"The Learning Couch": An online self-directed tool for supporting students' development of effective approaches to learning.

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Abstract

At university, students are expected to be independent learners. This can mean freedom to make choices about what one learns and how one goes about learning, but it can also be confusing if a student is unsure of him/herself as a learner, or if the student's idea of learning does not match lecturer expectations. For first-year students, this can impact greatly on their ability and motivation to persist and successfully 'transit' to university. The Learning Couch is part of a broader initiative to support first-year students in a particular discipline via a virtual learning community. It is specifically designed to support students' exploration of their motivations and habits as learners, to develop awareness of effective learning strategies and improve their approaches to learning through a series of self-paced online activities. This paper reports on the development and evaluation of this tool for supporting first-year students.

Introduction

Students' experiences of first-year university study and the difficulties they encounter are well researched. For example, a national longitudinal survey reported that one of the key difficulties during this time, irrespective of level of academic achievement in high school and 'depth of curiosity' for study, involves juggling work, study and other commitments (Hillman, 2005). Other core difficulties that students encounter in their first year, and which often impact on transition into second year include overcoming core misconceptions in the discipline and developing effective approaches to learning and studying (Bath, 2008). Together, these form important 'hurdles' that students need to overcome if they are to be successful learners, and moreover, to develop independent learning capabilities.

This paper reports on one component of a virtual learning community site designed specifically to address such hurdles for first-year psychology students at one particular university. 'PsychMe!' is an organisation site with the University's chosen learning management system, Blackboard. This means that PsychMe! is not semester dependent, it is a static site, and anyone can be enrolled at any time. The core first-year courses in the psychology program are linked to the organisation site, and so these staff and students are automatically enrolled in the site. The aim of the site was to create a sense of community and caring for the students, with a range of tools and resources to support their transition to university study, and to the discipline of psychology.

There are four key elements within the PsychMe! site which are designed to: (1) scaffold time management skills; (2) facilitate self-reflection and development of effective approaches to learning; (3) facilitate student, peer and teacher collaboration in dealing with misconceptions and threshold concepts; and (4) scaffold the development of discipline-specific academic literacy skills. The component that is the focus of this paper, 'The Learning Couch', is an online self-paced tutorial designed to help students identify their approaches to learning, reflect on strengths and weaknesses, to consider alternative strategies for

improvement and to implement their own plan for skill development. Background theory and literature to the design will be discussed below, along with a description of The Learning Couch. A pilot evaluation of this resource is then presented and discussed.

Background

Student learning approaches

Research into the learning approaches and strategies of students has developed from a number of different paradigms with most constructs reflecting strategies such as rehearsal, elaboration, heuristic or mnemonic devices, organisation, comprehension monitoring, or motivation during learning and studying (e.g., Sims & Sims, 1995; Snow & Swanson, 1992). However, perhaps one the most prevalent theories of student approaches to learning is that of Biggs (1987), where he distinguishes between three key approaches; deep, surface and achieving.

The surface approach to learning is based on extrinsic motivation, where the student may see study as a 'means to an end' such as obtaining a job. Typically, students adopting this approach are motivated to avoid failure but want to do only what is necessary to get through. Therefore, the strategies used limit work to the essentials, focusing on selected details perceived as being needed to pass the assessment, and learning to reproduce rather than understand. For example, when studying for an upcoming exam, the student with a surface approach focuses on the concrete or literal aspects of concepts to be learned rather than coming to an understanding of the underlying meaning. The components of the task or concept to be learned are therefore seen as unrelated to each other or to other tasks or concepts. Rote memorisation is a commonly used study strategy (Biggs & Moore, 1993).

In contrast, a deep approach to learning tends to be based on intrinsic interest and students adopting this approach often want to satisfy their curiosity about the subject to be learned. Tasks are seen as interesting and personally involving, and students focus on gaining understanding of meaning rather than simply learning specific facts and details in isolation from one another. Students adopting a deep approach often use a variety of learning strategies such as reading widely on the subject, discussing the material with others, and may 'theorise' about a concept and how it relates to other things they already know about or find interesting.

Like the surface approach, the achieving approach to learning is based on extrinsic motivation. However, with this approach, students are motivated to perform very well, obtain good grades and often like 'competing' against fellow students. The strategies involved with the achieving approach are centred on organising time and coverage of the subject material efficiently and effectively. Students who adopt an achieving approach generally view high grades as very important, and try to be self-disciplined and systematic, planning ahead and allocating time to tasks according to their level of importance (Biggs & Moore, 1993).

The Study Process Questionnaire (SPQ) (Biggs, 1987) was developed for use in tertiary populations and includes three approaches to learning scales - surface, deep and achieving – each comprising a motive and strategy sub-scale.

Students Time Perspective

The importance of time management for first-years is well-known, and as highlighted at the beginning of this paper, a common difficulty experienced by students. Indeed, a key

component of the PsychMe! site focuses on helping students to consider their time in relation to university and other commitments and how best to manage it. Research has shown that well-organised, and high achieving students tend to have what is called a future time perspective. This is based on the work of Zimbardo and colleagues (e.g., D'Alessio, Guarino, De Pascalis & Zimbardo, 2003; Zimbardo & Boyd, 1999) which postulates that there are typically three different time perspectives: past-oriented, present-oriented, and future oriented.

For example, present-oriented individuals have a more practical attitude, tending to focus on the here and now rather than what might be expected in the future. Hedonistic present-oriented people are 'self-indulgent pleasure-seekers' and are not motivated to engage in challenging work, although they often enjoy hobbies and pursuits that require energy. However, people oriented towards the fatalistic present feel that their lives are influenced or controlled by external forces rather than by their own actions. They are often self-blaming for their perceived failures and deny their achievements. Conversely, future-oriented people are concerned about the consequences of their actions, are responsible and often high-achievers. They will put a great deal of effort into their work, seeking long-term goals or gratification, and thus are good at avoiding temptations and distractions. However, often such people find it difficult to enjoy the present. Finally, past-oriented people are influenced by their past experiences. They tend not to take chances, and are often more conservative. However, if they had positive experiences in the past, they can enjoy remembering them even if currently unhappy (Zimbardo & Boyd, 1999).

In terms of time perspective and student learning, research (Zimbardo & Boyd, 1999) shows that students who have a future time orientation achieve the highest grades. This is because they are highly organised, set very clear goals for themselves, and commit to completing tasks on time. They put off having time-off for themselves until they have finished their work. However, this means that they are also often quite stressed, and feel the pressure of 'time'. Students who have a present-hedonistic time perspective often achieve very well in courses they enjoy and are personally interested in, but when taking a course that does not interest them or have obvious links to their career, they often either fail or drop out. Students who primarily have a present-fatalistic or past (negative) time orientation often perform very poorly at university. So, students who are primarily future orientated but also have a moderate degree of present - hedonism, are likely to be most successful and most happy – they are still very organised and focussed on achieving their goals, but they also manage to take time out to relax and enjoy themselves.

Both approaches to learning and time perspective were included in The Learning Couch design.

Academic skill development

Research on student performance and attrition suggests there is value in implementing programs to help students develop academic skills. Zeegers and Martin (2001) suggest that student transition research points to the fact that many students are ill-prepared for the university experience, particularly the need to be independent learners, and this may significantly impact on their willingness to persist with their studies if they encounter difficulties. Therefore, scaffolding of a variety of skills and abilities is an important element in assisting students in making a successful transition to and through higher education (Krause, 2006). Tinto (1996), a well-known expert on the student transition and college experience, highlights the importance of providing early support to help students acquire the

necessary skills for university learning, so that any difficulties do not become major academic problems for students. This can include online self-directed learning resources (Krause, 2006).

In relation to approaches to learning, Zeegers and Martin (2001) argue that in order for first-year students to progress to becoming independent learners, it is important for them to become aware of their own learning approaches, be cognisant of alternative learning strategies, to be directed in how to reflect on their learning and in developing skills as self-regulated learners. They argue that this should support a growing confidence to effectively learn in the university environment, and have the added benefit, for both students and the institution, of reduced attrition rates.

Zeegers and Martin (2001) reported on a face-to-face supplementary 'learning to learn' tutorial program for first-year chemistry students. This was based on a previous design (Vermunt, 1994) that included an initial diagnostic phase (i.e., pre-test of approach to learning), followed by presentation of instructional materials including interpretation of pre-test, then two learning-to-learn tutorials. They included two other tests, at 8 and 30 weeks during the first year. Zeegers and Martin used the SPQ (Biggs, 1987) for the pre- and post-tests of approaches to learning. Success in their face-to-face program was judged to have been achieved by participants reporting greater insight into their own learning, some degree of change in approaches to learning (i.e., increased tendency for deep learning and decreased tendency for surface learning, according to students SPQ scores) and better academic achievement in course assessment.

Designing online resources for skill development

The use of online tutorials for academic skill development is increasing (Slebodnik & Riehle, 2009). Positive aspects of such resources include being able to reach a greater number of students than is typical with face-to-face instruction, as well as providing 24 hour access at the learner's convenience. Resources are also often designed so that students' can complete tasks more than once, providing multiple learning and practice opportunities. Well-designed online tutorials organise information into small 'chunks' which can be processed at the learner's own pace, as well providing intermittent feedback and/or 'testing' via interactive elements. Research into library skill development (Slebodnik & Riehle, 2009) has shown that learners do not wish to commit large amounts of time to lengthy online tutorials, but want succinct information, and the authors suggest that several short and focussed tutorials are better than one long, complex tutorial.

Research has also found that interactive features are often the most motivating elements of web-based learning designs, as well as having individual control over the pace and sequence of learning (e.g., Kim, 2009; Rowe & Gregor, 1999) such as being able to advance through a tutorial at the individual's own pace and to return to review components as needed (Slebodnik & Riehle, 2009). Including actions as simple as clicking from screen to screen rather than passively reading or watching can enhance interactivity and maintain student attention. However, ideally, including tasks such as quizzes and other formal or informal 'testing' with instant feedback creates greater interactivity and interest for students (Slebodnik & Riehle, 2009).

Such principles guided the development of The Learning Couch, particularly ease of access, chunking of material and time required, interactivity, and individual control over pace and sequence of engagement.

Like other generic skills or attributes (Smith & Bath, 2006), teaching learning strategies and metacognitive awareness is more effective when done within the discipline. For The Learning Couch, this was achieved by embedding the resource in PsychMe!, the online 'community' place for first-year psychology students.

The Learning Couch

The Learning Couch was designed to reside within the University's learning management system (Blackboard). However, it is not based on any available tools or applications within the system. It was developed in PHP5 with an Oracle database behind it, in conjunction with an educational designer and programmer[1]. The Learning Couch is a self-contained resource designed to provide high levels of functionality and student interaction that otherwise would not be possible using the normal Blackboard environment. The Learning Couch guides students through an initial online test (likert response type items) containing 38 questions based on the SPQ (Biggs, 1987) and Zimbardo's Time Perspective Inventory (Zimbardo & Boyd, 1999). For each student, the results of this initial test are then pulled through into phases 2 and 3 of the resource where students undertake a series of tasks (both on- and off-line) in order to build and capture their own personal learning profile. Students are able to download sample plans to support their work. At key stages students can export (save and print) their work, which can then inform tutorial discussions in a face to face tutorial.

Like the PsychMe! site, The Learning Couch was designed from a discipline perspective and, in order to spark students' interest in the resource, the genre of the psychologist (or psychoanalyst) was used. Hence, The Learning Couch includes four phases - 'test', 'diagnosis', 'treatment' and 'follow-up': as presented to students, "…just as if you are a psychologist's patient, except here you are your own psychologist!" (See Figure 1 - the homepage setting out the four phases).

First, students take the 'test' to find out their individual learning profile. An individual profile is generated for each student, with a brief guide to interpretation for each of the subscales (deep, surface and achieving of the SPQ; past, present and future time perspectives) and is presented in a format that can be printed or exported. Then students are presented with several sample profiles (e.g., 'Lisa' – Surface approach & Present (Fate) time perspective) to peruse which highlight both the strengths and weaknesses of each. Then students are cued to consider their own strengths and weaknesses based on their reflections regarding their learning profile. Once they have considered their strengths and weaknesses as a learner, they choose some aspect of themselves they would like to work on over the semester. This involves devising an individual self 'treatment' plan. Sample plans and a range of online resources and materials are provided for this phase (including motivation and other personal issues, learning and study strategies, time management, general student resources). After a student has completed and carried out their treatment plan, they take the test again and find out whether their learning profile has changed as a result. This 'follow-up' phase is made available at the end of the semester.

The Learning Couch is a self-guided activity, although students are encouraged to start after their first assessment experience (e.g., first mid-semester exam or assignment). This provides students with particular learning experiences to reflect on as they go through the process of analysing their own learning.

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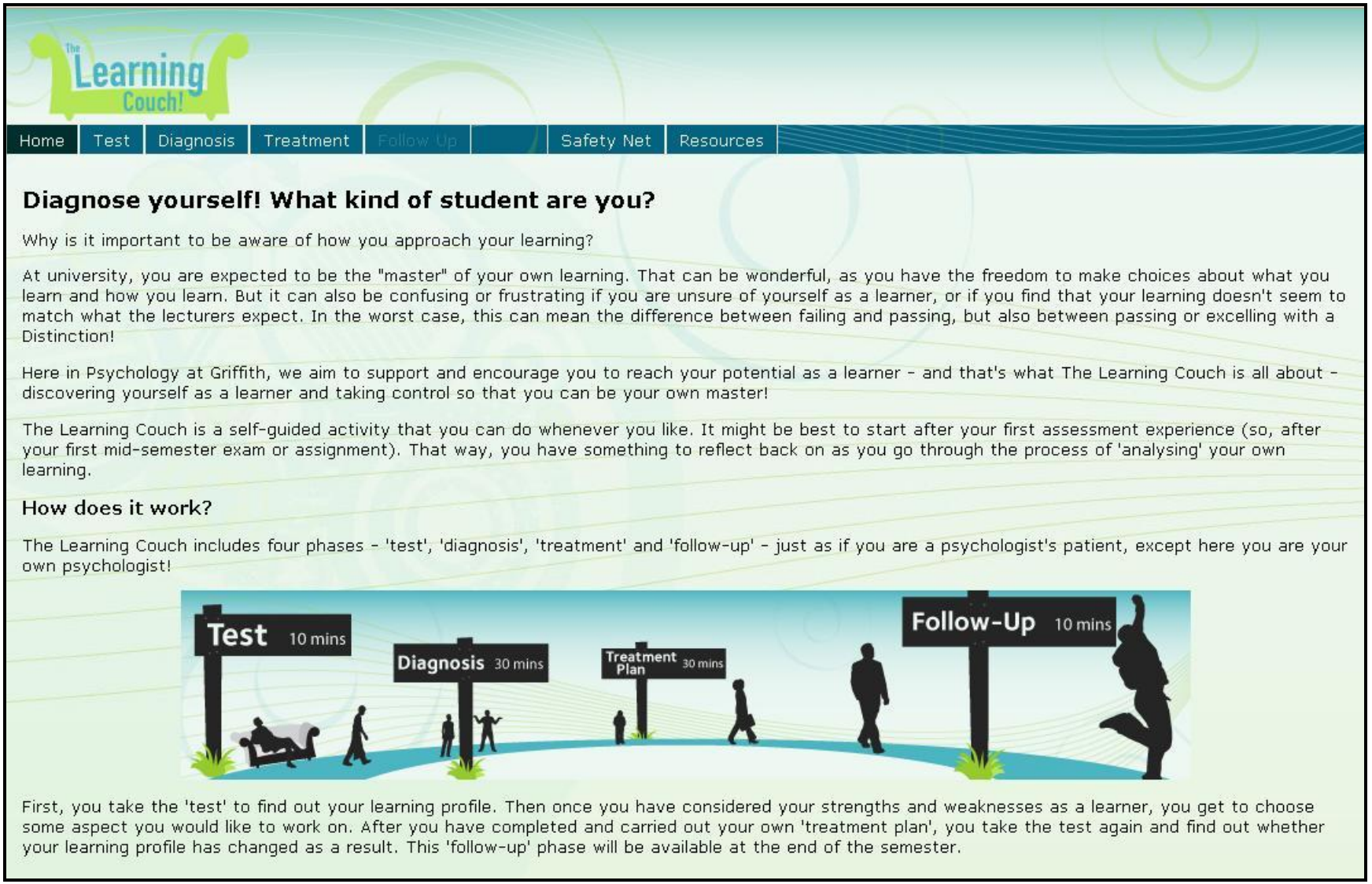

Figure 1. The Learning Couch homepage.

During the process of designing this online resource, certain ethical issues became evident to the developers. For example, what support is there for students if they become distressed whilst engaged in The Learning Couch activities? For students who already feel anxious and vulnerable, the process of 'diagnosis' could be alarming, particularly if they previously had little awareness of learning styles and the associated weaknesses with particular approaches. Therefore, it was important to provide some element of support for students, and hence the 'Safety Net' was included as a component of the tool, which gave students contact details for support services both internal to the University and external, as well as online support resources.

Finally, as it is supported by a database, The Learning Couch is able to track and record student progress across the four phases and students are able to return to The Learning Couch at any time during the semester to continue working or to review and reflect on their progress to date. For the instructor, data are recorded anonymously and can be used to form the basis of evaluation and/or research.

Evaluation

The Learning Couch was 'road-tested' with two small groups of students (6-8 students each) prior to implementation. This was a very valuable step in the design process. As road-testers were students nearing the end of their first-year, they were able to provide insightful reflections about how they would have felt about the resource during that year. Changes were made to the design, particularly in relation to the text. For example, students felt the descriptions of approaches to learning were too 'academic', and the sample profiles needed to focus more on strengths as well as weaknesses, although framing the content much more constructively, in order to provide a more positive and easy-going atmosphere on the Couch.

During the first semester of implementation in 2009, 184 students completed the first test phase (out of approximately 300 first-year students). Of those who started The Learning Couch, there are records for 44 students having completed the treatment plan phase, and only 15 completed the follow-up test. The pre-test and follow-up data (n = 15) for each of the subscales comprising individual learning profiles are presented in Table 1. As shown, even for this very small group (n = 15) there was a significant increase in the deep and achieving approach to learning scores, as well as the present (fun) time perspective.

Subscale	Pre-test	Follow-up
Deep	19.27 (4.77)	20.83 (5.26)*
Surface	16.45 (4.41)	16.27 (3.35)
Achieving	16.73 (4.33)	19.36 (4.82)*
Present (fate)	8.64 (2.80)	10.45 (4.45)
Present (fun)	13.27 (4.47)	15.27 (4.05)*
Future	13.00 (4.58)	14.73 (2.83)
Past	16.09 (4.39)	15.64 (5.12)

Note. * indicates significant difference between pre-test and follow-up, $p<.05$

Table 1. Mean scores (standard deviations) for subscales pre-test and follow-up phases.

An overall evaluation survey (using online survey provider Survey Maker) was implemented during the second semester. A total of 48 students completed every question. There was a range of questions about the overall PsychMe! site in terms of usability, as well as for each key component of the site, and two general open-ended questions (e.g., what was good, what could be improved). Those items relevant to The Learning Couch are presented in Table 2 below. As can be seen by the mean evaluation scores, the majority of students rated The Learning Couch as helpful in terms of facilitating awareness of self as a learner, identifying strengths and weaknesses in learning, and improving some aspect of learning In general, students also thought that The Learning Couch was easy to navigate, and included helpful resources.

Evaluation survey items	**Strongly agree**	**Agree**	**Neither**	**Disagree**	**Strongly disagree**	**NA**
The Learning Couch helped me to become more aware about myself as a learner	2.1%	41.3%	12.5%	23.3%	2.1%	18.8 %
The Learning Couch helped me to identify my strengths and weaknesses in learning.	2.1%	43.8%	20.8%	14.6%	2.1%	16.7 %
The Learning Couch helped me to improve some aspect/s of my learning.	0%	35.4%	16.7%	15.7%	2.1%	18.8 %
The Learning Couch included helpful resources about learning.	6.3%	45.4%	23.3%	8.3%	2.1%	14.6 %
The Safety Net links to student support service and self-help resources were useful and valuable to have on this site	8.7%	32.6%	28.3%	10.9%	2.1%	17.4 %
It was easy to navigate through the Learning Couch.	4.3%	48.6%	23.3%	8.5%	2.1%	12.8 %

Table 2. Evaluation survey scores for items regarding The Learning Couch (n = 48).

Limitations and conclusions

Key limitations of this learning tool, similar to those reported in other studies, includes the voluntary nature of the resource (Zeegers & Martin, 2001). The degree of student engagement with the resource was not unlike other supplementary tutorials/resources. For example, Zeegers and Martin (2001) reported that out of nearly 300 students enrolled in the first semester, only 21.7% attended some of the learning-to-learn tutorials. The unfortunate situation in the present case, is that personnel changes in core first-year courses meant that The Learning Couch designer was no longer a course convenor, and therefore had little contact with students, and no opportunity to integrate the resource in the teaching for a particular course. This is highlighted in some of the qualitative responses:

> *"I think psychme should have been recommended more by our lectures and tutors as I was not aware of how helpful it could be until late in the semester."*
>
> *"I think it needs to be more interlinked with our courses to encourage us to use the site since there are many people who did not go onto it once during the whole year."*

This resonates with previous evaluation studies. For example, feedback on an online writing skills tutorial indicated the strong motivating force of face-to-face contact (Krause, 2006). It was argued that such online resources should not be the primary form of providing support to students and opportunities for gaining academic skills. Instead such efforts should be complementary to other modes that include collaboration or face-to-face interaction. Indeed, other studies evaluating online instruction come to similar conclusions. For example, feedback from students studying a blended learning course evaluated by Matheos, Daniel and McCalla (2005) indicated that only 31% of student used web-based resources to support their study, and whilst only 12% could be categorised as 'independent learners', 40% were 'instructor-led' learners. Similarly, Kim (2009) found that the lack of human interaction with a self-directed online course contributed to a decrease in students' motivation to complete the course. Moreover, Delialioglu and Yildirim (2007) found that in a blended learning environment, students still maintained a preference for collaboration, and intrinsically motivated students engaged in online tasks more intensively and performed better than extrinsically motivated students.

The generalisability of findings is also limited by the self-selection and self-reporting nature of this study, as well as the lack of information on student background and achievement related variables. Although it is unknown whether such results would be evident for other students, the significant changes between pre-test and follow-up for the small group of student who completed all four phases were encouraging. It is, of course, plausible that these students would have adapted their approaches to learning anyway, given that it is likely they were highly motivated and engaged students. Therefore, there is a need for further evaluation and research. The importance of learner motivation cannot be overstated, particularly in promoting engagement as an independent and life-long learner, the goal for The Learning Couch.

One indication of success for learning resources is the adoption of material by others and in other contexts. The Learning Couch (and the overall PsychMe! site) has recently been the focus of an internal University teaching and learning grant, in which staff from a different discipline group (School of Pharmacy) are adapting the site for use with their first-year students. In fact, re-usability and generalisability of the resources was a key driver for the design of the PsychMe! site and resources, as building such tools using technology is not only time intensive but also requires substantial financial backing. To this end, it may have been successful.

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