Progression and non-completion in undergraduate students: Moving from academic disengagement to academic engagement

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Abstract

Lack of awareness and proficiency in essential skills contributing to learning, especially metacognitive skills (e.g., evaluation, monitoring, reflection), can have potentially adverse effects on academic engagement. The research presented here constitutes the second phase in a longitudinal research project undertaken at the National University of Ireland, Maynooth (NUI Maynooth) which aims to develop effective supports specifically tailored to meet the needs of students at-risk of non-progression due to academic disengagement.

Prevalent themes to emerge from the interviews conducted as part of the first phase of this research included the high proportion of first year students with concerns relating to an inability to cope with academic requirements and changes in the learning environment (e.g., the expectation of self-regulated learning). Building on these initial findings, a training programme referred to as the Narrative Mediation Path, is currently being tested and evaluated with 18 first and second year undergraduate students. These were students who actively sought advice to help them overcome and address academic difficulties. Across a series of group training meetings, students practise key metacognitive skills related to learning, with a particular emphasis on the development of reflective thinking skills.

In the current paper we detail the training methodology employed with the first cohort of participating students. Additionally, to extend our knowledge of the learning strategies typically employed by the participants, we have obtained data on the students' use of cognitive and metacognitive learning strategies.

Keywords

Academic engagement, self-regulated learning, learning strategies, underachievement, learner support

1. Introduction

Academic engagement is a longstanding topic in higher education, yet one that continues to be important to further our understanding about. There are a myriad of factors contributing to why some students may find it difficult to engage with their studies at university, including financial, social and emotional reasons (see Christie, Munro & Fisher, 2004; O'Keefe, Laven & Burgess, 2011). Increasingly however, a number of students are entering third-level education without having acquired the necessary learning related skills needed to succeed in their chosen course (Drew, 2001; Tuckman & Kennedy, 2011). For several years now, strong concerns have been voiced in Ireland about the detrimental effects to learning arising from the current points based system used in the Leaving Certificate examinations completed by final year second level students (see Hyland, 2011). Rather than encouraging critical thinking and understanding, the points based system is associated with the use of less effective strategies such as rote-learning. Consequently, many students entering higher education directly from secondary school may not have developed the component skills needed to cope with the often unfamiliar academic demands.

Further research is therefore needed to explore possible ways to support these students when it comes to effective learning. Recognition of the need to provide such supports is not limited to researchers, educators and practitioners, but a growing number of students themselves are actively seeking such supports to help them succeed at university. For example, a recent survey of incoming first year students conducted in 2012 at the National University of Ireland, Maynooth (NUI Maynooth) revealed that 86% of students stated that the provision of academic related supports was very important to them.

In the current paper we report on one such learning skills training programme, referred to as the Narrative Mediation Path (NMP), which was developed to support undergraduate students potentially at-risk of academic underachievement. Over the next two years, as part of the INSTALL[1] European research project, the NMP is being tested and evaluated in five countries, including Ireland.

[1] INSTALL, *Innovative Solutions to Acquire Learning to Learn*, is a European funded project (Erasmus Multilateral Projects no. 517750-LLP-1-IT-ERASMUS-ESIN). Partners involved are: University of Naples, Italy; Aarhus University, Denmark; University of Seville, Spain; National School of Political and Administrative Studies, Romania; and National University of Ireland, Maynooth. This paper reflects the views of the authors and the Commission cannot be held responsible for any use which may be made of the information contained therein.

1.1 Helping students learn how to learn

Traditionally within higher education, the expectation is that learners will assume an active role in their studies. Essentially, there is a digression away from the more teacher-directed learning often associated with second level education, with the emphasis instead on self-guided or self-regulated learning. However, as noted by Snowman and Biehler (2006), some students may not have acquired the requisite skills and knowledge to enable them to function as self-regulated learners.

It is generally accepted that self-regulated learning is not a unitary skill (Boekaerts & Cascallar, 2006), but rather there are various processes contributing to self-regulated learning, including amongst others, motivational factors, goal setting, and time management (for a review, see Sitzmann & Ely, 2011). Within the educational psychology literature, many of the widely cited models of self-regulated learning (e.g., Pintrich, 2000; Zimmerman, 2000) also emphasise the cognitive and metacognitive strategies implemented in self-regulated learning. Organising information (e.g., taking notes) and elaborating on material (e.g., paraphrasing) are some examples of typical cognitive learning strategies. Activities such as monitoring performance (e.g., assessing comprehension when reading) and devising plans (e.g., establishing learning goals) can be characterised as metacognitive strategies. Significantly, there is strong evidence to indicate that many of these skills can be trained (e.g., Hattie, Biggs, & Purdie, 1996; Hofer & Yu, 2003; Tuckman & Kennedy, 2011). Such findings are particularly relevant for those students who may be entering higher education with little awareness or previous frequent use of such strategies.

Helping students to acquire and utilise skills related to self-regulated learning may have a role to play when it comes to addressing academic underachievement and non-progression. Previous research (e.g., Gettinger & Seibert, 2002; Kitsantas, Winsler & Huie, 2008; Kornell & Metcalfe, 2006) has shown that students who do engage in self-regulation (i.e., set goals, implement cognitive strategies, monitor progress) perform better on academic assessments, and also record higher rates of graduation, compared to students who do not self-regulate.

1.2 The current research

In spite of the importance attributed to self-regulated learning, unfortunately there may not always be sufficient time within the often highly structured undergraduate courses to provide opportunities for students to practise these key skills. Our aim in

the current research was to pilot a supplementary short-term learning skills programme for students, specifically to promote and develop some of the key cognitive and metacognitive learning strategies associated with self-regulated learning. In particular, the NMP programme was developed to encourage the emergence of reflective thinking skills; reflection being recognised as one of the core metacognitive skills (Lew & Schmidt, 2011; Masui & De Corte, 2005). Hence, the training approach was not only designed to encourage the participants to learn and practise explicit learning strategies (e.g., note taking, memory techniques) but also to help them to become more adept at managing their use of these strategies through emphasising the important role played by reflection in this process. For instance, the decision to employ a particular cognitive learning strategy may be influenced by whether an individual perceives (through reflection) that the strategy was effective or ineffective in the past.

It has been proposed that the most beneficial interventions are those that are undertaken by students as soon as possible once they commence third level education (Richardson, Abraham & Bond, 2012). While acknowledging that there are various factors impacting on progression (e.g., Christie et al., 2004), the importance of introducing early interventions becomes evermore apparent in light of the consistently replicated finding that students who do not complete their courses are most likely to leave during their initial year of study (Wingate, 2007; Yorke, 2001). As highlighted in the most recent report published by the Higher Education Authority (2010), non-presence rates across Irish third level institutions were highest in the first year of study at 15%. Lower non-presence rates of 7% and 4% were reported for the second and third academic years respectively. Bearing this in mind, the NMP was targeted at undergraduate students in their first or second year of study, but more specifically, the programme was designed to help students who were underachieving. That is, students who may not have passed one of their compulsory degree modules, or students who believe that they should be achieving higher than their present academic performance.

An additional aim of the research was to further our understanding of the learning strategies presently employed by the participating students within the local context (i.e., to determine to what extent the students did or did not engage in self-regulatory learning behaviours). Acquiring this information enabled us to identify more precisely some of the areas that the students might benefit from instruction in,

and to tailor the training programme accordingly to meet the needs of the participants. To this end, we administered the Motivated Learning Strategies Questionnaire (Pintrich, Smith, Garcia, & McKeachie, 1991) to obtain an estimate of how likely it was for the participants to engage in certain learning activities (e.g., I make simple charts, diagrams, or tables, to help me organise course material).

2. Method

2.1 Participants

Eighteen undergraduate students (15 females, 3 males) in their first or second year of study at NUI Maynooth, volunteered to participate in the initial cycle of training. The median age of the participants was 19 years (range, 18 to 22 years). In terms of academic performance, eight of the participants had previously failed at least one examination (although they did obtain a pass at a repeat examination sitting). These eight students were invited to take part in the training programme after being in contact with the Academic Advisory Office at NUI Maynooth. The remaining ten participants were self-reporting participants who responded to posters displayed across the university campus detailing the upcoming learning skills programme.

2.2 Procedure

There are three phases in this project as follows: (i) Interviews with students; (ii) Group training; (iii) Tracking academic progress.

2.2.1 Phase One – Interviews with students

In the initial phase of this research, we conducted interviews with 200 first year students to explore the types of difficulties and challenges encountered during their university careers (please see Crowley and Mahon, 2012, for a report on the findings from Phase One of the project).

2.2.2 Phase Two – Group training

Prior to the start of training, all 18 participants completed the learning strategies subtest of the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich et al., 1991). This provided a measure of the various learning strategies employed by the students. Within the subtest, there are five scales indexing use of cognitive and metacognitive strategies (rehearsal, elaboration, organisation, critical thinking, metacognitive self-regulation) and four scales assessing resource management strategies (time and study environment, effort regulation, peer learning, help seeking).

Participants responded to the 50 predetermined statements using a Likert scale ranging from 1 (not at all true of me) to 7 (very true of me). A selection of these statements can be viewed in Table 2.1. An analysis of the responses from this self-report measure is presented in Section 3 below.

Table 2.1 Examples of the questions featured on the Motivated Strategies for Learning Questionnaire by Pintrich, Smith, Garcia and McKeachie (1991).

Learning Strategy Measured	*Example*
Cognitive – Elaboration	"I try to relate ideas in this subject to those in other courses whenever possible."
Cognitive – Rehearsal	"I make lists of important terms for this course and memorise the lists."
Cognitive – Organisation	"When I study the readings for this course, I outline the material to help me organise my thoughts."
Metacognition	"When I study for this course, I set goals for myself in order to direct my activities in each study period."

Since October 2012, the participants are attending a one-hour session each week. There are six sessions in total, and training is due to be completed by the end of December 2012. Participants were randomly assigned to one of three groups, with six students in each group. The sessions are led by one of the authors of this paper, while the other authors observe the sessions as part of the ongoing evaluation of the programme.

The NMP programme was originally developed by Freda, Esposito, Martino and Monteagudo (2012). However, the programme has been adapted somewhat in line with the feedback received from the 18 participants, taking into account both the responses on the MSLQ (please see Section 3) and informal interviews conducted with the participants. For example, many of the participants expressed problems relating to time management and revision. An overview of the six sessions can be viewed in Table 2.2. Key topics covered in the sessions include: learning to learn; memory; study strategies; goal setting; time management; and motivation.

Across the sessions, participants attempt a variety of activities as individuals, in pairs, or as a whole group. To facilitate the emergence of reflection, narrative stimuli are often used (e.g., metaphors, vignettes, written accounts) to enable participants to reflect on and discuss their own (and their peers') previous university learning experiences, and to consider the beliefs, emotions, and attitudes underpinning these behaviours.

Table 2.2 Summary of the training sessions.

Session	*Focus of Session*	*Narrative Stimuli Used (where appropriate)*
Learning to learn	What are the components of learning? For example, attention, memory, motivation, evaluating progress etc.	Proverbs and mottos (e.g., two heads are better than one, if at first you don't succeed…) to discuss potential learning strategies.
Memory	Ways of encoding, organising, and elaborating on information, practising mnemonics (memory techniques).	
Study strategies	Note taking, what to do when reading texts, question generating, summarising and paraphrasing, peer learning (e.g., use of study groups).	Journal writing (reflecting on why some learning strategies are more effective than others).
Time management	Preparing timetables, scheduling learning activities, addressing procrastination.	Vignettes of various university scenarios (e.g., examinations, attending lectures, writing essays), planning time to accommodate these activities.
Goal setting	Forming goals, planning, implementation (putting into action), monitoring and reviewing progress.	Drama and role play (What do you hope to achieve? How could you go about trying to accomplish this?)
Motivation	How do goals affect motivation? Ways to maintain interest in learning, using rewards, looking at self-beliefs.	

2.2.3 Phase Three – Tracking progress

Following completion of the training, we will be tracking the academic progress of the participants (e.g., examination performance) throughout the subsequent semesters. Additionally, the MSLQ will be administered again to the participants to compare the pre- and post-training MSLQ scores for each participant.

3. Results

3.1 Motivated Strategies for Learning Questionnaire

With reference to the MSLQ scoring manual, for each of the scales (e.g., organisation, critical thinking), the scores corresponding to the items from which that scale was comprised were added together and divided by the total number of items in that scale to yield an average for the scale for each participant. Figure 3.1 shows the mean scores for each of the scales computed from the scale averages for the 18 participants.

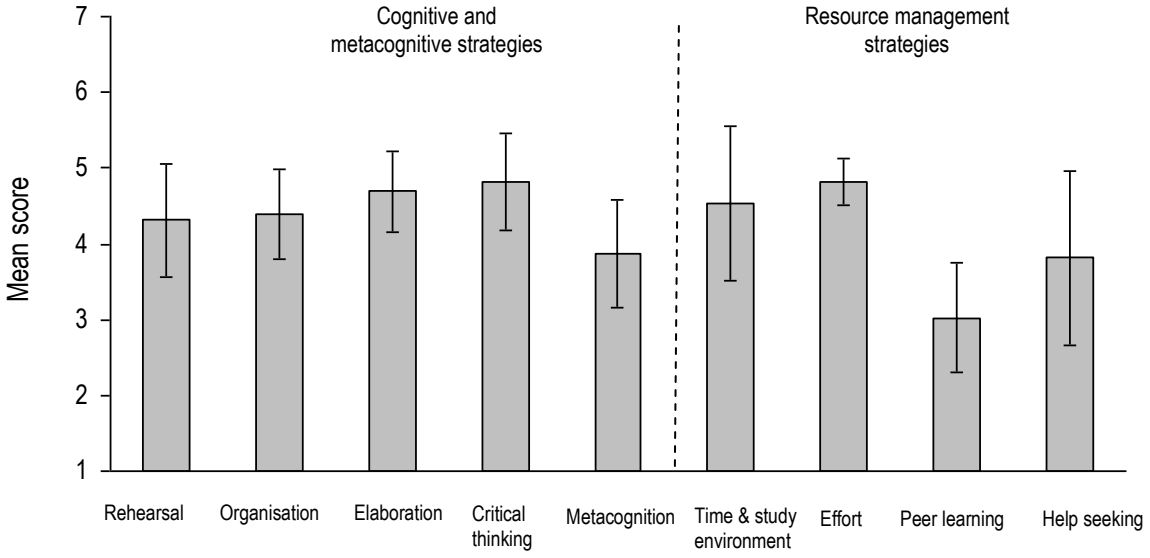

Figure 3.1 Mean scores on the learning strategies subtest of the MSLQ. Participants responded to each item using a Likert scale ranging from 1 (not at all true of me) to 7 (very true of me). Error lines representing standard deviation are shown for each bar.

High scores (i.e., scores greater than 4) indicate that participants engage in these strategies fairly regularly. Low scores (i.e., scores less than 4) suggest that the strategies are employed less frequently, or not at all. As shown in Figure 3.1, prior to the start of training, on average the participants scored around the midpoint of the scale (i.e., a score of 4), for both the cognitive and metacognitive scales, and the resource management scales.

Some interesting trends in the data were that in response to the question "when reading for this course I make up questions to help focus my reading," 12 of the participants indicated that they never engaged in this practice. Likewise, very few of the participants used peer learning strategies (mean = 3.02). When asked, "when studying for this course, I often try to explain the material to a classmate or a friend," 11 of the participants responded that this was not true of them at all. There was also variation in the use of help seeking behaviours. Only four of the participants scored above 4 in response to the question "I ask the instructor to clarify concepts I don't understand well." However, nine of the participants did score towards the higher end of the scale to indicate that they asked other students to explain concepts that they could not understand themselves.

In summary, the participants' responses on the MSLQ indicated that the majority of the participants did use some of the learning strategies, however, very few

of the participants consistently obtained high scores (e.g., scores above 4) to indicate that the featured learning strategy was a practice that they engaged in frequently (i.e., very true of me). Thus, these initial results suggested that all of the participants would potentially benefit from further advice, training, and encouragement in using some of the strategies that they were not at present employing.

4. Conclusions and Future Work

Administering the MSLQ helped us to identify areas to focus on in the training sessions. Rather than reiterating practices that the participants appeared to engage in already, we instead tried to introduce strategies that the students were not adopting, or perhaps were unfamiliar with, particularly those strategies demonstrated to be effective when it comes to learning. For instance, linking new material to previously acquired information (e.g., Roediger, Gallo, & Geraci, 2002), or using questions (e.g., Campbell & Mayer, 2009). Given that several participants obtained low scores on the help seeking scale, particular care was taken to highlight the benefits of activities such as discussing challenging topics with peers, or speaking to lecturers to clarify questions. Overall, the initial data helped us to tailor the training more specifically to meet the learning needs of the participants. Training is currently underway, and we hope to report on the participants' evaluation of the training in the coming months.

Although the research is exploratory and small in scale at this stage, the lack of a control group is a recognised limitation. However, we hope to be able to further test the efficacy of the programme with a greater number of students and incorporate a control group. Questions also remain as to whether the length of the training is sufficient enough to yield any real gains in the academic performance of the participants, or indeed, any changes in their study behaviours. Anecdotally, during the sessions so far, students have discussed their attempts to employ some of the techniques introduced in the classes into their own studies, but as yet, we have no quantitative measure of this. It will be important to continue monitoring the progress of the students and their use of learning strategies, not only in the immediate aftermath of the initial training, but over a longer period of time, and this is something that we hope to address as part of the follow-up stages of the research.

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