Sharp, & Taylor, 2012; Pasupathy & Siwatu, 2014; Wright & Holttum, 2012; Velu & Nordin, 2011) attest to this re-emergence. According to Hemmings and Kay (2009), lecturer self-efficacy comprises three broad dimensions, namely, teaching, research, and service self-efficacy, and each dimension is represented by a cluster of related work tasks. Most of the attention given to lecturer self-efficacy has fallen on research self-efficacy and how it can be strengthened for higher degree by research students (Lambie, Hayes, Griffith, Limberg, & Mullen, 2013) and university lecturers (Zhao, McCormick, & Hoekman, 2008). The driving force behind this work is whether strengthening research self-efficacy will lead to improved research outcomes such as increased publications.

What is known about teaching self-efficacy of lecturers is somewhat limited, as evidenced by Fives and Looney’s (2008) claim that “very few studies have investigated the influence of teacher-efficacy in the population of college-level instructors” (p. 182). The research that has been carried out has tended to focus on the relationship between and among teaching, research, and service self-efficacy and these relationships have been examined using quantitative methods (Hemmings et al., 2012; Sharp, Hemmings, Kay, & Callinan, 2013). The influence of gender and academic rank on these relationships (Hemmings & Kay, 2009; Schoen & Winocur, 1988) has also been investigated quantitatively. The study reported here makes a contribution to knowledge by filling an apparent gap in the

literature. It does this by drawing on a qualitative approach and looking at teaching self-efficacy (defined as a belief in capability to execute teaching-related tasks) from the viewpoint of early career academics (ECAs). In particular, the study considers how those new to the academy strengthen their self-efficacy for teaching. The study also has a practical orientation in that it focuses on the lessons learnt from the research, and how these lessons could be incorporated into professional learning programs designed especially for those new to academe.

Literature review

This review examines two bodies of literature: research relating to teacher self-efficacy; and, studies pertaining to ECAs.

Teacher self-efficacy

There is consistent evidence that university lecturers are more confident (and therefore more efficacious) in performing teaching-related tasks compared with research and service tasks. Studies dating back some decades (see, for example, Schoen & Winocur, 1988) and those conducted much more recently (see, for example, Sharp et al., 2013) indicate that university lecturers report relatively high levels of confidence when engaging in teaching activities such as preparing teaching materials, presenting lectures, leading tutorials, and marking assigned work. The prevailing view is that these higher levels of confidence, when compared with those confidence levels reported about research and service tasks, are the result of practice effects and mastery learning (Bailey, 1999). Landino and Owen (1988) add that those lecturers with low levels of teaching self-efficacy are “probably selected out of the population” (p. 10).

Apart from these investigations, the literature concentrating on the notion of teaching self-efficacy in higher education is relatively sparse. This is not the case when teaching self-efficacy is considered at the primary (elementary) and secondary school level. Here there is a plethora of research that has been conducted. For example, Soodak and Podell (1997) found that neophyte school teachers become more efficacious in relation to their teaching duties as they gain classroom experience. Interestingly, these teachers report higher levels of teaching self-efficacy when in training and these levels do not normally rise to the same heights when practising as full-time teachers. Furthermore, they reported that elementary school teachers, when compared to secondary school teachers, were more efficacious. However, whether this is a result of a school effect or is aligned with the teachers’ initial preference for a particular school setting is still to be determined.

Teacher self-efficacy has also been shown to relate to a number of school-based factors, including positive teacher behaviour (Woodcock, 2011), increased student attainment (Cakiroglu, Cakiroglu, & Boone, 2005), and improved teacher motivation and effectiveness (Klassen & Tze, 2014; Stripling, Ricketts, Roberts, & Harlin, 2008). It could be argued that teacher self-efficacy might be an instrumental factor in the success or failure of a school teacher and whether or not a school teacher remains in the teaching profession.

ECAs

In the current Australian study, ECAs are defined as those “in the first five years of employment in academic posts” (Hopwood & Sutherland, 2009, p. 215). This definition differs from one commonly used in North America where ECAs are seen as starting their career during the final years of graduate study and only moving through the early career stage once they have obtained a permanent academic position (Foote, 2010). For some lecturers this could take up to 10 years.

According to Bellas and Toutkoushian (1999), teaching, research, and service “tend to be mutually exclusive activities and compete for faculty members’ time and attention” (p. 379). For ECAs, balancing these activities is often reported to be one of the most difficult tasks, especially when teaching workloads are typically high (Lucas & Turner, 2007; Mann, Moyle, Reupert, Wilkinson, & Woolley, 2007) and preparation to execute these tasks is limited (Major & Dolly, 2003; Murray, 2008). Making the balancing act even more problematic is that ECAs have not adjusted often to the competing demands of work and home (Sutherland & Petersen, 2009). Given these pressures, it is not surprising that the early career stage for academics is sometimes referred to as the ‘sink or swim’ period and is viewed by some writers as a rite of passage (Foote, 2010). For those entering the academy as a ‘second career’ professional, that is, ECAs with recent background as a practitioner, the early career stage is arguably more troublesome compared with ECAs who have a recent full-time graduate studies experience (Hemmings, 2012).

There is some evidence that the ECAs who are successful (i.e., gain tenure and are later promoted) tend to have accessed the following forms of support. First, they avoid isolating circumstances and gain emotional support through positive social interactions (Sutherland & Petersen, 2009). Second, they use the informational support provided by a mentor (Norrell & Ingoldsby, 1991). And third, they marshal resources (e.g., funds and equipment) to assist their endeavours (LaRocca & Bruns, 2006). In addition to these supports, successful ECAs are more likely to have the confidence to seek support and ask for help when needed (Schoen & Winocur, 1988).

Theoretical framework

The current study is underpinned by social cognition theory. According to Bandura (2001), this theory focuses on the interactions among personal factors, behaviours, and the environment and stresses that individuals are “self-organizing, proactive, self-regulating, and self-reflecting” (Skaalvik & Skaalvik, 2007, p. 611). A key feature of the theory is self-efficacy; a latent trait that cannot be measured directly but which has had a profound influence on the study of human action (Bailey, 1999). As hinted in earlier sections of the article, self-efficacy can be defined as a belief in capability to execute tasks.

Sources of self-efficacy come from enactive mastery, vicarious experience, verbal persuasion from others, and emotional arousal (Bandura, 1982). The mastery of a specific task builds self-efficacy and failure to complete a task brings about a weakening in self-

efficacy. Mastery learning is seen as the most potent source of self-efficacy (Zimmerman, 2000). Vicarious experience or modelled performance is another factor known to influence self-efficacy (Gist, 1987). For example, observing a person being rewarded for accomplishing a task could influence the self-efficacy of the observer. Positive verbal persuasion can also encourage an individual to attempt and complete a task and therefore affect self-efficacy. This occurs if the person offering the advice is viewed as an expert on that task (Bandura, 1982). The fourth and final source of self-efficacy is emotional (or physiological) arousal. How an individual interprets his or her physiological signs influences self-efficacy (Bandura, 1997). To exemplify, an individual could interpret a stomach ache as a stress reaction and therefore avoid finishing a task. Such an interpretation could undermine self-efficacy.

Experience appears to be the common source of self-efficacy in relation to teaching, especially early experiences accrued while performing teaching tasks (Major & Dolly, 2003). As concluded by Woolfolk Hoy (2004), if feedback gained from these experiences, mostly drawn from student evaluations, is positive then neophyte teachers (including lecturers) are better able to manage and cope with setbacks during the early career stage. Teaching in a higher education context, compared with the elementary and high school level, can lead to different experiences because of greater lecturer autonomy and more isolating conditions (Fives & Looney, 2008) thus affecting self-efficacy levels. However, lecturers in this setting typically repeat teaching tasks such as the delivery of a tutorial or providing advice during a student consultation session. Such repetition can arguably result in the mastery of tasks and therefore a strengthening of self-efficacy.

Guided by social cognition theory and the conception of self-efficacy, the study described below considers how those new to academe can strengthen (or weaken) their self-efficacy for teaching. This study is timely as no recent research has looked at this topic from an early career perspective and used a qualitative approach drawing on the responses of a sample of Australian university lecturers.

Method

Participants

I created a list of potential participants by asking, via an email, Heads of School at Charles Sturt University to supply the names of their ECAs (*viz.*, full-time lecturers who had been employed up to five years in an academic post). This request generated 83 names. Since I wanted representation from all four Faculties of the University, the initial list was broken down to show these groups as well as a split by gender. Following this step, I used random sampling to select 12 ECAs. I then invited these ECAs, through an email request, to participate in the study. I supplied an information statement to assist them in their decision. After receiving two declines as a consequence of impending maternity leave and sabbatical leave, I contacted replacement ECAs by extending the sampling procedure. A second round of invitations resulted in a final sample of 12 participants (six males and six females). These ECAs were aged between 24 and 61 years and were drawn from a diverse range of disciplines, including histology, geographical information systems, law, and early

childhood studies. Additional information about the participants (e.g., teacher training in background or number of years as a full-time academic) are presented in Table 1. All participants were given a pseudonym so as to maintain their anonymity. The procedures that were adopted with respect to recruitment and reporting, as well as other parts of the study, were approved by the University's Human Ethics Committee.

Table 1: Details of participants

Pseudonym	Gender	Years served as a full time academic	Teacher training
Jeremy	Male	1.5	Yes
Nina	Female	5.0	Yes
Craig	Male	0.5	No
Derek	Male	1.5	No
Jules	Male	0.5	No
Astrid	Female	0.5	No
Katrina	Female	1.5	No
Lana	Female	1.5	No
Malcolm	Male	0.5	No
Anton	Male	1.0	No
Rosie	Female	3.5	No
Hilary	Female	3.5	Yes

Procedure

I interviewed each ECA for approximately 45 minutes. Semi-structured interviews were used to elicit responses to a series of key questions and were expanded when appropriate. Some of key questions were:

- What kind of teaching training have you undertaken?
- Are there specific teaching activities that you feel very confident in performing?
- Are there certain teaching activities that you do not feel very confident in performing?
- Is there an activity in which you need to build your confidence in terms of teaching?

I audio-recorded all of the interviews and these were later transcribed. I subjected the transcribed data to a thematic analysis that followed a six-part process as outlined by Braun and Clarke (2006). This process, among other things, involved data familiarisation, coding, and the labelling of themes. According to Braun and Clarke (2006, p. 82), a theme "represents some level of patterned response or meaning within the data set".

Results

Four themes emerged from the analysis and these were labelled in the following way: experience, feedback and self-reflection, support from colleagues, and professional learning.

Experience

Nearly all of the participants recounted how their previous experiences gave them the confidence to teach in a university context. Most of them commented that their expertise generated this confidence. This particular point is illustrated in the following excerpts:

- My expertise has developed by working as a science demonstrator and it that role I built up my confidence. (Katrina)
- Laboratory work is the thing I am most comfortable with. I have spent a lot of time in labs so I know I can do things well in that environment. (Lana)
- I worked for 31 years in a related profession. (Malcolm)
- I feel very confident in using technology and this carries across to my teaching. (Hilary)

Apart from general expertise, specific subject knowledge (and familiarity) was described as a common factor affecting confidence. Not surprisingly, lack of familiarity with subject material and teaching resources was noted by several participants as causing an erosion of confidence. The quotes that follow exemplify this:

- Audiovisual gear can pose problems in lecture theatres and I don't have the skills and confidence to troubleshoot. (Jules)
- My confidence is affected by fear of the unknown... not knowing what is going to happen... what was expected. (Astrid)
- Not confident in a practical class because I have been asked to teach a subject I am weak on. If they were physiology pracs I would be all over it. (Katrina)

Distance education teaching at this university was an aspect which led to a number of comments from the participants. This form of teaching was seen as a real challenge in that it used unfamiliar techniques and differed from normal classroom-based activities. To illustrate:

- In distance education it is difficult to build up relationships as you can in face to face teaching. It is for this reason that I rate myself less competently as an online teacher. (Nina)
- I have lots of gaps in my distance education teaching. However, I am taking my time and learning... my confidence is slowly growing. (Astrid)
- As a young person I am quite comfortable with technologies. I do a good job for the internal students but the distance education students might not get a lot out of the subject because of its practical nature. (Lana)

Interestingly, one of the participants thought that distance education teaching was more enjoyable and less confidence sapping. She stated:

- There's more I could do with distance education. Sometimes easier and less confronting as you can delay a response to a difficult question. (Rosie)

Any previous teaching experience also seemed to contribute to the development of teaching confidence (and self-efficacy). Three of the participants (namely, Jeremy, Nina, and Hilary) had been trained as teachers and reported how that training and subsequent

service in non-tertiary educational settings provided a solid platform for teaching in the higher education sector. Hilary, for instance, had worked in the technical and further education sector and had taught many classes with adult learners. She found the transition to teaching in a university relatively smooth, although she did mention that she still has a “degree of nerves when meeting students for the first time as a relationship has not been established”. She did remark, however, that this reaction was one she viewed positively, realising that the reaction was minor and only temporary.

More than half of the participants had accrued teaching experience at a university level before taking up their initial post. They held part-time jobs as markers, tutors, or sessional lecturers. These particular participants saw this opportunity as an important stepping point and one which created a good degree of confidence. This is evident in the following quotations:

I accrued valuable experience and gained confidence as a sessional lecturer. (Nina)

I have been a marker for some time and then I did a two-day training retreat. These experiences with teaching really gave me a boost. (Katrina)

I think I present well. I had been to conferences quite a lot. You learn how to put a story together and how to put slides together. (Rosie)

Experience that was gained in non-teaching arenas was also mentioned. Any experience which involved being in front of an audience seemed to be significant in building confidence. Three of the participants (namely, Craig, Astrid, and Lana) noted that they had done a considerable amount of public speaking and they argued that this was very good preparation for university teaching. Craig as well performed at musical events and he viewed this experience as helping him to present in front of a student audience.

Feedback and self-reflection

The term feedback featured in many of the responses from the participants. These responses could be divided into two types: student feedback and peer evaluation. Feedback from the students certainly seemed to affect confidence levels of a number of the lecturers interviewed. The ensuing quotes indicate this point:

Feedback from my students indicates success as a teacher. (Nina)

I've always received really good comments... definitely boosts your confidence. (Derek)

I'm quite a confident teacher and this stems from the positive feedback I have gained from my students. (Rosie)

Hilary talked about how her confidence level dropped when engaging in an activity in a distance education environment. She emphasised that students sometimes misinterpret online forum messages and this situation can result in negative feedback when student evaluations are completed at the end of the semester.

Feedback in the form of peer evaluation was also recognised by some of the participants as having an influence on their confidence to teach. For example, Derek emphasised how

he had received positive and constructive feedback about his teaching when doing some part-time instruction in the USA. Additionally, when employed in a postdoctoral position (with a small teaching component) he was offered more valuable feedback from his work supervisor. He acknowledged that these two sets of feedback were largely instrumental in building his confidence for classroom-based teaching as well as delivering talks in scientific forums.

A similar picture was painted by another participant who had taken up a postdoctoral post before moving to her current teaching and research role. She commented:

We did a lot of training for public presentations and the feedback from your peers is very useful. Much of the feedback came from giving presentations at laboratory meetings during my postdoctoral work. (Lana)

Katrina realised that she lacked confidence and appropriate skill in exam setting. As a consequence, she actively sought feedback from a colleague in the student services division of the University. This colleague was able to offer advice on examination techniques and how to align subject/topic objectives with assessment. Katrina felt that this contact and exposure to specific teaching and assessment information helped her fill a void in her skill set and raised her confidence level. Rosie also broached the topic of setting appropriate assessments and how it decreased her confidence. However, unlike Katrina she did not seek assistance from her colleagues, arguing that “there were very few at the University with the same discipline knowledge and requisite skills”. In her interview she mentioned that she felt isolated from her peers but, at the same time, recognised the important role that peer feedback could serve.

Many of the participants discussed the worth of reflecting on feedback obtained from various sources. Some even talked about how they kept a journal and jotted down simple reflections of their own teaching episodes or seeing others teach. Anton, for instance, maintained a journal and a teaching portfolio and stated how he would remind himself through his jottings to “be genuine and not worry about the stress and pressure that teaching can bring”. He made it very clear in his interview that being confident in your approach to teaching and other work tasks was a way of avoiding stress.

Hilary was another participant who used self-reflection to improve her teaching. She described how after most teaching episodes she would contemplate how the repeat session or the follow-up session could be improved. Hilary also reported that she wanted to integrate her research more with her teaching. This integration was viewed by her as a confidence building approach as illustrated in the quote below:

I am very confident or highly confident giving a lecture or running a tutorial group when the content is based on my work and research interests. (Hilary)

Support from colleagues

Mentoring was mentioned by many of the participants as a way of giving support for teaching. Several of the participants stressed how they needed a formal mentor to offer assistance and bounce ideas. The ensuing quotes are representative of this point:

For some topics or for some technical matters I need mentoring. I am one of those people who need to be taught by someone who is a good teacher. (Jeremy)
I was assigned two mentors when I arrived and they helped me with the administration side of teaching. They showed me how to treat extension requests, compile marks in a spreadsheet, and use scaling to determine final grades. (Rosie)

Others such as Hilary found her mentor extremely valuable because of the emotional and social support he provided. She explained:

He listened intently, gave informed advice, and checked to see if I was OK. He still chats with me now and I have the impression he is learning from me too. I was very lucky to have him as a mentor as he helped to build my confidence when it was on the decline. I have started to mentor a new colleague and have based my mentoring on his fantastic example. (Hilary)

A couple of the participants described that their mentors were unhelpful because of a mismatch in interests and personality. Lana, for example, discussed how her mentor “focused on research and administrative issues only” and was not keen to forge a more meaningful and supportive relationship. Nina confided a similar story but also laid the blame for her poor mentoring on a busy schedule and the fact that “there is pressure on everybody to perform and bureaucracy gets in the way”. She suggested that mentors need to be selected carefully and sometimes two mentors need to be allocated – one for teaching and one for research – because good teachers and good researchers might not go hand in hand.

Those participants with a science background and pursuing a traditional career trajectory, that is, doctoral study immediately followed by a postdoctoral appointment, tended to maintain their contact with past supervisors. Such contact meant that their networks had continued to extend as they presented and interacted with their supervisors at research seminars, colloquia, and conferences. Being part of a network of this nature demonstrates professional standing and ignites confidence to perform various roles. The extract that follows attests to this:

I am still in contact with some overseas colleagues and we catch up at various places for symposia and meetings. We all have a key contact in common... my PhD supervisor. As we network we share our research but also our teaching ideas and materials. If I get stumped on something I just send off a question in an email. (Katrina)

Apart from mentoring and networking, some colleagues found collegial support through other avenues. Malcolm, for instance, enjoyed chatting about teaching matters over morning tea and lunch or sharing an impromptu conversation in the corridor or the car

park. He also acknowledged the contribution that his senior managers made to making him feel comfortable and supportive in the workplace. He stated that these incidents and dealings “enhanced his confidence to teach”. Another participant lauded not only the efforts of her academic colleagues but those working in service roles inside and outside her school. To illustrate:

I work in a supportive environment. People are keen to teach you and share lots of supportive practices. Morale and confidence is high where I am situated. It can be infectious and I have benefited as a result. (Hilary)

Professional learning

Three forms of professional learning were reported by the participants: accredited courses; less formal workshops; and, self-paced study. For some, professional learning was compulsory and for others undertaken to develop skills and to the benefit of the student.

More than half of the participants, namely Craig, Derek, Jules, Katrina, Lana, Anton, and Rosie, discussed how they had participated or were participating in a series of accredited learning and teaching courses. These courses had been set up relatively recently for staff new to the University and completion of the course(s) resulted in a certification. The courses appeared to have a dual focus. One, learning and teaching strategies for small and large groups were described and opportunities to employ these strategies were provided in a workshop-like environment; and two, processes and procedures to do with student matters were introduced in a series of colloquium-like events. The majority of the seven participants stated that they enjoyed the courses and gained valuable knowledge and skills. Katrina was especially positive about the courses she attended and acknowledged that “interacting with others with similar limited experience and then being able to talk through problems and identify solutions” were the main benefits. Craig was also positive about the courses he completed as he could see relatively simple teaching techniques being modelled. Even though he recognised that course completion for him was part of his probationary requirements, he recounted that he “made some good contacts and identified some excellent teaching methods and resources”. He was especially complimentary about the online resources he was shown. For him, obtaining the certificates affirmed that his teaching was improving and based on firm theoretical foundations. This affirmation was also important for him as he was still studying a Masters course in his discipline. He perceived himself at a disadvantage compared with his colleagues because of the limited qualifications he held.

One of the participants, however, was quite critical of the courses he attended. Derek who had exuded confidence about his teaching and research remarked:

The only time I lose confidence is doing the mandatory teaching course. You get too much education stuff... suddenly people are using words I do not know and talk about theories I've never considered. I'd like some more practical advice on teaching rather than the theory behind it. (Derek)

Less formal workshops were another outlet used to foster teaching skills. Jules, for instance, discussed his interest in learning theories and how he would monitor the electronic bulletin board of the University for seminars/workshops about learning and teaching. He admitted that although his discipline was health service management, he was often delving into educational literature and crossing discipline boundaries. Lana was another participant who regularly attended workshops. She commented that sharing her knowledge and hearing about what others had tried was an important mechanism “to stay on top of developments at work, especially those in distance education”. Even though she was confident in using Web 2.0 technologies, and some mobile technologies, she was aware that her students were probably more competent technologically and she did not want to appear behind the times. Rosie was another who actively searched to find workshops relevant to her teaching interests. She noted how she “was particularly interested in distance education pedagogy and matters surrounding the scholarship of teaching”. Again, she wanted to stay in front of her students in a technological sense and her chosen discipline area made this possible.

Several of the participants utilised self-paced study to develop their knowledge and skills. Some referred to particular study packages whereas others mentioned how they used video clips and notes from blogs to learn more about a topic. To exemplify:

I've been developing a new teaching module on an area I am not that familiar with. I have been putting together material from all over the place... finding You Tube clips and various things. I even learnt a procedure which I can now teach my students. (Katrina)

Learning in this self-paced fashion was very important for another participant. She recalled how, in spite of time pressures to have some teaching material finished, she had her class work through a self-paced activity with her instead of presenting a summary of the outcomes of the activity. She added:

Honesty with the students helps to maintain my confidence when a topic is not one I know much about. Preparation and hard work are normally the keys here. But in this case we worked together as a team and in a collaborative way. (Lana)

Discussion

This section includes: a summary of the main findings; a discussion of how social cognition theory underpins these findings; a consideration of the implications of the findings for those designing professional learning activities for ECAs; and, a set of suggestions for future research.

Summary of main findings

The study's findings create a picture of how ECAs strengthen their self-efficacy for teaching. This picture has four main features and these were referred to as themes. Teaching experience, whether accrued in a higher education setting or not, was a strong feature of the picture formed. This finding is consistent with work conducted by Soodak

and Podell (1997) who examined teacher self-efficacy of pre-service teachers and practising teachers. They found that neophyte teachers report a gain in confidence following classroom experience. It is common practice in the Australian higher education sector that full-time academics gain valuable work experience through part-time work before moving to full-time positions. Accruing experience in other forums, which involve public speaking, was also seen as a way of building the confidence of many of the participants in this study.

Feedback and self-reflection was a second feature or theme. Receiving positive feedback from both students and peers was highlighted as a mechanism to strengthen self-efficacy. This finding about the effect of student feedback in particular resonates with the ideas expressed by Woolfolk Hoy (2004). Some participants drew on personal reflection and used diarising as a way to think about possible actions to help work through teaching concerns. Following reflection, others sought feedback and advice from a colleague about an identified issue. This process allowed participants to target a skill and to develop that skill to a competent or more advanced level.

A third feature was support from colleagues. Mentoring was one form of support that was frequently mentioned as helping to build teaching confidence. Mentors of the ECAs either gave expert guidance around teaching practices or emotional support, or both. However, there was some evidence that there was a mismatch between some mentors and mentees. Clarke's (2004) study pointed out that allocation of an effective mentor to an ECA is critical and that some mentoring relationships do not work well because of time constraints.

The fourth and final feature of the picture being produced was professional learning. It was apparent that mastering skills and techniques was a way of strengthening self-efficacy, and this is consistent with the writings of Bandura (1982, 2001) and Zimmerman (2000). Opportunities to master skills and techniques normally occurred through formal and accredited courses as well as participating in advertised workshops and seminars. Self-paced study programs, particularly with a technical focus, were another means of developing competence and confidence.

Theoretical interpretation

Social cognition theory emphasises that individuals are self-regulating and self-organising (Skaalvik & Skaalvik, 2007). This emphasis is evident in the points made earlier about reflection and the specific examples provided through the interviews. To illustrate, Anton maintained a diary and these jottings acted to suppress any anxiety that he manifested about his teaching. In addition, the theory concentrates on the interactions among personal factors, behaviours, and environmental conditions and the prominence of the construct of self-efficacy. Again, evidence of the theory in action was apparent. To exemplify, Lana chose to use a self-paced study package with her students. Although not overly confident in the package's topic area, she worked through the package with her students hoping that this relatively unplanned approach would lead to some meaningful learning. The end result for her was that she was comfortable with this teaching exercise,

enjoyed the new form of interaction with her students, and was more confident that if pressured by time she could resort to a similar approach as opposed to a more teacher-directed one.

The interviews with Hilary and Katrina also underscore the relevance of social cognition theory when looking at lecturer behaviour with respect to teaching. Both participants had been mentored and supported in a range of ways. Hilary, for example, grew in confidence because her mentor offered not only practical advice but strong emotional support. With this support and encouragement she has moved forward with confidence to become a capable mentor in her own right. Katrina was part of a network that has expanded in recent times. This expansion was the result of her firm links with her previous supervisors and her willingness to share knowledge and perspectives about teaching across that network.

As noted earlier, self-efficacy can be sourced in four main ways, namely, mastery learning, vicarious experience, verbal persuasion from others, and emotional arousal (Bandura, 1982). All of these sources were mentioned explicitly or implied in the interviews, and could be related to the strengthening, or possible weakening, of self-efficacy in teaching.

Opportunities to master learning were available through a mix of activities (e.g., formal coursework and workshop involvement) and most participants elected to engage in these activities. Previous experiences in a teaching setting and other public arenas provided a solid base for new learning to occur. Watching others complete teaching tasks, and being rewarded sometimes for task completion, influence the self-efficacy of some participants. Self-efficacy levels were also affected by persuasion from an expert. This was most obvious when peer evaluation was utilised. Some of the participants, including Derek and Lana, described how positive and constructive feedback helped to raise their teaching confidence levels. And lastly, an example of how emotional arousal was connected to self-efficacy was shared by Hilary. Her illustration focused on nervousness when facing a new class in a new semester and the expectation of forming new relationships with those class members. Other examples pertaining to emotional arousal were implied. For instance, Lana felt disappointed that her mentor would not engage with her in a more telling and supportive manner. However, she recognised that her mentor gave valuable instrumental support and this in part compensated for other required supports.

Practical implications

The results of the study have implications of a practical nature for ECAs and those supervising ECAs. First, prior teaching experience and experiences in front of audiences (e.g., public speaking) generate confidence for university teaching. As a consequence, ECAs need to be reminded to draw on such experiences when delivering lectures, tutorials, etc. for the first time. Second, confidence is undermined when ECAs are asked to teach subjects and topics outside their expertise. Line managers need to be cognisant of this, especially when allocating teaching duties in the first semester or two of appointment. If ECAs have a technological bent and are proficient in the use of Web 2.0 and mobile technologies, then their line managers need to take this in to account when distributing

work in the distance education mode. Third, ECAs need to keep in mind that student evaluations and the overall tone of any evaluative comments can have a marked effect on confidence levels. Additionally, those giving peer evaluations need to be careful in how they present and express their feedback. Training for both ECAs and their colleagues about such matters is recommended. Fourth, reflecting on teaching needs to be encouraged and this process can be supplemented by a journal or teaching portfolio. Fifth, as confirmed by writers such as Norrell and Ingoldsby (1991) and Hopwood and Sutherland (2009), ECAs need to know how and who to contact when needing instrumental support or specific resources. Toolkits developed for induction and orientation programs need to have key contacts and relative expertise listed. Sixth, effective mentoring needs to be established for ECAs. The choice of a mentor (or mentors), is dependent on interest and personality and therefore needs to be made carefully. Mentors who can offer technical expertise as well as emotional and social support are preferred. Seventh, network development needs to be strongly encouraged. Those ECAs with previous doctoral and even postdoctoral ex-supervisors need to maintain these contacts and use them to advantage for networking. Not only do these networks serve a teaching and subject content support they can assist with research endeavours. Eighth and last, participation in formal teacher training programs is recommended. Programs of this type tend to be mandatory in Australia for ECAs and lead to a credential on completion. Most Australian universities offer a Graduate Certificate and these programs require the study equivalent of one full-time semester. Involvement in less formal workshops dealing with teaching and learning issues is also suggested. These workshops can be tailored to allow ECAs to select topics depending on their backgrounds, interests, and timetabled commitments.

Future research

As a result of conducting this study, at least three new studies are envisaged. The first would extend the current study to other ECAs working in several higher education institutions in Australia and possibly beyond. Such a study would be qualitative in nature and could be undertaken at a single site or multiple sites. This approach is being proposed as the current study was undertaken at one institution, drew on the responses of only 12 ECAs, and the generalisability of the study's findings could be questioned.

Given the probable connection between teaching self-efficacy and student attainment at university, it seems timely that a second study examining this relationship be conducted. Of course, this study would best be carried out using a quantitative methodology. However, gathering qualitative data from ECAs would give some additional insights not possible through surveying only.

Because the sampled institution focused in part on distance education, it would be useful to have a study completed at a similar institution to learn more about teaching self-efficacy of lecturers who work solely in this mode of instruction or teach only in face to face situations. This third study could be qualitative or utilise a mixed method design.

Conclusion

This study adds to the literature pertaining to lecturer self-efficacy and teacher self-efficacy. It does this by using a qualitative approach to explore the views of ECAs at an Australian university. Such an exploration revealed that ECAs can strengthen their teaching self-efficacy and this can be achieved through a number of means. A set of eight practical suggestions for ECAs and their managers are identified and it is proposed that these need to be included in orientation and induction programs developed for those new to the academy. If university students are to be engaged meaningfully in their studies, then it is vital that their lecturers appear confident and knowledgeable. Any student attrition that can be reduced is obviously a plus for stakeholders. Moreover, ECAs, when confident with their teaching, are more likely to devote time and energy to other work tasks such as research and publishing.

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Dr Brian Colin Hemmings is the Sub-Dean (Graduate Studies), Faculty of Education, and the Associate Director of the Research Institute for Professional Practice, Learning and Education (RIPPLE), at Charles Sturt University, Wagga Wagga, Australia. His research interests focus on university transition and change and his most recent publications appear in the *Journal of Further and Higher Education* and *Christian Higher Education*.

Email: bhemmings@csu.edu.au

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