Abstract: There is a paucity of studies investigating how early career academics (ECAs) form attitudes towards aspects of their work and gain skills in research, teaching and service. This is especially the case with respect to research. A review of the pertinent literature revealed the prominence of a notion of research self-efficacy (or confidence) and how it was aligned with the other issues distilled from the literature. Employing a qualitative approach, the author of the study sought to develop a better understanding of how ECAs generate research confidence. Interview data were analysed using a process drawing together analytic induction and constant comparison methods. Six themes emerged from this analysis, namely, graduate student research experience, priorities, isolation, researcher identity, mentorship and a vote of confidence. These themes are discussed in detail and the implications of the results for university managers and lecturers are then considered.
Sources of research confidence for early career academics: A qualitative study

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Sources of research confidence for those new to academe

Abstract

There is a paucity of studies investigating how early career academics (ECAs) form attitudes towards aspects of their work and gain skills in research, teaching, and service. This is especially the case with respect to research. In this seminar, I present the results of a qualitative study which sought to develop a better understanding of how ECAs generate research confidence. Interview data were analysed using a process drawing together analytic induction and constant comparison methods. Six themes emerged from this analysis and are discussed in detail. Additionally, the implications of the results for university managers and lecturers are considered.
Introduction
Given two predictions, that is, a shortfall in Australian higher education employment due to large numbers of academics retiring from the sector, and rising student enrolments (see, for example, Hugo, 2005), it would seem that a significant recruitment of new academics may be required to fill job vacancies and help build sustainability within the sector. Such a recruitment exercise would lead to many challenges, not least of which is the potential fall in research output as new academics ‘find their feet’ and develop their competence and skill base.

There is a dearth of studies investigating how Australian early career academics (ECAs) form work attitudes and foster work skills in research, teaching, and service. This is particularly the case in terms of research (Akerlind, 2007). As a result, this study focuses on how ECAs build confidence to be able to execute a variety of research tasks.

In the current study, ECAs are defined as those ‘within their first five years of academia under a sessional, part-time or full-time load’ (ECA and WIL Networks, 2006, p. 1). This definition is consistent with the one adopted by XX and XX (in press) in their recent Australian study, but varies considerably from other definitions used by researchers working outside Australia. For example, in North America the ECA phase can span more than ten years, beginning with full-time doctoral enrolment as a starting point (Foote, 2010).

Literature review
‘The growing literature on the problems of [ECAs] indicates that they constitute the most vulnerable group in the science system’ (Laudel & Gläser, 2008, p. 388). Common problems faced by ECAs include: job security issues (Star, 2004); heavy teaching and administrative loads (Mann, Moyle, Reupert, Wilkinson, & Woolley, 2007); restricted access to resources (Bazeley, 2003); and, balancing home and workplace responsibilities (Dever et al., 2008; Sutherland & Petersen, 2009). Arguably, however, the largest challenge for most ECAs is to build and refine their research skills and, at the same time, produce research output. This is particularly critical in the current Australian higher education context where a strong emphasis is placed on ‘ratcheting’ up research performance to improve the nation’s international competitiveness (Australian Academy of Sciences, 2008; Mann et al., 2007). Moreover, because it has been forecasted that large numbers of neophyte academics will be
required to fill job vacancies in the near future, these academics may expect to be pressured to produce output during the early stages of their new appointment.

Although a paucity of research exists on how research development unfolds for new academics (see, for example, Akerlind, 2007), two recent studies offer additional insight into this developmental process. First, Laudel and Gläser (2008) describe a step-by-step process, with a culmination point being a shift from a dependent researcher to an independent researcher. They also identify how the careers of some Australian ECAs stall because these academics give nearly all of their time and energy to teaching responsibilities. This construction of being a ‘teaching only’ academic means that the independent research step is not reached. Second, XX and XX (in press), drawing on data from two large Australian universities, also report that time allocated to respective work areas differentiates those ECAs who publish and those who have no publications. To elaborate, those ECAs who were actively publishing devoted, on average, at least 25 percent of their work time to research activities. Furthermore, this group of publishers were much more likely to have completed a doctoral qualification (compared with their non-publishing counterparts). Although placing emphasis on these two factors, namely time and qualifications, XX and XX argue that research self-efficacy is the principal factor that separates these two groups of ECAs. In their study, research self-efficacy was operationally defined as an estimation of how competently one can carry out a set of research actions and encapsulated four features: conducting and managing research; reporting and supervising research; writing major works and reviewing articles/books; and, having a broad view of a research area. These four features were derived from a factor analysis which accounted for almost 70 percent of the variance in a variable set made up of 30 individual items.

Apart from the work of XX and XX (in press), some writers and/or researchers have noted the important role that research self-efficacy (or confidence) plays in an academic’s career (Blackburn & Lawrence, 1995; Landino & Owen, 1988). To exemplify, Akerlind (2007) makes the point that successful academics not only build up a range of research skills but have the confidence to apply these skills in an appropriate and meaningful fashion. Gething and Leelarthaepin (2000), in their study of nursing academics, claim that their sample’s poor publication record appeared to be linked to a lack of confidence in research skills, especially those related to grantsmanship, writing, and converting writing into a publishable form. And, the findings of a study, conducted by Major and Dolly (2003), suggest that a set of particular
experiences may have an influence on self-efficacy beliefs for academic tasks. In relation to research, they contend that vicarious experiences (e.g., observing an experienced academic prepare a budget for a research project) and mastery experiences (e.g., delivering a well-received conference paper) are ways of developing self-efficacy. Major and Dolly (2003) also assert that self-efficacy beliefs may be strengthened through a rich postgraduate program experience characterised by low threat and high support. Support for this assertion can be found in the work of Hekelman, Zyzanski, and Flocke (1995) who studied junior faculty in the USA. They identified that a graduate experience was pivotal in the development of good scholarly habits and therefore a platform for building confidence. Additionally, the findings of a recent Australian study carried out by Dever and her colleagues (2008) point out that PhD study experiences characterised by collaborative supervisor-supervisee relationships appear to have confidence-building influences on ECAs. This was especially the case for male ECAs.

Mentoring is commonly viewed as another means for developing research knowledge, skills and confidence. Norrell and Ingoldsby (1991), for example, outline how various mentoring approaches may be adopted to assist new scholars. Similarly, Stenova (2009), writing in a European context, discusses how one-to-one mentoring is an effective approach for those employed in the social sciences and humanities; whereas, group mentoring is more suitable for ECAs working in the natural sciences and engineering. For those joining academe after a lengthy stint in a non-academic but professional setting, LaRocco and Bruns (2006) argue that at least one supportive mentorship/relationship is required to help these professionals prepare and adjust to the job transition; otherwise, the career transition becomes problematic. They recommend that both emotional support (e.g., positive social exchange) and support in the form of feedback are key aspects of a meaningful and nurturing relationship. It is worth noting that Clarke (2004) has pointed out that a formal mentoring relationship between an ECA and a mentor presents challenges, particularly due to time restrictions.

Other forms of support for ECAs have been suggested by writers/researchers but these may not have a strong evidence base. That is, often the suggestions are implications of research work and have not been tested empirically. Hekelman et al. (1995) recommend that ECAs be put in contact with colleagues with content mastery and technical expertise. This line of thinking is congruent with the ideas of Poole and Bornholt (1998) who advocate that procedural know-how is needed in the early stages of an academic’s career and that various
experts need to be sourced not only to provide information but also to model practice. Mann et al. (2007) advise that the senior leaders of the department or faculty are those best positioned to offer information about these potential experts. And, Sutherland and Petersen (2009) argue that support from postgraduate supervisors is usually sound and welcome, but of course not all ECAs have that relationship or a recent link to such a relationship. If this type of relationship has been established, then research and writing skills may be enhanced through co-authorship. Kamler’s (2008) work with doctoral students (i.e., ‘emerging scholars’) lends support to this view.

Networking is another form of support which has been reported as a useful strategy for ECAs to employ. Debowski (2006), for instance, argues that building research networks helps an ECA to boost credibility in his/her field of research and generate further confidence in one’s abilities. As LaRoco and Bruns (2006) contend, forming genuine relationships with colleagues at other universities is one more way for an ECA to demonstrate autonomy and professional standing. In fact, working with other ECAs, being generally collegial, or having ‘corridor conversations’ with colleagues may contribute to professional identity development (Baker Sweitzer, 2009; Mann et al, 2007; Sutherland and Petersen, 2009) and, in addition, simply reduce feelings of isolation.

**Aim of the study**

The conceptual framework guiding the current study has been developed from literature pertaining to higher education, early career development, and self-efficacy research. The main issues that have been distilled from a review of literature were: (i) ECAs confront various challenges and respond to these challenges in different ways; (ii) ECAs need to balance teaching, research, and service duties, but especially need to find sufficient time for research endeavours; (iii) a doctoral qualification and the experience that that provides is advantageous, in terms of publication output, for ECAs (iv) effective mentoring of ECAs appears to lead to a successful transition to the academy; (v) a range of other support mechanisms seem to be beneficial to ECAs, particularly networking; and, (vi) research self-efficacy (or confidence) is a prominent construct. This final issue is especially worthy of greater attention as it is aligned with the other five emergent issues.

Because it is very likely that ECAs will be replacing large numbers of experienced staff in Australian universities during the next few years, it is timely that a study is proposed which
focuses on ECAs and how their research competence and confidence develops. Furthermore, given that nearly all of the recent studies have used quantitative analyses, there is an argument that an investigation based on qualitative procedures is warranted in order to create a more complete picture of ECA research and career development. Accordingly, the main aim of this study was to develop a better understanding of how ECAs gain confidence in relation to research. Based on this growth in understanding, a subsidiary aim was to describe approaches that support the research and career development of ECAs.

Methodological details of the study
A qualitative approach to the data collection was adopted as a way of identifying participants’ views and experiences. Semi-structured interviews, averaging approximately 40 minutes, were used to elicit responses to a number of fundamental questions that were expanded where appropriate. Typical questions included:

- What kind of research training have you been given?
- What other experiences do you bring to your current position that advantage you in the performance of your research tasks?
- Is there an activity, or an experience, in which you need to build your confidence in terms of research?
- Are there particular research activities that you feel very confident in performing?

A list of potential participants was generated by asking Heads of School at a regional Australian university to respond to an email requesting the names of all ECAs employed within their respective Schools. This process of participant selection, as well as other aspects of the study, was approved by the Human Research Ethics Committee of the participating university. Because the author wanted to have representation from the four Faculties of the University, the initial list was divided to show these groupings as well as a breakdown by gender. Next, 12 ECAs were chosen using stratified random sampling and then invited to participate via an email containing an information sheet and consent form. Following some declines, several other ECAs were contacted by extending the sampling procedure adopted. This second round of invitations resulted in a total of 12 ECAs agreeing to participate in the study.
A summary of the participants’ gender, years of teaching experience, discipline area, and highest level of qualifications, appears in Table 1. It is worth noting that four of the participants (#4, 7, 8, and 11) had some post-doctoral research experience before taking up their initial academic appointment, and this was limited to one or two years as a full-time fellow.

INSERT TABLE 1 ABOUT HERE

Each participant was interviewed individually in his/her academic office and all interviews were audio-taped and transcribed. These data were then analysed using a process drawing together analytic induction and constant comparison methods (Goetz & LeCompte, 1984; Glaser & Strauss, 1967). In order to begin this process, the author sorted the transcripts into meaningful segments. Next, the author developed categories and, with each subsequent reading, these categories were refined and the coding was changed to adjust for such refinements (Sarantakos, 1993). Finally, the author identified the themes that emerged from the repeated examination of these categories (Marshall & Rossman, 1999).

Findings
Six themes emerged from the analysis and these themes were labelled as follows: graduate student research experience; priorities; isolation; researcher identity; mentorship; and, a vote of confidence.

Graduate student research experience
When classified according to qualifications held, the participants fell into two distinct groups - those with doctorates and those without – (refer to Table 1). It was obvious from the interviews that the ECAs who had doctorates were considerably more confident in performing research tasks. This confidence was seen to be generated from a rich and lengthy experience as a member of a graduate school. Such an experience usually came in the form of full-time study with scholarship support, and encouragement from a dedicated research supervisory team. Most of these points are apparent in the following excerpts:

My Honours and PhD allowed me to attend research seminars. At graduate school we learnt how to prepare grants and to present papers. (Participant #4)
Every time my supervisor submitted a grant the whole laboratory team was expected to read it and provide feedback. (Participant #7)

I studied full-time in the US and was very dependent on my supervisors. (Participant #8)

A few other activities at graduate school were highlighted as building research competence and confidence. Participant #11 described how she studied a number of statistical courses and that what she learnt from these courses helped her to produce a highly-regarded PhD thesis. She also attended writing workshops during this time and attributed her later successes in crafting conference papers to the tasks she executed at these workshops.

Not only did Participant #7 emphasise the importance of her statistical training, but she mentioned the worth of participating in a journal club during her PhD. This club would meet most weeks and graduate students and their supervisors would critique a selected journal article. According to Participant #7, this activity increased her research confidence and gave her valuable insights about academic writing, particularly in relation to arguing a position.

A strong graduate school experience also meant that the personal contacts which had been established at this time tended to extend to the present employment and provide a basis for research and publication opportunities. The quotes that follow typify this relationship:

My growing confidence in writing comes from my positive experiences with my postgraduate studies and a very helpful supervisor. In fact, we have just had an article accepted for publication. (Participant #2)

I am keeping up my networks with people that I worked with previously at graduate school. I try and go to conferences to maintain these networks. (Participant #11)

Priorities

Many of the participants mentioned how their research efforts were thwarted somewhat because of the need to address the more pressing issue of preparing and delivering their teaching. A heavy teaching workload, in the early stages of a university appointment, was a constant message being relayed by these participants and, as a consequence, their research work was put on hold. The two comments offered below provide a snapshot of this situation.

I know I need to research. I just have not gotten to it as yet. The teaching preparation is taking so much time. (Participant #6)
...part of it is time management. I don’t think I have the best time management skills in the world, but I think mostly it’s just having heavy teaching loads...often when these discussions come up, the solutions that are put forward to improve your teaching load are based on not engaging so much [with students]...and most of the other solutions have poorer pedagogical outcomes. I like teaching that is why I came to a university not a research institute...it really is much harder to do the research while I find my feet as a teacher. (Participant #11)

Several other ECAs discussed that their first priority was to consolidate their work as a teacher and then look to build their research skills once they had established themselves in their new work role. This consolidation phase was one that was solely devoted to teaching and responding to student demands. For them, teaching came first and research would have to take a ‘back seat’. Of course, this line of action could increase pressure on ECAs as evidence of research is normally required to show that all probation conditions are being met. The quotation below exemplifies how one of the ECAs from a non-traditional research training background planned to balance his teaching and research responsibilities.

Once I get over that initial ‘I’m going to learn how to teach’ stage...I’ve probably got a couple of years to get on top of this and to learn as I go...I still have that fear of not knowing how to do research or what to do. If I decide to have a career here, then I’ll obviously have to get into research, that’s been made pretty clear to me and that’s where the brownie points are. (Participant #10)

Consolidation for one participant meant that she planned to avoid research supervision duties to reduce her overall workload. She stated:

I would struggle to take on a PhD student at the moment, because I cannot give them, I think, the time and the training that they actually need. I think I would be doing a disservice to students to take them on. (Participant #8)

Isolation

Being alone and feeling somewhat isolated was expressed by some of the participants. To exemplify, one of the participants used the metaphor ‘lone wolf’ to describe his situation. His research confidence was flagging because his supervisor was based at another university and contact was difficult to maintain because of the distance between the two universities. It seemed that he had not made a significant contact at his own institution. Another ECA reported:

It’s been just 12 months and I’m still lacking a little bit in confidence. My confidence is fairly low. I didn’t even know what an Ethics Committee was until one of the professors talked about it in a casual sort of
conversation. You seem to be expected to learn on the job as you go by just picking it up. (Participant #10)

This ‘sink or swim’ attitude and an isolation feeling were also apparent in another of the interviews where it was remarked:

My confidence was impeded somewhat because there are very few working in my specialised area. Research-wise that’s very isolating and it really impacts on your confidence because you don’t have anyone to bounce [ideas] off. I’m collaborating with a few different people, but part of the problem was getting that to take off when I first came here. I was left to do it on my own. (Participant #11)

Working in a specialised field can also mean that not enough work may be found in that field and the workload needs to be adjusted. A resultant effect of this situation is that teaching responsibilities are then spread to peripheral areas requiring more preparation so that time for research begins to vanish. This can lead to frustration, more isolation, and further confidence loss, particularly for an ECA. The following response is illustrative of this scenario.

The biggest hindrance I’ve had is lecturing content I am not familiar with. I’ve replaced a lecturer who had been here for a very long time. I’ve actually rewritten all his subjects, including those outside my area. I was given no guidance on the tricky ones and that work will not help me with my research work. (Participant #8)

Several of the ECAs were working solely on research projects, which is standard practice in certain disciplines. This approach was found to be even more isolating when key skills (e.g., statistics) were not developed or a supporting expert in some research method or even content was not freely available. Sometimes the participants did not have the confidence to seek out this support or know from whom or when it was timely to ask for support. This is partly reflected in the comments of one ECA:

Researching as an individual is very lonely work...others are so busy and doing their own work. I need to feel supported...to be able to bounce ideas off others. I’m looking for an individual or a group of people who will provide that collegial buffer. (Participant #2)

Researcher identity

Many of the participants made comments about their various academic identities and how these were formed or were being moulded. Researcher identity, for example, was a construct that was consistently mentioned or could be inferred from what was said. For some ECAs,
this identity form had not taken real shape or the identity was quite new and poorly constructed. The following excerpts are representative of this claim:

No formal training as a researcher. Started to look for a Masters which is heavily research-based. I need to become a researcher. (Participant #9)

I’m still climbing a very steep learning curve with respect to research. Research is a real hazy area for me. It’s tricky to pinpoint what research is as I lecture in one area of the creative arts. It will be a process of formation over time. My studies will help me. (Participant #3)

In contrast, other ECAs had published peer-reviewed works prior to taking up their appointment and, as a consequence, viewed their research skills in a positive light. Interestingly, some ECAs had even established strong researcher identities without having publication histories. For instance, one participant described how she had read professional literature, attended public lectures/seminars, and completed a Masters degree with a research focus. This background, coupled with a supportive working environment, has enabled her to develop an identity characterised by confidence, passion, and energy. And, this new and stronger identity had been forged relatively quickly.

Identity recognition and identity change was an issue that several participants discussed in detail. One ECA talked about how she could have resigned in her first year because she felt that her professional reputation and skills had not been valued even though these were the very skills that gained her the appointment in the first place. She added:

I lost a lot of confidence there for a couple of years. Now I want to build that confidence up and see whether I have got skills to do well in research. (Participant #2)

This same ECA, and a number of other participants, equated research with having expertise in statistics. Their researcher identities appeared tarnished as a result. One way or another, those with this statistical knowledge and skill were rated more highly, despite that fact that the disciplines they worked in had strong qualitative traditions.

Some participants also questioned the worth of their research skills and if these could be refined to produce notable work in a university environment. To illustrate:

My research is not directly applicable to the public so I may need to change my research emphasis to make it more appealing [and] more applied. (Participant #4)
Through industry experience I have acquired quantitative and qualitative research skills but I don’t know how they will stand up in this context. (Participant #6)

Bench space is tight here but can be found. However, the labs are quite dated and your excitement wanes as a result. The environment is so different from the post-doc one I worked in a few years ago. (Participant #7)

I need to be a bit more strategic about the type of research I do. This is the trick to working here. (Participant #8)

**Mentorship**

Most of the participants discussed mentorship and the need for an effective mentor. Some saw mentoring as a way of embarking on a research career. This is evident in the following quotations.

I need some strong mentoring. I need to be explicitly taught how to do research…how to put a paper together. I need that significant skilled person to help me finish it off. (Participant #1)

I need a mentor to ride the coat tails of, especially in terms of external grant funding. This would help me to publish more. (Participant #4)

Others mentioned how good mentoring had boosted their confidence and even re-ignited their research interest as illustrated below.

It took me a lot of time to re-energise to pick up on lost confidence, but thanks to a supportive mentor I made the leap. (Participant #2)

I am quietly confident in my research. I have a fantastic supervisor, a fantastic Head of School, and a fantastic mentor. All three encourage [me]. (Participant #12)

A couple of ECAs described how their mentors helped them to appreciate and understand the rules of the ‘research game’; many of which were unwritten and needed to be made more explicit. In addition, the mentors were able to identify some short-cuts with respect to data collection, data analysis, and writing up.

Most of the remaining comments, however, centred on how a mentor or a group of mentors from a previous developmental stage were still offering assistance to those new to the academy. Usually this mentoring relationship had been established because of an Honours program or a PhD study. The ensuing quotes are representative of this point:
Spending some time lately with my supervisor for my Honours has really helped me to hone my skills in writing. (Participant #3)

My [research] confidence was generated from my Honours work. The formal training I received was first class. My supervisor and I still have a special working relationship today. (Participant #7)

I did my PhD training in the US at a large research institute. I still have very good research mentors from that time. (Participant #8)

_A vote of confidence_

Although a mentor and the support that he/she offers do have the potential to give a confidence boost to an ECA, a range of other key supports were evident in the interviews. These supports, singly or in combination, gave some of the ECAs an important boost and therefore a real vote of confidence to move ahead with their research endeavours. One ECA reported on the impact of gaining a small research grant:

> Gaining a seed grant gave me a lot of confidence...confirmed that my work was worthwhile. At that stage it was the only tangible evidence I’ve had from the University that what I’ve been doing has been OK. (Participant #2)

The research products subsequently spawned from this seed grant then led the ECA to be asked to join a research group and a university research centre. This set of events was pivotal to her ongoing development and identity as a researcher.

A string of events also impacted favourably on another participant. This participant first attended a research forum for women researchers and found that particularly beneficial as she was able to position how her research might align with the University’s broad research strategy. She then had the confidence to investigate the specific brief of a research group and to apply for membership. Following these steps has led her to more fertile ground and the realisation that she has made the transition from a fledgling researcher to a more established one. This is apparent in the following quotation:

> Being part of a designated research group has been the most useful thing in the entire University...it’s a collaborative group of people that are all interested in similar issues. If you can find a good research fit everything seems to go reasonably well. (Participant #12)

Unfortunately for a couple of other participants, a vote of confidence has not been forthcoming at the time of interview. One ECA had her first journal article submission
rejected and, as a result, has been very hesitant to submit other written work for peer review. In fact, she has several papers developed from her PhD just sitting on her desk and unsure of what her next step is with these potential submissions. A second ECA described how she needs to collaborate with like-minded researchers to produce publishable work but waits patiently, and somewhat anxiously, in her office for them to call. Although she acknowledges that these potential collaborators might be choosing others to work with or simply unaware of her research skills, this ECA is waiting on a genuine vote of confidence from her peers.

**Discussion**

Through a qualitative study, a detailed picture of the experiences that affect the research confidence of ECAs was formed. This picture featured six aspects (referred to as themes) and showed that research confidence grew or was undermined depending on an interplay of factors, including the background the participant brought to his/her first academic appointment, as well as the supports he/she found in the workplace. Those ECAs who were able to build confidence appeared to come from backgrounds characterised by full-time doctoral study and then post-doctoral employment. Additionally, they were able to draw on key people from these backgrounds for advice and further support. This particular finding resonates somewhat with the results of the work reported by Dever et al. (2008) and a study described by Major and Dolly (2003) who considered the notion of self-efficacy in relation to teaching and research. Although they focused on the graduate school experience only, they found that a rich and supportive experience at that time was fundamental to future confidence building and the identity formation of academics.

In contrast, those ECAs whose research confidence was lacking tended to move to academe from a non-traditional study pathway and had lengthy stints in other professional settings. If they were unable to attract the support of a mentor or develop a supportive network, then their research confidence seemed to suffer to the extent that their research planning and associated activities were put on hold. Some of these insights were noted by LaRocco and Bruns (2006) in their study of North American ‘second career’ academics.

Given that two distinctive ECA trajectories were evident in the current study, future researchers might profit from investigating this dual aspect of career development further. Although the current study which used a retrospective and cross-sectional approach was able to make an important contribution to the literature pertaining to ECA development, other
studies might be well served by the use of a longitudinal design. Arguably, such a design would help build a clearer development profile, give opportunities to gather more evidence that certain events and experiences are shaping development, and lend it to theorising. A study combining quantitative and qualitative procedures would complement this design.

The conceptual framework for this study was based partly on the notion of self-efficacy, a concept grounded in social cognition theory (Bandura, 1997). Proponents of this theory (e.g., Zimmerman, 2000) argue that mastery learning is the main way of influencing self-efficacy beliefs. In the present study, those ECAs who had published in peer-reviewed journals appeared much more efficacious in relation to a broad range of research tasks compared with those colleagues who were still to master or even attempt the task of writing a journal article. Self-efficacy can also influence the goals set and the reaching of those goals. The results of the current study show that some of the ECAs had clearly established research goals and were able to realise these. However, despite good intentions, several other ECAs were unable to meet goals or work through the necessary steps to achieve a larger and more significant goal.

Obviously, some questions could be asked about the generalisability of the study’s findings given that the study was based on 12 ECAs from one Australian university. Even though it is somewhat problematic to compare the experiences of these 12 participants with those from other universities, it needs to be kept in mind that the backgrounds of the ECAs were diverse, especially in terms of the location of their prior studies, and that a range of discipline areas was included in the sample. Moreover, the university selected for the study has placed considerable emphasis on increasing its research outputs and this emphasis has been clearly and frequently articulated to all staff, including new appointments. In other words, staff accepting appointments have been knowledgeable in the fact that research is not only an expectation but that evidence of research output will be required if continuation or extension of contracts are to be made.

The results of the study have significant implications for those managing and working alongside ECAs. First, it is critical that a strong and effective mentoring program is implemented. Some of the participants saw mentoring as a means to develop more research skills and even gain research grants. Others discussed how mentoring needed to focus on learning more about the university’s research culture and the rules that operated in that environment or the sector at large. Interestingly, the relationships that had been established as
a postgraduate student with supervisors appeared very important for many of the ECAs. Perhaps all ECAs should be reminded of the value in re-establishing relationships of this ilk, no matter when that tie had been broken.

Second, joining a network of like-minded academics seems to be a useful and popular way to generate research ideas and build the confidence to work on research projects based on these ideas. Networking can start from a connection with postgraduate supervisors and extend as contacts are made at the ECA’s home campus, through conference attendance, or via online groups. These activities help to reduce isolation and loneliness and allow ECAs to promote themselves and test their ideas. Orientation and induction programs that afford opportunities for ECAs to meet with other new staff as well as experienced mentors and potential collaborators are an important step in preventing loneliness and isolation taking root in the workplace.

Third, since many of the ECAs in this study had difficulty juggling teaching, administration, and research responsibilities and resorted to giving their energy and time to the demands of teaching, it would appear that time management training and counselling is warranted. This type of training, in conjunction with more general career planning, could be added to induction sessions. This suggestion matches a conclusion drawn by Poole and Bornholt (1998), although their work focused only on women academics and not specifically on ECAs. Another suggestion, which moves the onus from the ECAs to university managers, is that workloads are reduced for ECAs in the initial year. This workload reduction would give ECAs greater opportunity to focus on their research endeavours and to maintain research momentum if appointed directly following postgraduate study completion.

Fourth and last, there is a common saying that ‘confidence begets confidence’ and this played out in some of the interviews when ECAs described how a vote of confidence through an event or set of events changed their mindset and spurred them on to greater things. Managers, in particular, need to be cognisant of what events or even incentives help to ignite such a spark and how these events seem to influence positively the construction of researcher identities.
Conclusion
If Australian universities are to find and then retain new academic staff during a predicted staff shortfall, then much needs to done to ensure that postgraduate training and/or ECA support programs are offering experiences that these staff members will find valuable. The current study has shed light on what experiences are supportive and those which can be detrimental to research efforts. Central to this work is the view that research confidence needs to be generated early and maintained so that a sound platform is erected for future research endeavours. Moreover, attention in terms of orientation, induction, and staff development programs needs to be given to the differing trajectories that staff members have followed before accepting their first academic appointment.

References


Table 1: Gender, years of tertiary teaching experience, discipline area, and qualifications of participants.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Years of Experience</th>
<th>Discipline Area</th>
<th>Doctorate</th>
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