

University of Strathclyde: Department of Psychology

Basic Psychology

A REAP project case study June 2006

About the class:

Basic Psychology is a first year class, running over two semesters with typically 580 students annually. The course is designed to introduce students to key findings, theories, and debates in general contemporary psychology. Students wishing to study Basic Psychology do so as part of: the Bachelor of Arts offered by the Faculty of Law, Arts and Social Sciences and the Strathclyde Business School; the Bachelor of Science offered by the Faculty of Science; or as an optional module by any student on a degree programme at Strathclyde University. The number of students allowed to continue in psychology for the second year is limited. Entrance for continuing students is restricted on the basis of examination performance in Basic Psychology.

The class is split into six modules: Learning Theory; Social; Biological; Cognitive; Personality; and Developmental. These modules are delivered in 48 one hour lectures, two a week for 24 weeks over the two semesters. Students are also mandated to attend 4 tutorials and 12 practical laboratories during the course of the year. Students are graded using two paper-based multiple choice class tests (25%), tutorials (4%) and a final three-hour exam where students write 5 essays from a choice of 12 questions (66%). Students can earn a further 5% for participation in experiments and other studies being run by the department. The 4% for tutorials is awarded for tutorial attendance and tutorial preparation, students receiving 0.5% for attending each of the four tutorials and a further 0.5% for each tutorial if they submit a 200 word essay on the tutorial topic. The 0.5% awarded for each essay is based purely on whether the tutor deems that the essay is the students own work and that they have made a 'fair attempt' at the tutorial topic.

The two 30-item multiple-choice class tests are designed primarily to provide students with an indication of their own progress through the year. The tests are also designed to encourage students to read related background material, a skill essential to success at university whichever course a student decides to pursue in subsequent years.

Drivers for change:

There has been a significant rise in the popularity of undergraduate psychology in recent years with HESA¹ statistics showing an increase of over 200% since 1996/7, resulting in large undergraduate class sizes, (Strathclyde currently has 580 first year students). This increase in the student population has meant that the methods of teaching which promote student engagement are very limited.

It is recognised that formative assessment is a key tool in improving student's self-regulation, allowing students feedback mechanisms to monitor learning progress by internal feedback. Although the Strathclyde first year undergraduate course does have two summative assessment exercises, primarily because of student/tutor ratios, these merely give students a mark and do not allow them feedback on mistakes or synthesis of ideas. The tests, by their nature, also fail to give the student any feedback on their writing ability, essential for good exam performance.

¹ Figures available on line from Higher Education Statistics agency, (<http://www.hesa.ac.uk/home.htm>)

Likewise, group work activities have been a traditionally valued method of collaborative interactive learning for psychology students. Students are currently signed up to four such sessions a year, but the logistics of running regular interactive groups in a traditional fashion is pragmatically impossible with such student numbers.

There was a realisation within the Department of Psychology that the increase in student numbers had promoted the “transmission of knowledge paradigm” as the primary mode of teaching, with much more material being presented in lectures than was ever being referred to by most students in their final exam answers. In essence it was felt that the class was being ‘over-taught’, most of the material being effectively lost on the majority of students, due to non engagement, and few opportunities for reflective and collaborative

In summary, the main drivers for change for Basic Psychology were to:

- improve the students’ learning experience;
- improve the standard of entrant for the second year; and
- improve overall exam marks.

Phase one pilot: January 2006 – June 2006

For phase one of the pilot, students from the existing Basic Psychology class were invited to participate. Students were informed that full participation would result in them being awarded 5% towards their final mark. Seventy-eight students volunteered (15% of the class). Prior to the pilot commencing both the pilot group and the remaining cohort (control group) were required to fill-in two pre-test questionnaires. The questionnaires used were the Motivated Strategies for Learning Questionnaire (MSLQ) and a modified version of the standard Constructivist Learning Environment Survey (CLES). The MSLQ is widely used to look at individuals current motivational beliefs and self-regulated learning while the CLES explores how much the learner is an active conceptualiser within a socially interactive learning environment. For the purposes of the pilot the institutional virtual learning environment, WebCT, was used for the activities described in more detail below.

Pilot tasks:

Students were divided into groups, selected by the class leader, with a maximum of six students per group. There was then an initial induction task where students were asked to introduce themselves to each other within their groups via the online discussion board. The main academic task followed this and involved students being presented with three questions of increasing complexity in a specific topic area (e.g. human memory) over four weeks.

For the first question they were asked to post an individual 50 word response to a private submission area in WebCT, this response could not be seen by other students. Students were then directed to engage in an online discussion within their groups about their answer, students being instructed to debate/argue what they believed the correct answer to be.

For the second question they are asked to engage in an online discussion this time in their groups working towards an agreed 100 word response. This response was then submitted by one member of the group to a submission area in WebCT by a certain date.

For the third question they also engaged in online discussion again but the task required them to post a 300 word group response.

Before students engaged with the second and third questions they were directed to a model answer; they could also retrieve a model answer after the 300 word response.

Key features of this pilot are that the task questions are progressively more difficult, that responses move from an individual to a group response, that there is a model answer for comparison at each stage, and that the questions posed to students directly relate to what is being taught in class. Tutors did not provide any feedback neither did they moderate the discussion.

Evaluation Methodology:

As identified above there are three key drivers for change: improving overall exam marks; improving the standard of entrant for the second year; and improving the students' learning experience. The first two of these drivers was monitored using hard data relating to exam and multiple-choice test results. The final driver, the student learning experience, was evaluated using a combination of tools outlined below:

- MSLQ and CLES questionnaires were filled in by the majority of students, both in the pilot group and the rest of the class. Upon completion of the pilot both of these groups were required to complete the questionnaires again for comparison to the pre-test results.
- Two student focus groups were also held to elicit students' views of the pilot. From these focus groups questions for a student survey were identified and a student questionnaire was circulated.

Results:

Quantitative findings from exam results and MSLQ and CLES surveys have yet to be established, but Preliminary findings from focus groups and questionnaires show that the students were positive about this learning experience. They reported that working collaboratively enhanced their understanding of the discussion topic (92%), with the combinations of the additional reading and collaborative discussions being key. Typical student comments were "*we know everything there is to know about this topic now*" and "*I found it very beneficial, at the time... I did not realise how much I was learning...it was learning without thinking about what I was doing*". It is notable that these comments, and many others made by the students, emphasised both the way the task enhanced their confidence and the perceived benefits in learning,

Another finding was that the early induction task where students introduced themselves appeared to help create more supportive social interaction, evidenced through the extensive use of the discussion board for social postings. In traditional settings, being part of a large first year class does not guarantee, and may even inhibit, the establishment of social contact with others.

Benefits for students

A key feature of this pilot has been that students were engaged in a series of tasks which were designed to progressively become more difficult (scaffolding). Furthermore, individual student responses are followed-up by structured peer discussions and exposure to 'model' answers, which not only act as feedback on performance but through the processes of internal reflection and recalibration following exposure to conflicting ideas improves task learning self-regulation.

In the full-scale redesign identified above students will further benefit from being engaged in regular study activities which directly relate to topics being taught in the lectures. The nature of these activities is repetitive in format but varied in goal allowing students to quickly develop an assessment strategy which allows them to focus on the learning goal.

Benefits for staff

The primary benefit to staff from this pilot has been the 'proof-of-concept'. Through this pilot staff have been given the opportunity to put forward a case to radically redesign Basic Psychology. This new version of the class - by reducing the number of lectures by 50% - will,

in a relatively small department, free up substantial staff resources. This development is also importantly perceived not to damage the student learning experience but instead enhance it.

Critical success factors:

The Psychology Department at Strathclyde has international recognition for its research into developmental and educational psychology and hosts the Centre for Research into Interactive Learning (CRIL). Consequently the development of Basic Psychology pilot has benefited from the active engagement from senior members of the Psychology Department who have been instrumental in the project conception and development providing the pedagogical underpinning which has made the project a success.

The participation of staff members represents a substantial commitment by the Department in terms of engagement and professional resource but a critical factor which has made the development of Basic Psychology possible is the employment of a dedicated Project Co-ordinator, made possible by funding through REAP. The Project Co-ordinator has been instrumental in turning the concept of developing an online formative assessment environment into reality. This has been achieved by gathering information on the potential software solutions before instigating the implementation of the pilot into the chosen platform. The Project Co-ordinator has then administered and monitored the pilot evaluating the effectiveness of the new online formative assessment.

Dissemination activities:

The Department has already made several presentations of early results, primarily internally to other departments and the University of Strathclyde, but also externally to the wider academic community. In particular presentations have been made by Dr Jim Baxter to the Strathclyde Learning Enhancement Network and the Department of Psychology Teaching and Learning Committee. Early findings from the pilot have also been actively shared and disseminated through joint meetings with the Department of Psychology at the University of Glasgow and at REAP internal events.

Externally papers outlining the psychology pilot have been presented by Dr David Nicol at the QAA Integrative Assessment and First Year Experience Initiatives Joint Meeting and the CAA Conference in Loughborough. A paper detailing the results from the psychology pilot by Dr Jim Baxter and Dr Andy Tolmie is in production for publication in September 2006.

Future plans²:

The findings from this pilot have given the Psychology Department the confidence to propose a radical redesign of Basic Psychology commencing in 2006/7. Building on the success of the phase one pilot it was proposed by Dr. Jim Baxter in his Report to the Psychology Teaching and Learning Committee April 2006 to abolish half of the lectures, replacing these with online collaborative guided learning exercises.

In this new format no significant changes will be made to the lecture content. Instead topics which would have been covered in the second lecture each week will be replaced by online exercises. These exercises will be supplemented with related notes and readings and are designed to encourage students to explore content which would have been presented in the replaced lecture.

For example, the basics of classical conditioning will be presented in the first full lecture. The basis for the follow-up exercise will be the content which would have been in the second lecture (i.e. defining effects such as discrimination, generalisation, temporal contiguity, and

² Text for this section has been extracted from Dr. Jim Baxter - Report to the Psychology Teaching and Learning Committee April 2006

discussing how these further our understanding of classical conditioning). In the online exercise students will first be required make individual submissions, as well as contributing to a group exercise about the sub-topic.

There will be 20 online exercises over the year each directly relating to the preceding lecture. There will be no moderation or grading of online discussions, instead the exercise is classed as a compulsory part of the course. Graduate Teaching Assistants (GTAs) will be employed to monitor the new scheme checking and recording which students are engaging, flagging up those who aren't taking part. Students who fail to participate in more than two exercises, without appropriate notice to the class leader, will be removed from the course. The GTAs will also identify the best group answers and every week two of these will be presented as feedback for the rest of the class.

As part of this redesign while all the other elements of the class will remain unchanged (multiple-choice tests, tutorials, practicals, and degree exam) the existing attendance credit system for face-to-face tutorials will be discontinued.

The redesigned course should not disadvantage those students who currently do well as they will continue to be provided with a detailed course structure which guides them towards learning about the key topics of Basic Psychology. It is hoped that the new format will be of greatest benefit to those students who are less active in their own learning, providing them with a framework which lets them take more responsibility for their own learning.