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Responding to diversification: Preparing naïve learners for university study using Time Budgets

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Government reforms have resulted in an increasing number of pathways and options for a broader cohort of students to undertake university-level study. These diverse learners need support to develop successful study orchestrations, balancing available time for learning with competing interests, such as family, leisure and employment. The Time Budget is a useful tool for naïve students to perceive course workload, understand expectations and balance their commitments. The Time Budget, in a single page, captures what students need to do, and when, to be successful in their studies. Time Budgets have proved to be a sustainable good practice initiative for undergraduate students – a tool that has made the transition from supporting face-to-face learners, to blended and fully-online learners; and from being a feature of individual courses, to whole programs and multi-university collaborations.

Keywords: study approaches, expectations, workload, online, learner diversity, university.

Introduction

Prompted by Reviews of Higher Education, such as the Bradley Review, governmental policy changes have promised to transform higher education, to 'drive improvements in productivity and create a smarter, cleaner and more competitive economic future for Australia' (DEEWR, 2009). Strategies aim to increase the diversity of learners undertaking tertiary studies, with increased representation of students from low socioeconomic status groups, students who are first in their family to university, rural and remotely-located students and students from Indigenous backgrounds (Budge, 2010). These 'new new learners' (Budge, 2010), or naïve learners, are now entering university programs of study through multiple modes, studying face to face, online, and blended courses, and are requiring formal and informal support to make this study and life transition.

Enabling naïve learners for quality learning in higher education

The quality of learning experienced by university students is influenced formally by the academic community but also, informally, by individual student contexts, or presage, such as students' prior experiences, knowledge, reasons for studying, their perceptions of the teaching and learning environment and their approaches to learning and studying (Entwhistle *et al*., 2002; Biggs & Tang, 2007). The term 'study orchestrations' was coined to describe those individual study approaches, chosen by a student, based on their perceptions of the learning context (Meyer *et al*., 1990a). Supporting students to develop successful formal and informal study orchestrations is important to student persistence and retention in university level study (Anderson *et al*., 2011) and such strategies become more pertinent when system changes promote the diversification of the learner cohort.

Shaping perceptions of workload and approaches to study

Naïve learners, although feeling digitally connected through social media, may struggle to focus on their studies without sufficient guidance (Powers, 2010). A known motivator for undergraduate students' approaches to the quality and quantity of study is their perception of course workload. Excessive workload prompts plagiarism, surface approaches to learning and results in poor quality learning outcomes (Jones, 2011; Biggs & Tang, 2007; Kember 2004; Trigwell & Prosser,1991). Techniques for tallying student workload, by evaluating the difficulty of reading materials that two thirds to three quarters of students could satisfactorily complete, have been devised (Lockwood, 2005). University Assessment policies can also regulate the amount of workload across courses - for example, at the University of South Australia, a standard 4.5 unit course, has been equated to approximately 159.5 hours of student effort and 4500 assessed words (UniSA, 2012; requirements 1.2.2 and 1.2.5c). However, it is essential that naïve learners also perceive what this standardised workload entails and that it is achievable.

Successful strategies, that assist in conveying these perceptions to naïve learners, are required (Kember, 2004).

Introducing the Time Budget

A sustainable tool to help naive learners develop positive attitudes and approaches towards studying at university is the Time Budget. Time Budgets are a visual map of all that the student needs to do, week by week, across the period of study. The Time Budget was initially employed in introductory physics courses a decade ago, and since then has been incorporated in a variety of engineering courses, shared between universities in a cross-institutional blended learning project (Blackmore and Kane, 2010; Quinn *et al.*, 2012) and more recently, has been incorporated across all units in a mostly-online Open Universities Australia (OUA) Associate Degree in Engineering (James *et al*., 2011). The main aim of using Time Budgets has been to help students to adopt successful university-level study orchestrations for a given course.

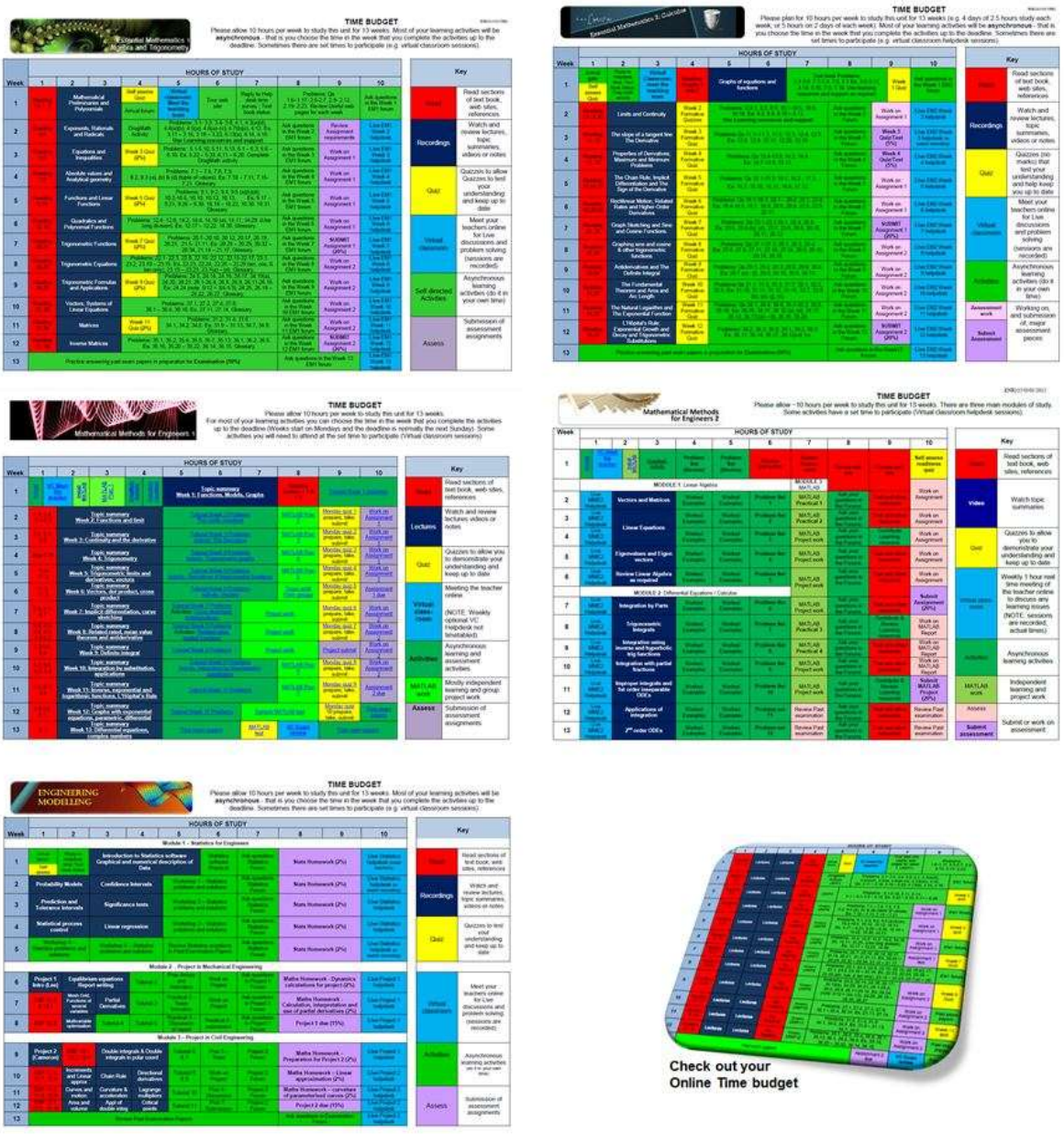

Figure 1 – Time Budgets from the 5 Mathematics courses in the Associate Degree in Engineering and the Time Budget logo used in all Units

Time Budgets emphasise time on task and task type and initiate the communication of expectations for high performance, two recognised principles of good practice in undergraduate teaching (Chickering & Gamson,

1987; LTU, 2010).

> Time plus energy equals learning. There is no substitute for time on task. Learning to use one's time well is critical for students and professionals alike. Students need help in learning effective time management. Allocating realistic amounts of time means effective learning for students and effective teaching for faculty. … Expect more and you will get it. High Expectations are important for everyone - for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. (Chickering & Gamson, 1987).

Case study: Time Budgets in an Associate Degree in Engineering

Time Budgets have been used in all the units prepared for a mostly online version of an Associate Degree in Engineering, delivered in partnership with OUA (James *et al*., 2011). The Time Budget documents were initially drafted by Project development staff in consultation with unit coordinators after interview and consideration of existing resources and environments. Iterative development of Time Budgets then occurred, in response to feedback from lecturers, tutoring staff, practical supervisors and, of course, students.

Paper-based versions of the final version of each unit's Time Budget were mailed to students on enrollment to be used as posters in their study space to provide a sense of the whole unit's requirements. The Time Budgets were consistently colour-coded to reflect when student learning activities are synchronous, or asynchronous, formative, or summative, instructive or interactive. In addition, online versions of the Time Budgets, with direct links to each of the activities, were included in the unit's web sites, to streamline students' navigation of the online environment to complete the required learning activities.

To support students using Time Budgets effectively, introductory quizzes, that allow students to self-assess how well they understand what is expected of them in the unit, included items that highlighted the importance of the Time Budget as an ongoing organisational tool. Students were prompted to use the document to negotiate adequate time for learning with their family and employers, who may be unfamiliar with the demands of university level study. Students were encouraged to identify early those timeslots, in their working week, that would allow them to learn for approximately 10 hours per week for each unit. Students were reminded that if they exceeded the time frames for independent problem solving allowed on the Time Budget, that it was time for them to change their approach to learning, by using Forums, virtual classroom sessions or Dialogue, to discuss their learning, rather than persist alone.

Time Budgets are not just for new learners, but are also used across programmes of study, inducting students to more advanced approaches to learning. Figure 1 shows a series of Time Budgets for the 5 mathematics units within the Associate Degree in Engineering. The first two units, *Essential Mathematics 1 & 2*, are more-structured foundational level units, with content, quizzes and problem solving activities. The second two are first year engineering level units, *Mathematical Methods for Engineers 1 & 2*, with time allowed for students to collaborate on an engineering project. The proposed Time Budget for the fifth unit, *Engineering Modelling*, contains separate modules for more independent study and two mathematical modelling projects, one addressing a civil engineering problem and one a mechanical engineering problem. Laying out the units as Time Budgets quickly conveys the macro-level learning designs of this series of units.

Aside from benefits for our students, Time Budgets have also proved to be a centre piece for the negotiation of redevelopment of units with developers and the unit's teaching team. By focusing on what students need to do, as reflected in a Time Budget, rather than what teachers need to teach, the Time Budget appears to be a more meaningful mechanism for staff to identify if the proposed learning experience of an online unit parallels that of its face to face equivalent. Also, the limitations of existing courses, such as heavy workload or an overly-didactic focus, become clearly evident, to all concerned, when mapped as hours of student work on a Time Budget. Research is currently underway to more fully investigate the role of Time Budgets in shaping successful learning approaches in our increasingly diverse student cohort as well as a parallel study on their impact in supporting staff conceptualise effective learning designs as a part of the course redevelopment process.

Conclusion

Australian Government Policy changes and flow-on higher education responses (James *et al*., 2011) have opened the door to allow a more diverse student cohort to start university. To ensure that this open door is not a revolving door, universities need to employ strategies, such as the Time Budget, to help induct naïve learners into successful study orchestrations, or the desired improvements in Australia's productivity, through the growth of a skilled work force, will be unlikely to be achieved.

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