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# Age and Students' Approaches to Learning at University

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*HETL Note:* In this academic article by **Dr David William Stoten**, the author investigates, using questionnaire and focus group data, the degree to which age impacts student learning by comparing two groups of undergraduate students taking the same business management course. The author examines the claim that mature students (i.e., those over the age of 21) are more likely to possess more effective approaches to study than younger students. The results suggest that older students may have an advantage in certain learning situations that involve students' life-experience. The author calls for a more integrated curriculum and holistic learning model.

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# **Age and Students' Approaches to Learning at University: A Case Study of Self-Regulation in the Learning Strategies of First Term Business and Management Undergraduate Students**

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## **Abstract**

Self-regulated learning has generated a great deal of interest and research in recent decades as educators search for more effective and diverse ways to engage students. In previous research (Biggs, 1987, Richardson, 1995) it was claimed that mature adult students have a more sophisticated and effective approach to study than neophyte students. The purpose of this paper is to investigate the degree to which age impacts on the approaches taken by two groups of undergraduate students studying the same module. One group were first year undergraduates aged 18-19 who were enrolled on a full-time Business Management degree. The second group were 'mature' adult learners over the age of 21 who were studying their Business Management degree on a part-time basis alongside their daily work. The research involved a total of 91 students, and a 25 item structured questionnaire together with further feedback from focus groups. The results indicate that age is not a significant barrier to learning and can, indeed, be an asset in certain learning situations where life-experience is involved. Finally, this paper calls for an integrated curriculum-tutorial model that supports students holistically.

*Keywords:* self-regulation of learning; undergraduate curriculum; business and management; learning theory.

## **Introduction**

Research into the determinants of students' approaches to learning and achievement has involved the analysis of various factors such as entry qualifications and ethnicity (Halpern, 2010), self-esteem and stress (Bennett, 2010), commitment and motivation (Biggs, 1987) as well as attendance and age (Zeegers, 2001). According to Zeegers (2001), three of the most influential factors that impact on students' experiences and success at university are: their entry qualifications, level of attendance and level of maturity, which is conventionally tied to age. The first year of undergraduate study presents a range of challenges to newly enrolled students. We could separate these challenges into two categories: immediate and ancillary. For example, immediate challenges may relate to fundamental aspects of settling in to the university environment, and could relate to any student. Ancillary challenges relate to a particular category of student; such as a part-time adult student balancing the competing demands of work, family and study, or a full time student balancing study, social-life, and part-time work. It is within these differing contexts that this investigation into self-regulated learning was undertaken.

## Theories of Students' Learning Orientations

The evolution of research into how university students approach learning has developed along a number of pathways during the past five decades or so. One pathway draws from Kolb's (1981) work on learning styles and has led to a burgeoning industry of questionnaire design and analytical models, most typified by Honey and Mumford's (1992)

Activist/Theorist/Reflector/Pragmatist model of learning (Zwanenberg, Wilkinson and Anderson, 2000). The other two major lines of enquiry into students' 'learning orientations' is the work on students' approaches to learning (SAL) and self-regulated learning (SRL). Although both SAL and SRL approaches recognise the importance of goal-setting and the motivational context to individuals' learning, SAL investigations have tended to undertake research into general learning strategies within the university sector (Marton and Saljo, 1976; Entwistle and Waterston, 1998), and in particular the idea of deep and surface learning, as well as strategic learning (Biggs, 1987). There is also a geographic divide in the nature of research, for as Duff (2004, p. 183) notes, 'SAL has been the subject of vigorous research efforts ... in the United Kingdom and Australasia.... By contrast, interest among North American ... SAL research is in its infancy'. According to Pintrich (2004), SRL research is more concerned with the generation and analysis of differences in student motivation and learning than is the case with most SAL investigations. Consequently, we should expect to see the issues of motivation, goal setting and metacognition and as central to the discourse on self-regulated learning and discussed in greater depth. SAL research has much to contribute to the discourse on students' approaches to learning, especially in regard to the concepts of deep, surface and strategic learning orientations. However, this paper will draw from the literature from SRL research and the complex interactions between its theoretical elements.

Pintrich's definition of self-regulated learning, cited by Schunk (2005), provides a concise insight into the concept and its practise:

An active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behaviour, guided and constrained by their goals and the contextual features in the environment.

In simple terms, self-regulated learning placed the student at the centre of the learning process and, in doing so, allocates a significant amount of responsibility to the student to reach their goals. The literature on self-regulated learning mirrors other theoretical approaches to student-centred learning that has appeared in research journals in the past few decades, such as Guy Claxton's Building Learning Power (Claxton, 2005) or more generally as independent learning. Research identifies self-regulated learners as more likely to achieve highly, enjoy studying, and develop life-long learning skills (Wolters, 1998; Zimmerman, 1989; Pintrich and De Groot, 1990; Schunk and Zimmerman, 1994). As Boekaerts (1999, p. 445) acknowledges, self-regulated learning has been informed by writing on learning styles, students' metacognition, and theories of the self. Importantly, self-regulated learning has also been linked to the need to encourage independent action and the capacity to take the initiative often associated with the idea of flexible specialisation in the workforce- a major requirement in the future labour force of the twenty-first century.

Schunk (2005: 174) has described the four main lines of research that has been undertaken into self-regulated learning. Firstly, citing the work of Boekaerts (1999), Schunk refers the interest in exploring the nature of self-regulation as a process, often comparing 'good' and 'bad' forms of self-regulation. Secondly, the issue of motivation is central to the work of Pintrich and De Groot, (1990) and Pintrich (2004) in which they explore the idea of influencing the level of motivation amongst students. Thirdly, we see that the possible relationship between learning and affective factors is explored in the work of Henderson and Cunningham (1994), and finally, in the research of Schunk (2005) and the idea that specifically-designed forms of intervention can lead to an improvement in students' achievement. In their research into the fortunes of first year Accounting degree students, Goldfinch and Hughes (2007:261) reported that students' performance correlated strongly with their development of skills and their learning style. If Goldfinch and Hughes' research could be replicated, and the factors identified, then perhaps more effective forms of intervention could be developed in Business Schools.

### **The key themes of SRL research: motivation; self-management; reflection; self-efficacy and emotion**

It is clear from the literature on SRL, that motivation is viewed as a central issue for researchers and work has tended to focus on the traditional discussion of intrinsic (inherent subject interest) and extrinsic (relationship with teacher) forms of motivation, to explore more specific issues such as the impact such as personal ideals, values and goals, as well as the impact of others, on outcomes. Much of SRL research is drawn from social constructivist psychology and social constructionist educational theory that considers the role and impact of others in supporting learning- an early example of which is Vygotsky (1936/1984) and his model of the Zone of Proximal Development. Furthermore, teachers will recognise the every-day complexities of social learning between peers in the classroom. For Thoonen et al., (2011), motivation incorporates an additional three components beyond a general orientation and students' intrinsic/extrinsic drives: these are value, expectancy and affective components. In short, students are regarded as being more motivated to learn where they see a clear benefit from the completion of the task, expect to achieve highly and enjoy their learning.

The notion that targets can be set, managed and their outcomes evaluated is a second major concept associated with self-regulated learning. Indeed, the setting of targets is an important part of the tracking of students' performance today not least in the SFC sector where each student is given a target grade based on their GCSE performance. Sheldon and Elliot (1998) have reported that those students who are more aware of their targets tend to be more effective as self-regulated learners. However, there are weaknesses associated with institutionalised and imposed goal-setting, that must be recognised. Kuhl (1984) reported that although most students started out on a task with commitment, this level of enthusiasm often fell away when confronted with alternatives to study. Students, who are self-aware, may reflect on their progress over a range of tasks and modify their behaviours in light of their evaluation. Boekaerts (1999) identified a range of motivational controls and volition controls that were subject to change in light of students' reflection. Such a view suggests that motivation is a nexus of complex processes and far more complicated than behaviourist thinkers had originally alluded to.

A third major theme of SRL research then is associated with the impact of reflection in students' learning. As Boekaerts (1999: 452) acknowledges, 'students who are meta-cognitively aware of the choices they make and are knowledgeable about how to invest resources to attain a learning goal may, nevertheless, not be willing to invest the necessary resources to regulate their learning in certain contexts. For Zimmerman (1989), self-regulated learning can be defined in terms of a learning model with three phases: forethought, performance and self-reflection. Although the idea of students' control over their learning strategy is central to SRL, metacognition is more important as learning is the product of this iterative reflective cycle. For Zimmerman (1989), this process of self-reflection involves reacting to, observing and judging the learning experience. Boekaerts and Cascallar (2006) have reported that some students adopt a 'maladaptive' position that inhibit their progress and have suggested that students learn to modify their level of motivation and choice of learning strategy in order to maximise their level of achievement. For many students, better time-management may address this issue quite effectively, but for some others, a form of structured support may be required. This issue of time-management may be an issue for universities to prioritise in their first year induction programmes.

A fourth major theme of self-regulated learning relates to the importance of self-efficacy- also known as 'academic self-concept' (Rodriguez, 2009). The idea of self-efficacy or academic self-concept is integral to this process of metacognition as students reflect on their learning experience (Baeten et al. 2010; Rodriguez, 2009). In part, self-efficacy is as Zimmerman (1998) recognises a consequence of interaction with others and their feedback. For the most part, however, self-efficacy is related to the psychological state of a student, their experiences of learning over their entire educational career, and most importantly, their record of achievements. For those who return to a formalised learning environment such as university, they may have to confront ingrained memories of school and failure before they are able to progress. The implications are clear for teachers. Building-up a student's self-efficacy is a life-long process, as is learning, although Zimmerman (1998) considers that self-efficacy is most closely tied to their most recent results. The importance of constructive feedback becomes ever more important given the cyclical nature of feedback as a reinforcement of self-image, especially during the transition stage of being a first year undergraduate. Importantly, Rodriguez (2009: 534-535) reported that, 'academic self-concept and outcome expectations influence students' selection of learning approaches in business education.... High academic self-concepts, when nurtured, develop students' need to adopt more elaborative cognitive learning approaches'.

According to Bandura (1997), self-efficacy is closely tied to students' emotional condition, in that a positive self-image may reduce stress, anxiety and depression. Just as a positive self-image may be associated with higher levels of motivation, effort and achievement, a negative view may inhibit learning (Rodriguez, 2010). For Rawsthorne and Elliott (1999), students are not simply driven by the attainment of goals, as suggested by goal theory, but need to deal with their emotional state as well. Together with other researchers (Elliott and Harackiewicz, 1996; Elliott, 1997; Middleton and Midgley, 1997) they have emphasised how emotional drives such as 'performance avoidance' and anxiety are integral to students' motivational state. In particular, a number of researchers (Pintrich and de Groot, 1990; Rodriguez, 2009; Zeidner and Matthews, 2005) have identified test anxiety as a demotivating factor for less able students. Al Khatib (2010) reported that higher levels of test anxiety were tied to underperformance in examinations, and that female students were more prone to test anxiety than male students. Levels of test anxiety

are reported to increase (Montalvo and Torres, 2004) when students compare their likely performance to others. Given their new context as learners, it may well be that a proportion of first year undergraduate students feel less confident than they were at school (Topham et al. 2014).

According to Boekaerts (1999: 453), 'many researchers and educators do not realise there is a bidirectional relationship between learning environment and SRL'; that is 'self-regulatory skills should be viewed as propaedeutic to learning in the context of a powerful learning environment'. It is clear that Boekaerts conceptualises learning as a dynamic state of interaction and mutual reinforcement between the student and their environment. Moreover, for Entwistle et al. (2002, p. 5) 'it is students' perceptions of the teaching and assessment procedures, rather than the methods themselves, that affect student learning most directly'. As a consequence of this observation, Entwistle et al. (2002, p. 9) have called for a 'constructive alignment' of the student's learning journey, so that 'all the components of the teaching-learning environment work together as a system designed to encourage a deep approach to learning'. In a sense, Entwistle et al. (2002) advocated an integrated model of learning that involved both internal and external regulation of students learning. How this end-goal is achieved is problematic but Entwistle et al. (2002) argue that a major step forward would be the reform of the university curriculum to encourage cognitive development and deeper forms of learning. For example, De Corte (2000) called for the creation of new forms of learning materials, greater emphasis on teaching that promotes reflection and consistent self-monitoring by students. There has been some movement in response to this call: De Corte's (2000) ideas have been incorporated into 'student-oriented education' at Tilburg University in the Netherlands. One stage further, is the Entrepreneurial Business Management (EBM) degree at the University of Northumbria at Newcastle where students are cast as 'teampreneurs' wherein they set up and manage their own business. In terms of 'constructive alignment' of learning then, such programmes as the EBM degree offer the prospect of an entirely new form of pedagogical approach to study at Business.

*The challenge of being an undergraduate student of business:*

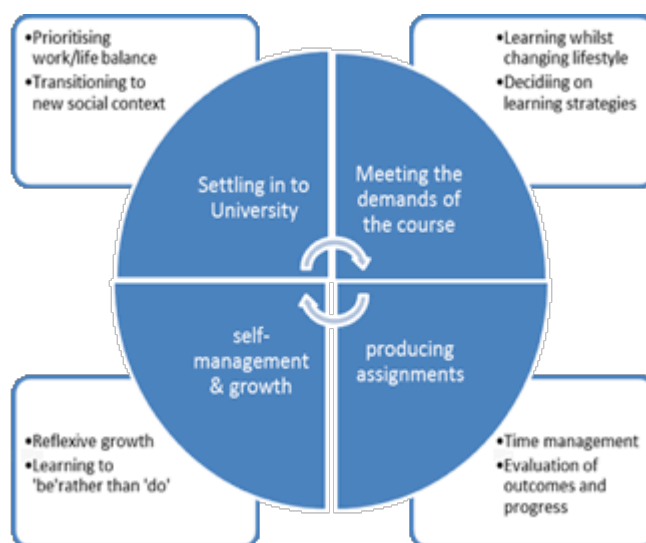


Figure 1. A representation of undergraduates' immediate and ancillary concerns.

Clearly, each student has their own approach to learning and dealing with the daily challenges that university life presents. Although we should not lose sight of this individual dimension in discussion, we should also be aware that individuals confront collective issues as students that reflect their particular context. Although the labels 'school-leaver' and 'mature adult' do indeed describe these cohorts succinctly and conveniently, these are also simplistic and generalised terms that relate to their chronological distance from secondary education and little else. To understand how students approach learning, we need to take a holistic approach and consider the wider context to learning at university.

For Lizzio and Wilson (2004, p. 111-119):

Management students may appraise teamwork skills as more relevant than may students from other disciplines.... First year students' categorization of skills also reflects their dual awareness of two worlds or performance environments: an awareness of the immediate demands of university study as well as the anticipated... expectations of working life.

It appears, according to Lizzio and Wilson (2004), that students of Business Management courses adopt a different perspective on the totality of their learning experience whilst at university. Instead of focusing on the concepts or rules of the discipline, as say in Mathematics, Sociology or History, students in Business are much more inclined to apply their learning to their future work context. Moreover, as in the case of 'mature' students they are able to bring their experience of work to the classroom and illuminate lessons with real life examples of professional practice. Lizzio and Wilson (2004) offer a typology of skills for first year students: professional skills, writing and literacy skills, problem-solving skills, communication and leadership, conceptual thinking, and membership and responsibility. Importantly, Lizzio and Wilson (2004) recognise 'students' perceptions of the relevance of skills to their future work was the strongest predictor of their motivation for further learning'. In short, a more vocationally-relevant curriculum may serve to motivate students more effectively and promote deeper forms of learning, and support 'mature' students' progress.

The nature of workload and its assessment is another important factor in students' perceptions of learning at university. For Nijhuis et al. (2007, p. 61):

There is a positive... relationship between employing a deep approach and the students' perceptions of good teaching, clear goals and the extent to which they are encouraged to learn independently. The perceptions of appropriate workload and assessment are negatively related to a surface approach.

Trigwell and Prosser (1996) explored the possible relationships between a variety of factors, such as teaching quality and workload and the level of students' motivation. Trigwell and Prosser (1996) reported that their research pointed to three distinct clusters of student: those who were encouraged to be deep learners because of good teaching, clear goals and scope for independent learning; a second group that adopted a surface approach to learning based on their interpretation of their learning environment; and, a third group who appeared 'insensitive to



the learning environment' (Nijhuis et al. 2007, p. 61). For Entwistle et al. (1991, p. 4) the imperative is clear: 'in attempts to encourage deep learning, more work may need to be done in addressing factors that influence students' perceptions'. Navigating between competing claims for time and energy is an ever present concern for part-time 'mature' students, and more so than for full-time undergraduates. The issue of how to promote independent learning for 'commitment rich, time-poor' adult students is contingent on how they 'feel' about study and hence how they engineer their learning approach.

Age in itself appears not to be a major barrier to learning, rather it is those responsibilities that often accrue with life that compromise a commitment to study at university. According to Zeegers (2001, p. 115), 'students see university study, and in particular the first year, as a survival course and adopt strategies suited to that task. Older students adopt approaches to study that differ from their younger colleagues and as a consequence they are in general more successful'. For Zeegers (2001, p. 126), it was the 'achieving strategy, deep strategy and deep motivation that older students are more willing or able to commitment themselves to the use of learning strategies which require greater effort on their part'. Zeegers' (2001) research echoed that of Richardson (1995) who reported that older students tended to use more elaborate approaches to learning and were more committed. Moreover, in their study of first year undergraduates, Goldfinch and Hughes (2007) found that 48% of those classed as 'mature' students attained a first, compared with 9% of the 19-year-old cohort, and Richardson and Woodley (2003) found that mature students performed significantly better in Business Studies than those aged under 21. These findings appear to substantiate Halpern's assertion that (2010, p. 337): 'more recent studies... have found that maturity actually has a significant positive relationship with academic achievement. Given these reports, the aim of the research was to ascertain whether the two cohorts of students adopted different approaches to learning, and if so, why and how?

## **Research Methodology**

There were two stages to this research exercise. The first involved the distribution of a 25 item structured questionnaire to a cohort of 49 first-term students enrolled onto the BA Honours degree in Business Leadership and Corporate Management. The students were deliberately chosen as they have the highest entry scores at GCE Advanced Level (A Level) [the most common qualification route to University in England and Wales] and are enrolled on a prestigious degree course- in short, they were expected to be broadly representative of motivated students at undergraduate level. In order to protect their anonymity, the questionnaire was anonymised and students were offered the option of not participating in the survey. The author also approached the University Ethics Committee for its formal approval of the questionnaire and the research itself. This approach mirrors that taken by Duff (2004) in which 60 undergraduate Accounting and Business economics students were surveyed in their first year of degree study.

The 25 statements sought to elicit students' responses on a five point Likert scale ranging from agree strongly to disagree strongly. The statements were tied to the research themes that are described in the literature review: reflection and response to feedback; planning and effort; deep learning; motivation; self-efficacy and fear of failure; goal setting and instrumentalist approaches to study. Examples drawn from the questionnaire are: 'I tend to reflect on how well I have done after receiving my work back', 'I prefer to set my own learning goals', and 'I tend to put greater

effort into an assignment if I think I will achieve highly'. The data generated by the questionnaire was divided into two groups; one being those students with grades A\*-B at A Level and a second group with grades C-E at A level or its equivalent. The responses were deliberately divided into these two clusters of students in order to ascertain whether there was a match or mismatch between the two sets of data. In doing so, the relevance, if any, of academic ability could be taken into account when discussing the findings.

The second stage of the research involved an 'open floor' approach in which two focus groups of 24 students were asked for their views on their first term at university, the course and the issues associated with the transition to undergraduate study. These students were the same that had responded to the original questionnaire. Students were encouraged to voice their opinions and elaborate as they wished. This approach not only empowered students to express their views but also generated much richer data [as in a grounded theory approach (akin to that described by Charmaz, 2006)] in which they were able to raise an issue and then develop a discussion of it. One such issue that was generated was personal responsibility and time-management techniques, and another was academic study/part-time work balance. This activity was repeated for the mature students. This proved to be a much richer experience as these students were acutely aware of the sacrifices that they had made to attend evening classes and were as a consequence eager to express their feelings and discuss how they had managed themselves, their family and work life balance. The issue of time management appeared far more acute for mature students as was the importance of planning. In this respect, mature students were better able to apply their transferable life-management skills to their study regime than many of the younger cohort.

These are important issues which were omitted in the questionnaire and highlight a major weakness with highly structured questionnaires in that the research focus is pre-determined by the values and interests of the researcher. In future research, consideration should be given to a less structured questionnaire design in which respondents are enabled to express their own views and possibly generate ideas not initially thought important. Another limitation of the research was its relatively small scale as well as scope. If this line of research were to be extended, then more than one degree cohort could be surveyed and it could be rolled-out to other disciplines. A final qualification that should also be acknowledged is that many of the mature students did not possess GCE A Level qualification but held industrial or commercial vocational qualifications. As such, the comparison between the two cohorts could only be predicated on the equivalence of academic and vocational level 3 qualifications as stipulated by the British Qualifications and Credit Framework (QCF). Although important, these limitations do not invalidate the rudimentary observations drawn from this research.

## **Findings and Discussion**

The data generated from the questionnaire distributed to A\*-B and C-E grade First Year students was collected and the totals for each response collated. This was repeated for the second cluster of mature students in the A\*-B and C-E grade range. The four sets of data were compared to see where there was a relatively high degree of commonality in responses or where there was a relatively high degree of divergence. The statements were then ranked in terms of disagreement to identify divergent themes. In terms of feedback from the four focus groups, the points raised

were thematised into similar points, such as part-time work, social life and new surroundings. This set of data was reduced into a small number of management themes: Impact of work; Commitment to family life; the challenge of returning to academic study; distraction of a new social life; lack of maturity; laziness; recognition of the need to plan; conscientiousness. Importantly, a number of the younger respondents indicated that they had learnt after an initial spell of partying, that a balance had to be established between their social life, their part-time work and study. In contrast, for mature students, the issue of work/study/family balance predominated. These themes were perhaps to be anticipated but it is the data generated by the questionnaire that may be of greater importance to the wider discussion of approaches to learning.

Although the drivers for both groups reflects other research that tend to revolve around 'career advancement, the desire to improve qualifications, an interest in their chosen subject and the opportunity for personal development or for finding a change in direction' (Newson et al. 2011, p. 14), there are distinct differences between the two cohorts in terms of their reflective comments. Whereas for the younger cohort, their principal thoughts related to a new social life, for the mature students their concerns were embedded in their established and long-term familial relationships. Such a finding echoes work on identity formation and the challenges that that presents. As Webber (2015, p. 213) describes, 'identity can be seen as a 'collective approach, creating alongside others, rather than as an individualistic process'. This process of identity formation is dynamic and subject to often countervailing internal psychological and external social pressures. This emotional tension has, for example, been reported in the experiences of mature women students who are obliged to balance a busy home life with university (Webber, 2015) and mature students more generally (Kahn et al, 2015). As such, we should recognize the relevance of the emotional dimension to students' experiences as students as they accommodate the pressures acting on them. Comments from students infer that this process of identity formation is more problematic for mature students, who view university study as much more of a profound challenge to their established lifestyle, than for younger students who see University as part of their 'natural' development. This finding echoes the work of Walters (2000) and Tones et al. (2009).

The most common theme to emerge from the data generated by mature students relates to the challenge to their established lifestyle that university study presents. Mature students reported that 'I would say I am still learning how to manage my studies with working fulltime and life balance' and 'I would like to learn in depth more but time constraints make it impossible. I struggle to manage work commitments and uni. work'. This finding reflects the work of Ozga and Sukhnandan (1998) who highlighted the importance of 'life circumstances' as a causal factor in undergraduate drop-out rates. In addition, Leathwood and O'Connell (2003) describe this experience as 'struggle', and one insufficiently addressed either by individual teachers or universities. Such findings highlight the differing contexts and needs that exist for the diverse student population that now attend university, and the need to respond effectively.

The issue of self-efficacy and related anxiety amongst students was more pronounced in the responses generated by mature students. There is, however, sufficient research published to suggest that mature students should not approach a return to study with trepidation. Studies have for some time abounded with reports of mature students out-performing the younger cohort

(Cantwell et al. 2001) and that they often adopt a deeper approach to learning (Richardson, 1995; McCune et al. 2010). One area for future research could be into the degree to which students subscribe to either the 'growth model' of intellectual development, or that associated with a fixed model of intellect (Yan et al. 2014). There may be a tendency for mature students to think in terms of having arrived at an established intellectual level, whereas younger students are consciously searching to develop their abilities. For Yan et al. (2014), this mind-set is an important factor in academic attainment.

Motivation has been identified as a powerful mediating factor that can transform academic ability into identifiable positive, or negative, outcomes. Dweck's (1999) work on motivation can usefully inform the discussion at this point. For those students who subscribe to an incrementalist perspective of learning, motivation plays a purposeful role in mobilizing effort to achieve highly. For those students who adopt the entity theory of intelligence, motivation is of little significance as they believe that academic ability is fixed (and measured by their how they performed at school) and there is no perceived benefit from increased levels of effort. Importantly, the comments from students were clearly differentiated by age and lifestyle. Younger students reported a lack of effort- not because of a lack of self-efficacy- but because they had been motivated more by a new social life at the expense of study. Comments such as 'I have come to realise that I cannot socialize every day' and 'the first half term was mainly meeting new people and partying' were typical of their comments. In contrast, mature students appeared to approximate to an entity model of academic ability with comments such as 'I am working at my maximum' and 'I tend to study when I feel in the correct 'mind-set' rather than using a timetable'. Typically, mature students appear to believe that they are working to their limit, and this may well reflect a compromise between study and managing their busy home and work life.

In terms of the statistical data generated from the questionnaire, the results were:

The following statements in Table 1 all generated the highest level of agreement from the mature student cohort, irrespective of ability level:

Table 1: High level of agreement over 21

<i>I do worry about my academic work</i>	Under 21	A*-B: 72% C-E: 86%
	Over 21	A*-B: 88 % C-E: 88%
<i>I enjoy learning in depth</i>	Under 21	A*-B: 61% C-E: 71%
	Over 21	A*-B: 82% C-E: 81%
<i>I prefer to set my own learning goals</i>	Under 21	A*-B: 61% C-E: 43%
	Over 21	A*-B: 82%

<i>I prefer coursework to tests</i>	Under 21	C-E: 63% A*-B: 78%
	Over 21	C-E: 71% 21 A*-B: 82%
<i>I will work conscientiously</i>	Under 21	C-E: 100% A*-B: 61%
	Over 21	C-E: 71% A*-B: 91%
<i>I tend to plan my own work</i>	Under 21	C-E: 81% A*-B: 56%
	Over 21	C-E: 43% A*-B: 82%
<i>I find written feedback more useful than oral feedback</i>	Under 21	C-E: 75% A*-B: 78%
	Over 21	C-E: 71% A*-B: 91%
<i>When considering feedback, I tend to look at the reasons for a mark</i>	Under 21	C-E: 75% A*-B: 61%;
	Over 21	C-E: 71% A*-B: 100%
<i>I place a lot of importance on my performance</i>	Under 21	C-E: 88% A*-B: 50%
	Over 21	21 C-E: 57% A*-B: 64%
		C-E: 75%

The following statements in Table 2 all generated the highest level of agreement from the under 21 cohorts, irrespective of ability level:

Table 2: High level of agreement under 21

<i>I am motivated to achieve highly</i>	Under 21	A*-B: 83% C-E: 100%
	Over 21	A*-B: 82% C-E: 81%
<i>I am easily distracted</i>	Under 21	A*-B: 67% C-E: 86%

	Over 21	A*-B: 64% C-E: 56%
<i>I tend to explore all aspects of the work before I write</i>	Under 21	A*-B: 78% C-E: 86%
	Over 21	A*-B: 36%; C-E: 50%
<i>I manage my studying</i>	Under 21	A*-B: 83% C-E: 86%
	Over 21	A*-B: 73% C-E: 63%
<i>In the past, I have blamed the teacher for my failure</i>	Under 21	A*-B: 61% C-E: 71%
	Over 21	A*-B: 0% C-E: 6%
<i>I chose this degree because I am good at it</i>	Under 21	A*-B: 100% C-E: 71%
	Over 21	A*-B: 27% C-E: 31%

Interestingly, a few statements, in Table 3 below, generated a ‘messy’ outcome, where outcome(s) stood out:

Table 3: Varied level of agreement

<i>I tend to reflect on how well I have done</i>	Under 21	A*-B: 67% C-E: 57%
	Over 21	A*-B: 64% C-E: 94%
<i>I generally persist even when the work is difficult</i>	Under 21	A*-B: 78% C-E: 57%
	Over 21	A*-B: 36% C-E: 50%
<i>I study more when I am interested in the subject</i>	Under 21	A*-B: 100% C-E: 100%
	Over 21	A*-B: 82% C-E: 100%

There are clearly a range of issues that emerge from the data that should inform improvements in teaching and learning. In particular, there should be a shift in the mind-set of university teachers away from viewing poor time management as simply a poor personality trait, or a lack of commitment on behalf of teenagers; rather time management must be presented as a skill that is to be mastered and support put in place to facilitate development of this skill. One of the features of this particular degree is the effort allocated to addressing this skill. Although the quantitative evidence suggests that younger students claim to manage their study effectively, the qualitative data would infer that mature students are more aware of the imperative of planning- possibly because of their life experience and probably because of the pressures impinging on their time. Importantly, all students could benefit from support in managing their time more effectively. University teachers should consider how effective their induction and support systems are given the disparate needs of students.

Another key issue that resonates with the literature is that of reflection and the use made of feedback. Apart from the CE mature group who one might expect to be concerned with the details of feedback, roughly one-third of students do not engage in self-reflection. In terms of acting on feedback, it is clear that the mature cohort place greater emphasis on using feedback. This may be partly attributable to their maturity in learning experientially. The data also revealed a tension within the mature cohort's approach to learning. Whereas the quantitative data suggested that mature students aim to learn in depth, the qualitative data highlighted to constraints within which they study and the strategies they adopt. This is reflected in the data that suggested that mature students were more likely to set their own learning goals and work conscientiously. Teachers would do well to reflect on how they deliver feedback to students (Nicol and Macfarlane-Dick, 2006)

It may well be that this study has served to highlight the strategic approach to learning adopted by mature students. The quantitative data suggests that mature students are more likely to be concerned with their performance as they study in a 'pressurised bubble', and this is echoed by the qualitative statements that refer to the pressures impinging on them from a variety of sources. The data generated from the statements relating to 'persisting when the work is difficult' and 'explore all aspects of the work before I write' do infer that mature students are not able to devote as much time as they would wish to. Confidence may well be an issue that lies at the heart of the concerns of mature students- as the statement relating to being good at this subject elicited- and teachers may wish to reflect on how this could be promoted through the curriculum. Again, teachers should recognise that confidence is closely tied to self-efficacy.

Finally, a formalised support system could be considered by universities that validates SRL by mapping theory to a personalised tracking record. Importantly, for Zimmerman (2010: 69) 'contrary to a commonly held belief, self-regulated learning is not asocial in nature and origin. Each self-regulatory process or belief, such as goal setting, strategy use, and self-evaluation, can be learned from instruction and modelling'. With mentoring provided by a personal tutor, students could be encouraged to adopt a form of self-assessment that is mapped to specific criteria. An important part of this system of tracking and support is to exploit the idea of identity and community of practice (Wenger, 1998). Students do not learn in isolation. Practice-based workshops or seminar groups can become powerful developmental tools in which mutual support is available. In short, we need to remove students from their isolation and encourage their skills

through a support framework that integrates personal tutors, fellow students as well as their teachers. Whereas it appears that mutually supportive 'communities of practice' (Wenger, 1998) appear to develop for younger students through their social interaction, this is more problematic for part-time mature students who engage less often in social events at university. Consideration should be given to how to promote mature students' learning communities.

One innovative development introduced by the Higher Education Funding Council for England (HEFCE) is to re-conceptualise how Higher Education views students and their journey. In 2001 HEFCE introduced the idea of the student life cycle that mapped students' experiences before, during and after university. In doing so, HEFCE sought to identify the key points at which students required support and how this could be addressed.

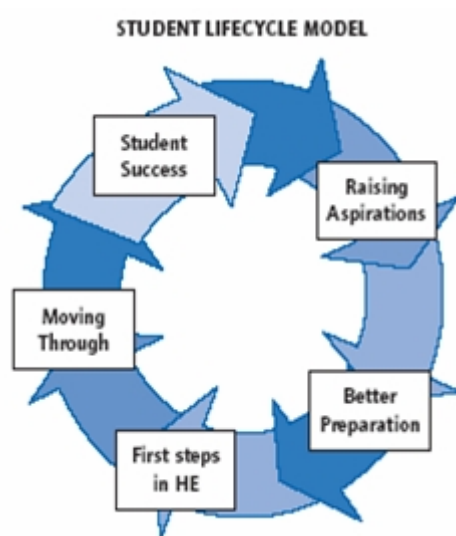


Figure 2. The HEFCE Student Life Cycle model

From this proto-type form of modelling the 'student journey', more advanced models such as that devised by the University of Kentucky in 2014 has been developed.



# Student Lifecycle Management

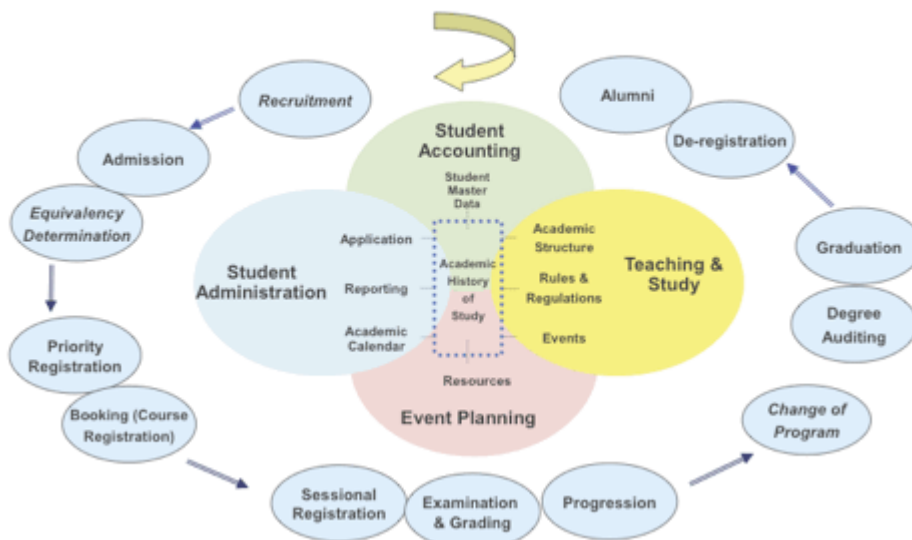


Figure 3. An advanced model of the student life cycle, University of Kentucky, 2014.

Such approaches to modelling the student journey provide a holistic appreciation of the challenges confronting students and the pressure points where universities could choose to intervene with targeted supportive strategies, such as additional induction programmes for different cohorts of students. Although we must still continue to view each student as an individual, they also exist as part of a wider collective cohort with a distinct set of needs. The adoption of a modelling technique, such as that above, to anticipate and respond to students' concerns could provide a more holistic overview of students and the journey.

## Conclusion

Although this investigation has focused on age and academic ability as factors in the calculations students make when adopting an approach to learning, its findings point to other factors that university teachers should note and respond to.

The value of SRL is that it offers educationalists a theoretical framework within which to conceptualise student learning. It provides discrete components within this framework, such as motivation, self-efficacy or fear of failure, which we can analyse and evaluate as we move towards professional improvement. There still remains much work to do in SRL research particularly in terms of approximating the relative importance of each of its component elements. For educationalists, SRL promises a rich research environment within which much useful work may be undertaken. In particular, future investigation could be undertaken into the transition between educational sectors, most notably between school and university. From a social constructionist perspective, the environmental and human context to learning is inescapable and should be acknowledged as such. Future research should also explore the impact of the wider environment on students and their approaches to learning. Ultimately, research into SRL should contribute to students' awareness of themselves as learners and inform university teachers' teaching and learning methodologies.

The idea of a holistic perspective is imperative as all too often universities are compartmentalized into discrete departments or support areas. In modelling the possible 'critical incidents' in a student's journey, universities may be informed better on when and how to respond. Such a development would address Entwistle's (2002) call for greater 'constructive alignment' between teaching, learning and support. It would also acknowledge the importance of Boekaert's (1999) view of learning as a long term process rather than measuring it as a series of separate events, such as an essay or test. Finally, we should look to explore the possible benefits of a cross-fertilisation between SAL and SRL. In problematising how students approach learning, researchers should look for the possibility of theoretical development and synthesis. In doing so, we may move closer to an understanding of the complexities of learning.

This investigation highlighted the complexities associated with studying for first semester students irrespective of their age. The results suggest that most students are aware of the need to plan their study because of social or work pressures that restrict their time for learning outside the lecture hall. Although SRL research sensitises teachers to the core concepts of motivation, self-efficacy and reflection, it leads us to think as teachers about how best to address issues relating to a lack of confidence, the absence of reflection or the need to plan. As such, teachers should think beyond the content of their curriculum and envisage the students' experience as a learning journey. This call for action necessitates a shift in emphasis away from the classroom to redefine the learning environment much more broadly. Not only should university support systems be developed more holistically to respond to the differing needs of the student body, they need to be synergetic (Newson et al., 2011). In short, universities could consider an integrated support system based on the idea of a student life cycle that identifies issues of concern, responds purposefully and reviews impact.

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