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## Sharing the research journey - fostering a love of research in coursework Masters students

Grace McCarthy  
*University of Wollongong, [gracemc@uow.edu.au](mailto:gracemc@uow.edu.au)*

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### Abstract

Based on addressing the motivational needs identified in Self Determination Theory (Ryan & Deci, 2000), the paper outlines an engaging approach to developing research skills in a coursework masters program. Self Determination theory is a needs based theory of motivation, focusing on basic human needs to relate to others in a group, to strive for competence, and to enjoy autonomy. According to Deci and Ryan (2002), social environments which fulfil these needs will result in motivated, engaged and successful individuals. Our students enjoy autonomy in their choice of topic and develop competence in research skills. Although each student conducts an individual project, they support each other throughout the program. The paper reports the findings of a survey of the participants in the 2012 cohort, identifying whether students perceived a difference before and after the research subject in their competence and confidence in conducting research. It reports the actions students considered had contributed to any differences, whether they were actions by the students themselves, by their fellow students or members of staff. The paper also discusses a staged approach to assessment in this research subject, and shares an example of a rubric for critical analysis. The paper concludes that creating a positive environment with support from staff and fellow students enhances motivation for current and future research. Limitations of the study include the small sample size. The paper offers some suggestions for further research, including replicating the study with larger samples.

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# Sharing the Research Journey – Fostering a Love of Research in Coursework Masters Students

Grace McCarthy

Sydney Business School, University of Wollongong, New South Wales, Australia

[gracemc@uow.edu.au](mailto:gracemc@uow.edu.au)

**Abstract:** Based on addressing the motivational needs identified in Self-Determination Theory (Ryan & Deci, 2000), the paper outlines an engaging approach to developing research skills in a coursework masters program. Self-Determination theory is a needs-based theory of motivation, focusing on basic human needs to relate to others in a group, to strive for competence, and to enjoy autonomy. According to Deci and Ryan (2002), social environments which fulfil these needs will result in motivated, engaged and successful individuals. Our students enjoy autonomy in their choice of topic and develop competence in research skills. Although each student conducts an individual project, they support each other throughout the program. The paper reports the findings of a survey of the participants in the 2012 cohort, identifying whether students perceived a difference before and after the research subject in their competence and confidence in conducting research. It reports the actions students considered had contributed to any differences, whether they were actions by the students themselves, by their fellow students or members of staff. The paper also discusses a staged approach to assessment in this research subject, and shares an example of a rubric for critical analysis. The paper concludes that creating a positive environment with support from staff and fellow students enhances motivation for current *and* future research. Limitations of the study include the small sample size. The paper offers some suggestions for further research, including replicating the study with larger samples.

**Keywords:** research skills development, self determination theory, motivation, self-efficacy, staged assessments, rubrics

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## 1. Introduction

Students undertaking a coursework masters are understandably nervous about undertaking research projects. However there is a growing demand for students to have the skills to undertake an independent research project. For example, in Australia, the revised Australian Qualifications Framework (AQF, 2013) requires coursework masters students to be able 'to plan and execute a substantial research-based project, capstone experience and /or piece of scholarship'. Even if students take a capstone subject rather than a research project, all coursework masters students are expected to have 'knowledge of research principles and methods applicable to a field of work and/or learning'. If done well, research 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. In coaching however, it is particularly important as there have been many criticisms of early coaching research which was often conducted by commercial organisations keen to sell their services (Grant, Passmore, Cavanagh, & Parker, 2010). Practitioner research often addresses problems of which academics are unaware. Practitioners also may obtain different responses to questions than academics, because of their familiarity with their organisation or industry. They do of course have to take care with ethical issues, particularly if they are conducting research within their own organisations, such as ensuring that participants are genuinely free to participate or not (McCarthy, 2011).

The students on this course are mature professionals, average age 40 – 45. They include full-time internal and external coaches, coaching managers, human resource managers, learning and development practitioners, and a range of other professions. The course takes place in two-day workshops. In their first year, the students develop their understanding of coaching theory and their coaching skills, and in parallel develop their academic skills in finding relevant reliable sources for information, how to use information ethically and appropriately, and how to write in an appropriate style. They complete the research project in their second year. At their age, they often have carer responsibilities for children or elderly relatives, demanding jobs, and other social commitments. Juggling these competing demands with postgraduate study is demanding.

This paper offers an alternative to the traditional individual master-apprentice model to which many research students are still exposed. Based on addressing the motivational needs identified in Self-Determination Theory (Ryan & Deci, 2000) of autonomy, competence and relatedness, the paper outlines a way to make the process of learning how to do research more engaging than sitting listening to lectures about research methodology. Our students enjoy autonomy in their choice of research topic, they develop competence in research skills, and although each student conducts an individual project, they support each other throughout the program. This

begins on the first day when students share their topics with each other. Each student is asked to say something positive about each topic they hear, and then to share any questions or suggestions. Students are encouraged to share resources which may help other students and to help each other refine research and survey or interview questions. Workshops on topics such as literature reviews and research methods help students develop their self-efficacy (Bandura, 1977), i.e. their belief that they can complete the task successfully. Without such a belief, students may consider the task too hard and not put in great effort. Staged assessments and non-assessed presentations ensure students receive formative feedback throughout their projects.

## **2. Literature review**

The underlying theory for the approach outlined in this paper is Self-Determination Theory, a needs-based theory of motivation, focusing on basic human needs to relate to others in a group, to strive for competence, and to enjoy autonomy. According to Deci and Ryan (2002), social environments which fulfil these needs will result in motivated, engaged and successful individuals. Deci and Ryan (2000:234) argue that autonomy and competence are essential for intrinsic motivation which they define as:

*“Intrinsic motivation involves people freely engaging in activities that they find interesting, that provide novelty and optimal challenge”.*

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. It is important for the level of challenge or difficulty of each task to be at the right level for each individual to avoid anxiety and disengagement if too difficult or boredom and alienation if too easy (Csikszentmihalyi, 1990).

Gagne and Deci (2005 ) reported that support for autonomy in a work environment includes choice and meaningful positive feedback as well as the interpersonal context such as managers’ styles and organisational climate. Their meta analysis of studies in organisations found that promoting autonomy led to intrinsic motivation, and a range of positive outcomes including improved performance, job satisfaction, positive work attitudes, organizational commitment, and psychological well-being.

Applications of Self-Determination Theory in educational theory 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. Relevance has long been identified as a key factor in motivation, e.g. (Killen, 2007; Knowles, Holton III, & Swanson, 2005). 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.

Schreiner, Hulme, Hetzel and Lopez (2009) also stress the importance of timely, frequent and constructive feedback and this is consistent with the education literature more broadly. Encouraging students to self-asses as well as to get feedback from peers and lecturers encourage students to identify their own benchmarks of good practice, to relate theory to practice and to develop action plans for improving their knowledge and skills. This promotes their capacity for lifelong learning (Boud, 2007).

## **3. Research method**

The research method was an online survey completed after the subject results were declared and time for appeals passed. The lecturer for the subject was not teaching these students in a later subject and so they had no reason to modify their answers to please or impress. Ethics approval was granted by the University’s Human Research Ethics Committee. An online survey was regarded as appropriate as all the students were computer literate with easy access to the Internet. It is a convenient way for students to give their responses in their own time. Unlike interviews or focus groups, online surveys ensure the researcher is unaware of the respondents’ identities as the researcher does not know who has submitted which responses. Online surveys offer a similar advantage over hand-written surveys as there is no risk of recognising a participant’s handwriting.

There were ten students in 2012 cohort and all ten completed the survey, although not all questions were answered. The survey comprised a mix of closed question some with an option for a free text response and free text questions. The free text responses provided some rich insights, enhancing the answers to the numeric questions, thus overcoming one of the potential limitations of a survey, of providing only superficial ‘tick-box’ answers.

#### 4. Findings

As can be seen from Table 1, over half the students did not feel confident about conducting a research project before they began the subject.

**Table 1:** Student confidence before starting subject

Before starting TBS 960, how confident did you feel about conducting a research project?		
Response	%	Number of participants
Not at all confident	11.1%	1
Not very confident	44.4%	4
Confident	11.1%	1
Quite confident	22.2%	2
Very confident	11.1%	1
Skipped question	11.1%	1
Total	100%	10

Table 2 shows the improvement in confidence in their ability to conduct a research project after completing the subject, with all students stating they felt ‘confident’, ‘quite confident’ or ‘very confident’.

**Table 2:** Student confidence after completing subject

After completing TBS 960, how confident do you feel about conducting a research project?		
Response	%	Number of participants
Not at all confident	0%	0
Not very confident	0%	0
Confident	11.1%	1
Quite confident	66.7%	6
Very confident	22.2%	2
Skipped question	11.1%	1
Total	100%	10

Table 3 shows the students’ perception of their competence in conducting a research project before they began the subject.

**Table 3:** Student competence before starting subject

Before starting TBS 960, how competent did you feel about conducting a research project?		
Response	%	Number of participants
Not at all competent	11.1%	1
Not very competent	44.4%	4
Competent	0%	0
Quite competent	33.3%	3
Very competent	11.1%	1
Skipped question	11.1%	1
Total	100%	10

Table 4 shows the improvement in students’ perception of their competence to conduct a research project after completing the subject, with all students stating they felt ‘competent’, ‘quite competent’ or ‘very competent’. The degree of improvement was slightly less than with confidence, with more choosing ‘competent’ and fewer choosing ‘quite competent’ or ‘very competent’.

If there was a difference between their before and after responses, the students were asked about the actions the students considered had contributed to these differences, whether they were actions by the students themselves, by their fellow students or members of staff. Table 5 shows the highest ranked actions (4 respondents and above) which the students took themselves.

**Table 4:** Student competence after completing subject

After completing TBS 960, how competent do you feel about conducting a research project?		
Response	%	Number of participants
Not at all competent	0%	0
Not very competent	0%	0
Competent	33.3%	3
Quite competent	55.6%	5
Very competent	11.1%	1
Skipped question	11.1%	1
Total	100%	10

**Table 5:** Students' own actions

If there was a change between your before and after answers, to what extent (if any) did your own actions contribute? Please tick all that apply, using a scale of 1-5 where 1 is 'did not help at all' and 5 is 'helped to a great extent'.	
Response	Number of participants rating 5 'helped to a great extent'
Choosing a topic that mattered to me personally	8
Choosing a topic that mattered to me professionally	6
Being able to choose my own research topic	5
Learning by doing the research topic	5
Learning from feedback on each assignment	5
The effort I put in to carrying out my research	4

Additional free text responses to this question included

*"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."*

*"The research project provided additional motivation to learn from the project rather than completion of another subject of study."*

*"Personal commitment to give this task my best effort."*

Students were also asked about actions by their fellow students which they believed had contributed to these differences. Highest ranked responses (4 respondents and above) are shown in Table 6.

**Table 6:** Actions of fellow students

If there was a change between your before and after answers, to what extent (if any) did your fellow students contribute? Please tick all that apply, using a scale of 1-5 where 1 is 'did not help at all' and 5 is 'helped to a great extent'.	
Response	Number of participants rating 5 'helped to a great extent'
Students helping each other with motivation	6
Support in refining my survey/interview questions	6
Support in refining my research question	4
Support in piloting my survey/interview	4
Positive response of other students to my topic and presentations	4

Free text responses to this question highlighted the support students gave and gained from each other:

*"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."*

*"Our group has been a constant source of inspiration and support for me."*

*"I have sought to make a strong contribution to the program, our group and my own learning and have found a great level of support from my colleagues."*

Students were next asked about actions by staff which they believed had contributed to these differences. Highest ranked responses (5 respondents and above) are shown in Table 7.

**Table 7:** Actions of staff

If there was a change between your before and after answers, to what extent (if any) did your fellow students contribute? Please tick all that apply, using a scale of 1-5 where 1 is 'did not help at all' and 5 is 'helped to a great extent'.	
Response	Number of participants rating 5 'helped to a great extent'
Lecturer's belief in my ability to succeed	8
Lecturer's belief in the value of my topic	8
Positive response of lecturer to my topic and presentations	8
Support of lecturer in refining my survey/interview questions	8
Support of lecturer in refining my research question	7
Support in obtaining ethics approval	7
Constructive feedback on drafts or queries	7
Constructive feedback on Assignments 1 and 2 in time to incorporate in Assignment 3	7
Constructive feedback on Assignment 3 Research Report	7
Constructive questions / comments on my presentations	6
Clear grading guidelines	6
Clear marking criteria	6
Explanations of research methods in class	5
Offers of support in publishing findings	5

Free text responses to this question expressed their appreciation of the support from staff:

*"I have commented previously that the support of my lecturer and suggestions throughout this process have been invaluable."*

*"Strong support from lecturers including suggestions for improvement, articles of relevance, and willingness to go the extra mile to help through a challenging session."*

*"I have made good use of the SBS library through this research project and had excellent support from the librarian."*

Finally students were asked to identify their key learnings from the subject in free text responses. Only one student referred to their topic. All others referred to what they had learned about the process of doing research, e.g.

*"Keep the topic very narrow and try not to get sidetracked by tangential interesting information."*

*"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."*

*"This was an interesting process where I was challenged by my own assumptions at the commencement of the research."*

*"Sorting, collating, analysing and drawing conclusions from the research is challenging and demands consistent time and effort to do well."*

*"Share knowledge and skills - each person has something to offer whether using Survey Monkey, producing charts or being clearer about the questions to be used in the survey."*

*"An appreciation and respect for evidenced based research" "Ethical issues in research such as perceived power in an employing organisation and potential bias in questions were new learnings". "There is more research I can do on my chosen topic."*

These comments illustrate that students have reflected on their learning and can identify what they found of value. While not all will become future producers of research, all will be able to assess the quality of the research they use as the basis for evidence-based practice.

Student surveys run by the university were very positive for this subject, with an overall mean of 5.75/6.0. Responses to individual survey questions are shown in Table 8.along with the university mean for the same question. University means are usually lowest for Q5 'This teacher stimulates me to think about the subject' and Q8 'Because of this teacher I have felt enthusiastic about studying this subject'.

**Table 8:** Student survey responses

Question	Subject Mean TBS 960 June 2012	University Mean Dec. 2011
Q1. This teacher is well prepared for the subject.	5.88	5.49
Q2. This teacher presents the subject matter clearly.	5.75	5.24
Q3 This teacher organises and sequences the subject matter well.	5.62	5.30
Q4 This teacher presents an appropriate amount of material for the time available.	5.75	.22
Q5. This teacher stimulates me to think about the subject.	5.75	5.12
Q6 This teacher appears to be interested in assisting me to learn.	6.00	5.34
Q7 This teacher is helpful in response to my questions or problems.	5.88	5.31
Q8. Because of this teacher I have felt enthusiastic about studying this subject.	5.88	4.98

## 5. Discussion

The findings show that the students taking this subject increased in their perceptions of confidence and competence. The top three responses relating to the student's own actions related to the choice of topic, which demonstrates autonomy in Deci and Ryan's Self-Determination Theory. The top response referring to actions by fellow students was about how other students helped their motivation as well as helping them refine their questions. The free text responses confirm the importance of the support of the group which fits the 'relatedness' aspect of Self-Determination Theory. The lecturer's support was also vital both in terms of motivation and support. The key learnings indicate that students gained many insights about the research process, in addition to anything they learned about their topic. There was also a strongly positive response to the constructive timely feedback, the marking criteria and rubrics.

As noted above, feedback on assessments was noted as one of the actions by staff which helped students develop their competence and competence. Rather than have all the marks for the final research report, the students submit a research proposal weighted at 30%, a presentation where they present their draft findings weighted at 15%, and the final report is weighted at 55%. In addition, the students receive formative feedback on their initial presentations of their research topics and on their presentation of their interim findings and progress reports. They also receive individual feedback on drafts and on their ethics applications. Formative feedback is provided by peers as well as staff, while summative feedback is provided only by academic staff.

Feedback has led to improvements in areas that are new for these students, for example mean marks for critical analysis increased from 70% in Proposal to 85% in the final report while the mean mark for linking findings with literature increased from 64% in draft findings to 75% in the final report.

The marking criteria and rubrics are shared with the students from the start of the subject and discussed in class to ensure a shared understanding of what is expected. The feedback on each assignment relates to the rubrics and this helps students understand the rubrics better for the next assignment.

Table 9 shows an example of a rubric for critical analysis, for reasons of space only three grades are shown, pass (50-64%), credit (65-75%) and high distinction (85-100%). Similar rubrics are available for research depth, written presentation, and other marking criteria. Although academics may argue about the wording of the rubrics, the important thing is for lecturer and students to have a shared understanding of expectations.

While not the focus of this paper, a 2012 anonymous survey of alumni who had graduated from the Master of Business Coaching found that they valued clear task instructions, meaningful assessment tasks and marking criteria communicated in advance, with a shared understanding of what represents a pass, fail, credit, distinction and high distinction. Graduates regarded it as important for feedback to be constructive, specific and timely. In addition graduates praised feedback they had received as honest, respectful, insightful and highlighting how they could improve in future (unpublished survey). Feedback contributes hugely to the learning process, hence feedback during the session and not only on a final report, helps students understand how to improve.

**Table 9:** Rubric for critical analysis

Critical Analysis		
High Distinction (85–100%)	Credit (65-74%)	Pass (50-64%)
<p>Demonstrates deep understanding of topic</p> <p>Carefully and thoroughly evaluates previous research from all relevant perspectives, taking care not to let researcher’s own assumptions or bias affect the review</p> <p>Summarises key themes</p> <p>Identifies gaps in the literature</p> <p>If direct quotes are used, they are used sparingly and to great effect</p> <p>Insightful conclusion is clearly linked to concepts developed in the paper</p>	<p>Demonstrates understanding of topic</p> <p>Includes some evaluation of previous research</p> <p>Uses few, short direct quotes</p> <p>Conclusion present but not fully based on arguments made in the paper</p>	<p>Demonstrates understanding of topic</p> <p>Descriptive summary of previous research</p> <p>Heavy reliance on direct quotes</p> <p>Weak conclusion</p>

## 6. Conclusion, limitations, and suggestions for further research

Developing research skills is about more than technical skills

Creating a positive environment with support from staff and fellow students enhances motivation for current *and* future research. Two of these ten students are already enrolled in doctoral programs at this university while others plan to apply for next year. Another has chosen not to enrol in a research degree himself but to collaborate with university researchers on projects in his organisation. The students are considering publishing an eBook of their combined papers and two have submitted papers to conferences. They are proud of their accomplishments. They no longer see research as a mysterious activity conducted by academics, but as a community in which they are competent to take part. The support they gave each other during their research projects continued during their later subjects (they have completed two more subjects since their research paper) and no student withdrew from the course after the research subject, suggesting that peer support may form a useful defence against attrition. While this study did not explore student well-being, Deci and Ryan (2000) found that people who successfully meet their needs for autonomy, competence and relatedness experience positive psychological outcomes, a further benefit of this approach if confirmed by future studies.

The staging of assignments combined with constructive feedback related to marking criteria and rubrics shared in advance helps the students understand what is expected. It also helps academics to articulate what it is they are looking for in advance, rather than wait until they see it. Four of the top ranked answers by students about how staff helped them develop their competence and confidence related to feedback and a further two to marking criteria and rubrics (grading guidelines).

The limitations of the study include the small sample size (there were only ten students in the 2012 cohort). Replicating the study with larger samples, with students on research degrees, and with other academic staff, would be useful. It would also be useful to conduct before and after surveys, as this study was carried out only after the subject was completed, and people’s memory may be faulty. It would also be interesting to monitor the progress of students who have completed this research subject and who continue to research degrees. As the number of students undertaking research degrees is increasing each year, it would be helpful to understand if this approach can be used to guide clusters of students on related topics, supplementing some individual supervision sessions with group sessions. Finally, it would be useful to investigate the impact of this approach on attrition of research students.

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**Grace McCarthy**

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