Motivating and enabling adult learners to develop research skills

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Adult learners undertaking a coursework masters are understandably nervous about undertaking research projects. However if done well, such projects represent a way to encourage the quantity and quality of practitioner research, which is important in all management disciplines, not only the emerging discipline of coaching. This paper offers an alternative to the individual master-apprentice model to which many research students are still exposed. Addressing the motivational needs identified in self-determination theory (autonomy, competence and relatedness) as well as self-efficacy and incorporating good practices in feedback, it outlines a way to make the process of learning how to do research more engaging than sitting listening to lectures. The paper reports the findings of a survey of the participants in the 2012 cohort who were asked if their competence and confidence in undertaking a research project had changed before and after undertaking the class, and if so, to list what they, their peers or staff had done to contribute to this change. The paper concludes that the approach offers a useful way to help adult learners develop research skills.

Keywords: *coaching, research skills, adult learning, self-*

determination theory

Introduction

All coursework masters students in Australia are required by the Australian Qualifications Framework (AQF, 2013) to have knowledge of research principles and methods and to conduct a research-based project. Such projects have the potential to encourage the quantity and quality of practitioner research, which is important in all management disciplines, but particularly important in a young discipline such as coaching, as much of the early research was conducted by commercial organisations keen to sell their services (Grant, Passmore, Cavanagh and Parker, 2010). While there is literature on the development of research skills for doctoral students, there is little on the development of research skills with coursework masters programs. This study explored the effectiveness of incorporating self-determination theory (SDT) in the pedagogical approaches adopted in the research subject, in particular seeking to answer the question:

Does the application of self-determination theory help students develop competence and confidence in their ability to conduct research?

Background theory

Self-determination theory (SDT) is a needs-based theory of motivation, focusing on three basic human needs: to strive for competence, to enjoy autonomy, and to relate to others in a group (Deci and Ryan, 1985; Ryan and Deci, 2000). These three elements, viz. competence, autonomy and relatedness, provide a focus and a basis for action in the classroom, which is more specific than general exhortations that classes should be engaging and motivating. Furthermore, self-determination theory has been developed over a period of four decades, and is described by Sheldon (2013:228) as 'an integrated theory of optimal motivation, health and well-being'. Sheldon also categorises the research underpinning SDT as of the highest quality, with 'findings published in the most rigorous scientific journals'. While research training often addresses technical skills and develops competence, the level of autonomy developed is variable. Furthermore, research training is often provided by individual supervisors and hence does not address

the social aspects of motivation and learning. The three elements will be discussed next.

On completion of a research subject, a student should be competent in conducting research. The evidence that a doctoral student has become competent in research is typically provided in their thesis. However there is an increasing move toward helping doctoral students develop those skills through coursework (Perry, 2011) and to scaffolding their skills development (Holland and Garfield, 2012). It is important to note that competence in SDT is not only about being able to do something, it is about knowing that one can do something and having the confidence to do it unaided. To develop this level of confidence requires students to understand what is expected, self-assess against those expectations, and perform to the required level. Peer and lecturer feedback are valuable in as much as they help the student to calibrate their self-assessment (Boud, 2010).

The notion of competence in SDT is closely related to self-efficacy, a person's belief that he/she can successfully accomplish a set task (Bandura, 1977; Bandura, 2012). If people think a goal cannot be achieved, they may not even attempt to achieve it (Gregory, Beck and Carr, 2011). Furthermore, self-efficacy leads to a range of positive outcomes including engagement, persistence, reduced anxiety, and greater cognitive flexibility (Moen and Skaalvik, 2009). Pasupathy (2010) noted the importance of self-efficacy for academic staff, reporting that those with higher levels of research self-efficacy produced higher levels of research outputs. Self-efficacy can be enhanced through building on previous successes (Tompkins, 2013), particularly if the task is not too easy and is accomplished independently and at an early stage with only limited failures. There is a risk of boredom and alienation if a task is too easy or of anxiety and disengagement if too difficult (Csikszentmihalyi, 1990). Schreiner, Hulme, Hetzel and Lopez (2009) state that the relationship between academic self-efficacy and educational outcomes has been well established. They stress the importance of timely, frequent and constructive feedback in achieving learning outcomes.

Autonomy and competence are essential for intrinsic motivation, which Deci and Ryan (2000:234) describe as "*people freely engaging in*

activities that they find interesting, that provide novelty and optimal challenge". Niemiec and Ryan (2009) support this view, arguing that both autonomy and competence are necessary to maintain intrinsic motivation for learning, as competence by itself is not enough. They suggest that autonomy supportive tasks are conducive to students' internal motivation, deep learning and creativity. This is consistent with Knowles, Holton and Swanson's (2005) view that adult learners are internally motivated and self-directed.

Investigations into applications of SDT in educational contexts have found that autonomy has a key role to play in student motivation (Reeve, 2002). Reeve's study of teachers in the classroom found that students showed higher levels of autonomy and perceived competence when teachers listened to students, allowed more time for individual work, avoided directives, responded to student-generated questions, and resisted giving answers. Listening and being non-directive are classical features of coaching, e.g. Rostron (2009) and Scoular (2010) and are behaviours which the lecturers in the course in this study endeavour to apply, in order to model good coaching practice. Autonomy support for doctoral students developing research skills includes acknowledging the student's perspective and allowing students to make their own decisions (Overall, Deane and Peterson, 2011). Having to meet course requirements which are not seen as relevant or useful has a detrimental effect on autonomy (Hartnett, St George and Dron, 2011).

Gagne and Deci's (2005) meta-analysis of studies in organisations found that promoting autonomy led to intrinsic motivation, and a range of positive outcomes including job satisfaction, positive work attitudes, organisational commitment, individual psychological well-being and improved performance. Schreiner, Hulme, Hetzel and Lopez (2009) note that students who are genuinely motivated, are more likely to engage in learning, and that their engagement results not only in better performance in exams but also lead to personal growth and development. Support for autonomy in a work environment, according to Gagne and Deci (2005), includes choice and meaningful positive feedback as well as the interpersonal context such as managers' styles and organisational climate. The importance of feedback in achieving learning goals noted above is consistent with the education literature more broadly, e.g. Laryea (2013), Boyle and Mitchell (2011) and Hattie

and Timperley (2007). As noted twenty-five years ago by Sadler (1989), feedback should help students understand more about the learning goal, their own performance in relation to that goal, and how to bridge any gap between their own performance and the learning goal. Students who self-assess and obtain feedback from peers and lecturers learn to identify their own benchmarks of good practice, to relate theory to practice, and to take responsibility for improving their own knowledge and skills. This autonomy promotes their capacity for lifelong learning (Boud, 2007).

The third element of self-determination theory, relatedness, is also important for intrinsic motivation, according to Deci and Ryan (2000), although less so than autonomy and competence. Deci and Ryan (2000) argue that human needs relate to innate tendencies toward achieving connectedness, effectiveness and coherence and hence environments which allow these needs to satisfied, contribute to people's vitality and mental health. Furthermore, according to Deci and Ryan (2002), social environments which fulfil these needs will result in motivated, engaged and successful individuals. Modern conceptions of feedback portray feedback as a relational process, rather than a product, involving at least two-way discussions of expectations and the extent to which those expectations are met (Carless, 2006; Rust, 2007; Pokorny and Pickford, 2010).

 It is in this aspect of social relatedness that the approach outlined here differs most from the individual supervisor/student relationship which still characterises the experience of many research students. Mäata (2011) extols the benefits for doctoral students of seminars which provide enriching interactions, new ideas, and even new friendships. The notion of peer support in doctoral education has also been explored by Santicola (2013:256) noting that a cohort 'enables students to generate ideas collectively and collaborate with one another with the hopes of reducing the feeling of isolation'. Santicola found that doctoral students' need for autonomy can take precedence over working collaboratively with the cohort and that there needs to be a balance between working alone and coming together to discuss progress.

This paper next outlines the methodology adopted here and then how the principles of SDT were incorporated in a coursework masters'

research class.

Methodology

The research approach adopted for this study was an action research approach, conceptualised in line with that articulated by Altrichter, Kemmis, McTaggart and Zuber-Skerritt (2002):

1. *"Action research is about people reflecting upon and improving their own practice;*

2. *By tightly interlinking their reflection and action; and*

3. *Making their experiences public to other people concerned by and interested in the respective practice."*

The approach adopted here meets the description of Carr and Kemmis (1986) of action research being concerned with the improvement of educational practices, understandings and situations, as well as relating practices, understandings and situations to each other, comparing theory and real life practice, for the purpose of improving practice. It also fits Holland and Garfield's (2012) description of action research as a form of self-evaluation aimed at improving performance, 'often used to investigate educational issues because it combines diagnosis with action and reflection'.

It should be noted however that the current study was not a classic participatory action research project as there was only one cycle of planning, acting, observing and reflecting (although data from an earlier instance of the subject was the stimulus for the project) and participants (the students) were not involved in planning or sense-making. The approach may be characterized as 'technical action research' (Carr and Kemmis, 1986), testing the findings of research related to SDT in the classroom.

Data gathering was by means of an online survey. While online surveys may be less rich than interviews or focus groups, they have a strong advantage in that students may feel more comfortable in giving negative feedback. Furthermore, focus groups or interviews with students who have enjoyed an enriching and transformative learning experience may have a positive bias. For this study, the highly positive student surveys

of the same subject in previous years suggested that this was a genuine possibility and hence an online survey was developed. The survey allowed for free text comments which, as will be discussed under the section Observe, provided real insights into students' learning about research. The online survey was conducted post completion of the subject, after results were declared and the time for appeals had passed, in order to comply with the requirements of the university's Human Research Ethics Committee, as this ensured that the responses given could not sway the lecturer's judgement in grading student performance. There were only ten students in the 2012 cohort and all ten participated in the survey.

Following a brief description of the context, the paper will next report on each of the steps of the action research approach adopted, viz. plan, act, observe and reflect.

Context

All forms of action research are situated in a specific context. It is important therefore to understand the context for this study, a Master of Business Coaching, where students learn about and apply their understanding of relevant coaching theory, develop their coaching skills, reflect on their learning and develop their own coaching models. The students on this program are typically experienced coaches and managers, working full-time and studying part-time, with an average age of 40 - 45. In addition to their work commitments and study requirements, these students often have carer responsibilities for either children or aged relatives. To cope with these competing demands, their motivation needs to be high. Their initial motivation for returning to study is related to their passion for coaching and is sustained by the quality of their learning experience and the support of their fellow students and faculty members.

One of their later subjects which initially can seem daunting and threaten student motivation is a business coaching research paper. Yet including a research requirement in all coaching programs was one of the recommendations of the Global Coaching Convention (Rostron, 2009) as well as a masters' program requirement of the Australian Qualifications Framework (AQF 2013). The challenge therefore is to find ways to ensure that the experience of learning to do research does

not detract from the students' motivation to complete the program but rather enriches their coaching practice and equips them to conduct further research autonomously.

Plan

While there was only one cycle within the study reported here, the planning for the action was informed by three perspectives: the theoretical perspective derived from the literature relating to self-determination theory, the lecturer's experience teaching the class in previous years, and the student perspective derived from informal feedback, formal student surveys and the alumni survey conducted each year. The students' feedback consistently stressed that they valued being allowed to choose projects which were relevant to them, which is consistent with the theoretical perspective with autonomy identified as a necessary element of self-determination theory.

The lecturer's experience was that students often experienced high levels of stress while conducting their projects and hence was keen to find ways to help students achieve a sense of competence and confidence earlier in their projects, to maintain high levels of motivation, and furthermore to find ways for students to support each other, so that they were not solely reliant on the lecturer. A model of individual supervision was rejected as it would be inefficient in terms of lecturer time in developing common skills for all students and also in terms of underutilising the students' skill set and ability to help each other. Hence a blended learning model was developed, in which students would meet frequently (five full days) in the first month. Thereafter they would stay connected electronically as well as attend two further face to face days.

The theoretical framework of self-determination theory was identified as an approach proven to support the development of competence as well as enhancing student motivation, and this approach was therefore incorporated into the plan for the following year.

Act - Application of self-determination theory in the classroom

Competence

The purpose is to ensure that they have sufficient understanding of

research methods to enable them to conduct small-scale research projects both ethically and effectively. During the first five days of face to face classes, students help each other to refine and finalize their overall research question. Defining a research question is often a difficult task but a critical one in order to complete a research project successfully in a short space of time. Students also help each other to refine their survey or interview questions and pilot their surveys and interviews. This ensures students get far more input and insight into how questions may be interpreted by their participants than if they only received feedback from their lecturer. Students come to appreciate that they already have skills in questioning which they have developed as coaches and can apply in research, in other words, they already have some competence and recognising this adds to their confidence and self-efficacy. Two months later, while conducting their research, there is a day for people to share their progress and get advice on any difficulties they are encountering. Having gathered and analysed data, students present draft findings to a panel of academics and peers, receiving formative feedback to improve their final report due one month later. Although each student conducts an individual project, their experience is a shared one, unlike the traditional solitary research journey.

As a core subject in the Master's program, there are assignments which are graded and contribute towards the students' weighted average marks for their whole degree program. Although necessary to provide a mark, these assignments are designed for learning, and not only to provide a mark. Rather than a single assessment of a final research report, the assignments are staged, with the Research Proposal (including an application for ethics approval) worth 30%, the presentation of draft findings 15%, and the Research Report (including an ethics completion report) 55%. In addition, there are non-assessed presentations, where students receive feedback but not grades. This staged assessment process helps build self-efficacy, in line with the 'ramped' approach to goal setting, which suggests that people who become competent in basic skills initially are better prepared to develop more complex skills later and to attempt more complex versions of the same task (Bell and Kozlowski, 2002).

Marking criteria and rubrics are provided at the start of the subject which ensures that academics articulate their expectations and that

students are clear not only on the criteria, but also on the standard expected for each grade, e.g. what is the difference between a high distinction and a pass in relation to critical analysis? An example is shown in Table 1:

Table 1: *Extract from rubric for critical analysis*

High Distinction 85 – 100%	Pass 50 – 64%
- Demonstrates deep understanding of topic - Carefully and thoroughly evaluates previous research from all relevant perspectives, taking care not to let researcher's own assumptions or bias affect the review - Summarizes key themes - Identifies gaps in the literature - If direct quotes are used, they are used sparingly and to great effect - Insightful conclusion is clearly linked to concepts developed in the paper	- Demonstrates understanding of topic - Descriptive summary of previous research - Heavy reliance on direct quotes - Weak conclusion

Articulating requirements in this way makes it easy to give specific constructive feedback, as the feedback can be linked to each point. Summative feedback (marks) is given on the three graded assessment tasks. Formative feedback (also known as feedforward) is given not only on assessment tasks but also on non-assessed presentations and drafts which students are encouraged to send prior to formal submissions. Care is taken to phrase feedback constructively, identifying issues which students need to address, but doing so in a way which makes it clear that the intent is to help them improve. Students are advised what they need to do differently, and given specific feedback, such as a reminder to identify common themes in the literature, rather than summarize what one author said and then what another author said. Feedback is also given on drafts of applications for ethics approval so that all students receive their ethics approval in a timely fashion, enabling them to spend

the maximum amount of time conducting their research project, rather than waiting for approval.

There are also additional benefits in terms of content knowledge as each student learns something of the theory and the findings of their fellow students as well as learning in depth about their own topic.

Autonomy

The primary element contributing to student autonomy is their ability to choose their research topic freely, the only constraint being that it should relate to business coaching, the focus of the masters' program. All the students' previous subjects relate to coaching and they therefore have a solid understanding of coaching theory and practice. They typically choose topics that relate either to their business or career, such as the application of coaching for maternity leave, or to personal interests such as moments of self-doubt in coaching. Furthermore students have to include a project plan with their initial research proposal and take responsibility for identifying participants and carrying out all their tasks on time. They also take responsibility for their own learning, with a reflection on what worked well and what they would do differently another time included with their presentation and report of their findings.

Relatedness

In the first five days, students learn about research and help each other refine their topics and their questions. An added advantage of the whole day format is that students spend their breaks together and informal learning and support continues outside the classroom. They also come to appreciate the expertise of their fellow students and experience the support and relatedness fostered by the program. As noted above, there is a progress sharing day while the students are conducting their projects, which enables them to support each other as well as receiving guidance. Two months later, while conducting their research, there is a day for people to share their progress, get advice on any difficulties they are encountering, and support each other.

Lecturers role model a coaching approach in the way they relate to students, listen attentively, ask questions, and give feedback both

in class and on assignments. Rather than finding fault with in-class student presentations, we promote a collaborative approach, creating a thinking environment, in which the quality of listening helps others improve the quality of their thinking (Kline, 1999; Kline, 2009). The lecturer sits to the side so that students are presenting to each other, with the lecturer acting as facilitator. When students finish presenting, everyone takes a turn to comment on positive aspects before questions, challenges, suggestions for improvement or offers to help (e.g. identifying possible research participants) are invited. This positive support energizes the students, giving them confidence and support. The lecturer records the comments and suggestions which are emailed to each student later that day. This frees each student to engage fully in the conversation in class, knowing that important points relating to their topic will be captured. The email boosts their motivation as the comments clearly demonstrate that others are interested in their topic. It also boosts mutual respect as they recognize that their peers have useful suggestions to make. This creates a sense of community, where peer feedback is valued and reciprocated, and also gives the students additional practice in giving feedback, one of the core coaching skills. As the subject is taken in the students' second year, they have already had considerable practice in giving and receiving constructive and respectful feedback, making peer feedback a natural process to incorporate in the research subject.

In between face to face classes, students interact frequently with fellow students, with the academic staff and the library, with support available throughout their research projects both electronically and face to face.

There is no negative consequence for helping fellow students, unlike the example cited in Latham and Locke (2006) of MBA students whose distribution of marks was ranked, and hence helping others could mean doing worse oneself. Our grading is against the criteria, not against a given distribution. Of course no presentation is perfect, but rather than merely pointing out the failings, the students are advised where they need to improve, e.g. justify their choice of research methodology or support their arguments with references.

Observe – The data

The students were first asked to rate how confident they felt about

completing a research project before they started the subject and how confident they felt afterwards. The results are shown in Table 2.

Table 2: *Perceptions of Confidence before and after starting the subject*

	Before	**After**
Not at all Confident	1 (11.1%)	0 (0.0%)
Not Very Confident	4 (44.4%)	0 (0.0%)
Confident	1 (11.1%)	1 (11.1%)
Quite Confident	2 (22.2%)	6 (66.6%)
Very Confident	1 (11.1%)	2 (22.2%)

n = 10

As can be seen from Table 2, after completing the subject, all the students felt confident, quite confident or very confident about undertaking research.

Students were also asked to rate how competent they felt before they started the subject and afterwards. The results are shown in Table 3.

Table 3: *Perceptions of Competence before and after starting the subject*

	Before	**After**
Not at all Competent	1 (11.1%)	0 (0%)
Not Very Competent	4 (44.4%)	0 (0%)
Competent	0 (0%)	3 (33.3%)
Quite Competent	3 (33.3%)	5 (55.5%)
Very Competent	1 (11.1%)	1 (11.1%)

n = 10, 1 student skipped question

Again, after completing the research subject, all the students felt competent, quite competent or very competent at conducting research.

While statistical tests are meaningless with such a small sample size, there was a clear increase in both confidence and competence. Marks awarded for tasks showed that students' perceptions of their competence were justified, with average marks for each task and overall marks earning a distinction (75% +) as shown in Table 4.

Table 4: *Mean and range of marks for each assessment task*

	Mean Marks	**Range of Marks**
Assignment 1 Research Proposal	77%	65% - 88%
Assignment 2 Presentation of Draft Findings	75%	65% - 88%
Assignment 3 Research Report	78%	65% - 86%
Overall Marks	78%	66% - 85%

It is clear that by the time they completed the first assignment, students had already developed a good degree of competence in conducting research. Building on students' existing strengths, both in their skills in listening and questioning, and on their knowledge of relevant literature, equipped students with the knowledge and skills they needed to succeed in carrying out a research project.

While the overall marks for each task changed very little, there were some strong increases in specific criteria, e.g. an increase in the mean mark for critical analysis from 70% in the research proposal to 85% in the final report and for linking findings with literature from 64% in the presentation of draft findings to 75% in the final report. Students incorporated the formative feedback in their later assignments. Unfortunately they sometimes omitted to address all parts of the criteria, so that their overall marks did not show the same improvement.

Students were asked to reflect on their key learnings. None referred to what they had learned about the topic they were researching, all referred to the research skills they had developed, e.g.

- *Keep the topic simple - the goal is not to "set the world on fire" but to learn the process of research*

- *Even though I thought my topic was precise, the results provide unexpected information that takes you in other directions - you have to let some things go or take them up as a separate research topic.*

- *Ethical issues in research such as perceived power in an*

> *employing organization and potential bias in questions were new learnings.*

Such comments indicate that students really had learned something about the process of doing research, and not only about the answer to their research question.

Reflection

Where there were differences between their before and after ratings of their confidence and competence, students were asked to comment on the reasons, choosing from a list of options or adding new reasons. The reasons were presented in the survey as three lists, actions by the students themselves, actions by their peers, actions by the lecturer.

In relation to developing competence, students cited the impact of their own actions in learning by doing the research project (5/10) and learning from feedback on each assignment (5/10).

An example of a free text comment was:

> *"I have the ability to undertake research. I have the desire to undertake further research. I have greater confidence through the process of adult learning and support from my lecturer and fellow cohorts. I would be willing to support future cohorts in their learning experience with my learned experiences both academically and professionally …."*

They also rated highly the support of the lecturer in refining their research question (6/10) and survey/interview questions (7/10); helping them obtaining ethics approval (6/10); providing clear marking criteria and grading guidelines (5/10); and giving constructive feedback on assignments (6/10).

Two of the ten students who graduated in 2012 commenced doctoral studies in 2013 while others have presented their findings to a variety of audiences, further evidence that they had developed competence, confidence and indeed a passion for research.

Autonomy in their choice of topic was very important, with most students selecting as one of the reasons for the increase in their

confidence and/or competence as the ability to choose a topic which resonated with them personally (7/10) or choosing a topic which mattered to them professionally (6/10). Being able to choose their own topic, whether for personal or professional interest, is important for adult learners, addressing their need for autonomy and relevance. A research project requires high levels of effort from students, which is easier to maintain when the topic is one that they find meaningful and relevant.

An example of a free text response was:

> *"Selecting the research topic was an essential element that added value for myself and was a far greater motivator than workplace scenarios, group work and presentations that are provided as exemplars of industry practice. This was real."*

High levels of intrinsic (autonomous) motivation and support for autonomy have previously been found to lead to higher academic performance (Gagne and Deci, 2005).

The importance of relatedness was evident in the positive response of students to the support they received from fellow students and staff. Students noted the impact of the opportunity to refine their research question (5/10), to pilot their surveys and interviews with fellow students (6/10) and to motivate each other. The fact that others listened attentively and valued each other's contributions created a positive and motivating environment. They also learned from each other, thereby increasing their competence as well as their confidence. A free text response summarized the experience:

> *"This group has an extremely high degree of respect for each other, valuable industry experience and willingness to help each other. The facilitation of presentations and group work in developing and evaluating the research project greatly contributed to allowing everyone to provide their perspective and ideas."*

Relatedness also included a sense of being related to the teacher, with students valuing the lecturer's belief in the value of their topics (7/10); the lecturer's belief in their ability to succeed (7/10); and a

positive response from the lecturer to their presentations (7/10). This is consistent with Niemiec and Ryan (2009) who say that in the classroom, relatedness is deeply related to a sense that the teacher 'genuinely likes, respects and values him or her'.

Students clearly perceived that their competence and confidence had increased while completing their research subject. The grades they received for the subject overall and for each graded task support their perceptions. As discussed here, the reasons they gave fit well with autonomy, competence and relatedness, the key elements of self-determination theory. The lecturer's reflection was that the students had indeed developed competence in conducting research. While a focus on developing competence is not unusual, the focus on autonomy and particularly the focus on encouraging a supportive environment that meets students' need for relatedness are rarely found in the literature about developing research skills. Yet clearly both contribute strongly to the students' perceptions of their competence and confidence.

Conclusions

Developing research skills is about more than technical skills, it is about creating a positive environment with support from staff and fellow students which enhances motivation for current *and* future research. The answer to the research question is that the application of self-determination theory does help students develop both competence and confidence in their ability to conduct research. All three elements, competence, autonomy and relatedness are important according to students' perceptions. Feedback is also related to all three elements, helping students develop autonomy in their ability to self-assess, to improve, and as a relational process rather than a product.

The contribution of this paper includes identifying practical ways to incorporate theories such as self-determination theory in the classroom, e.g. students and lecturer providing positive comments on each student's proposal before asking questions or making suggestions.

It is clear from the student responses that adult learners appreciate the support they receive from peers and staff and also recognise the importance of their own actions, in increasing both their competence and their confidence in conducting research.

Classes which help students become familiar with the research process and clearly articulate requirements ensure a shared understanding between lecturers and students. Research becomes less mysterious and intimidating. Staged assessments with prompt constructive feedback help students to learn and apply their learning in their later work. In articulating their key learnings, students commented not on what they had learned about their research topic but what they had learned about research, sharing insights which many researchers would identify with.

When adult learners see the relevance of research to their professional practice, they are more likely to continue accessing and conducting research as practitioners, becoming lifelong learners, partners with academic researchers, and members of a community of practice to enrich our learning and teaching. Since graduating, these students have followed up their new found passion for research and confidence in their own ability to conduct research.

Limitations and recommendations for further research

There are of course limitations to this survey, particularly in relation to the size of the cohort. Replication with larger groups is important, as well as with different degree programs and different teaching staff. It is also important to conduct pre and post surveys, rather than rely as this study did on students' retrospective perceptions of how they felt before they began the subject. The Human Research Ethics Committee's concern was to ensure that the students were clear that the lecturer could not influence their results, depending on their responses to the survey. An alternative that could be used in future is for a person other than the lecturer to conduct the research.

In addition to incorporating self-determination theory, self-efficacy and constructive feedback, the approach outlined here matches Seligman's (2011) construct of PERMA (Positive Emotions, Engagement, Positive Relations, Meaning, Accomplishment), which Seligman (2011) found to enhance people's well-being. A further study could test whether this approach results not only in helping adult learners develop research skills and the confidence to use them, but also in improvements in their well-being.

It will also be interesting to follow the progress of students who have

completed this research subject and continue to research degrees, to understand whether their small scale experience with this research project helps them to succeed with a larger scale research degree. As the number of students applying for research degrees each year is increasing, it will be useful to develop approaches which work with clusters of students who can provide peer support, even when their topics are different.

Acknowledgements

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Grace McCarthy developed the Master of Business Coaching at the University of Wollongong in 2008. Her research into coaching and into education has been presented internationally in books, conferences and journals. In 2012, Grace was awarded an Australian Government Citation for Outstanding Contributions to Student Learning for "Using a coaching approach to inspire a love of learning among students and colleagues".

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