Helping first year novice programming students PASS

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Abstract
In this paper, we report the results of introducing a face-to-face Peer Assisted Study Scheme (PASS) and an electronic Peer Assisted Study Scheme (ePASS) into a first year introductory programming unit, core to four undergraduate IT degrees. PASS is a program of supplementary instruction through which successful senior students facilitate weekly face-to-face study sessions in targeted key first year units. Sessions are open to all students enrolled in the target units and participation in PASS is voluntary. ePASS is a discussion board monitored by PASS Leaders. Results show that although attendance at face-to-face sessions is less than 25%, the students that attended found the sessions very useful. Of those that participated in PASS, over 40% attended to help them achieve an excellent grade, and not purely to obtain a pass grade. It was therefore not surprising that the proportion of regular PASS attendees who failed the target unit was much lower than in the unit overall, while the proportion of regular PASS attendees achieving Distinctions and High Distinctions was higher. ePASS did not meet our objectives either in terms of the volume or nature of use.

Keywords: Peer assisted study, first year programming.

1 Introduction
Many studies have shown that first year students find computer programming a hard skill to learn (Bonar & Soloway, 1983; Lahtinen, Ala-Mutka, & Jarvinen, 2005; Lewandowski, Gutchow, McCartney, Sanders, & Shinners-Kennedy, 2005; Lister, Adam, Fitzgerald, Fone, Hamer, Lindholm, McCartney, Mostrom, Sanders, Seppala, Simon, & Tomas, 2004). Although many new IDEs have been developed to help students develop programming skill such as BlueJ (Kölling & Rosenberg, 2001) and Alice (Dann, Cooper, & Pausch, 2006) the reality is that the fail rate at first year is usually greater than 30% (Dehnadi & Bornat, 2006).

For the past three years first year programming at Monash University has experienced a fail rate of between 36-40% each year. Admittedly, the high rate of failure is usually accompanied by a high grades. Robins (2010) provides an explanation of this characteristic bimodal grade distribution.

To help students succeed at university, a range of approaches have been adopted, including active learning such as adapting the Triesman model (Chinn, Martin and Spencer, 2007) and contributing student pedagogy (Hamer et al. 2008). Different models of peer-assisted learning have been applied to computer science education, including curricular (Wills & Finkel, 1994; Machanisk, 2007) and extra-curricular activities, such as student mentoring (Boyer et al. 2010; D'Souza et al. 2008; Miller & Kay 2002).

Monash University decided to trial a Peer Assisted Study Scheme (PASS), one model of extra-curricular peer-assisted academic mentoring. PASS targets “high risk” first year units. These are units that have demonstrated their difficulty over time regardless of the staff who teach them or the material used (Arendale, 1993), core first year science, engineering, IT and business units are typical. Subsequently, the Faculty of Information Technology decided to be part of the initial trial to introduce PASS into its first year programming unit.

Students who have succeeded and done well in the target unit (the “PASS Leaders”) help junior students make a successful adjustment to studying at university. In the Faculty, PASS used second year high achieving students who have already demonstrated strong competency in the subject to provide additional support for first year computer programming students.

PASS targets “at risk” units rather than “at risk” students, avoiding the stigma of being a remedial program (UMKC, 2010). Attendance is voluntary, but all students in targeted units are encouraged to attend, not just those who are struggling. In addition to assisting students with unit content (“What to learn”), PASS aims to develop the study skills required for success at university (“How to learn”). PASS achieves these objectives through a student-centred and collaborative approach to learning that also generates social benefits for participating students (van der Meer & Scott, 2009).

PASS sessions are regularly scheduled and facilitated by PASS Leaders. Leaders are paid to run the PASS sessions, and they encourage collaborative study techniques specific to the discipline. Students meet on a
weekly basis and engage as a group with the unit material. Typical activities include clarifying lecture notes, discussing key concepts, developing effective study techniques, and working through practice problems as a group. The PASS Leaders also monitor a Moodle discussion board – known as ePASS.

Our research investigates the use and value of the PASS and ePASS services provided to these students. We also examine the type of student likely to engage with the service and why they do so; to pass the unit or as a way to increase their final grade. Our findings will provide lecturers with insights into how students use such resources so that they can better design support services to engage students in learning.

2 Previous Work

The work of Tinto, Gardner and Kuh (Kuh, Kinzie, Schuh, & Whitt, 2005; Tinto, 1987) has provided new perspectives on student success at universities. Universities which once measured their prestige from their ability to weed out students, are now measuring success on how they are able to support students to achieve goals.

The PASS Program is based on the Supplemental Instruction model initially developed at University of Missouri, Kansas City (Martin & Blanc, 1981), the theoretical foundations of which have been well described (see for example McGuire, 2006; Crouchman, 2008). In Australia, The University of Wollongong (UoW) hosts the National PASS Office, and the UoW PASS program is cited by Australian University Quality Agency on its Good Practice Database (AUQA, 2010). Within Australia’s Group of Eight universities, the Universities of Sydney, Melbourne and Queensland have well established programs, with UNSW introducing the scheme in 2008.

Studies into the effectiveness of PASS in Australia and overseas have found that students need to attend PASS sessions on a regular basis to gain any real benefit (O’Brien, 2006; Murray, 1996; Bidgood, 1994; Kochenour et al., 1997), with regular attendance usually defined as 50% of sessions in a semester. Therefore, one of the measures of the success of Monash PASS program is the proportion of the total number of students enrolled in the target units who attend five or more PASS sessions in a semester. Data from UoW shows that regular PASS participants had retention rates and final marks up to ten percentage points higher than first year students who did not participate (UoW, 2010). The University of Queensland reports similar results (Miller et al, 2004).

Improved pass rates benefit both student’s retention and progression, two of the key Learning and Teaching Performance criteria applied to domestic first year undergraduate students.

3 Study Context

This study investigates the benefits of PASS and ePASS to first year novice programming students enrolled in a core first year unit1, titled FIT1002 Computer Programming. The unit is taught as part of a common core unit across four Information Technology (IT) degrees, and across six campuses. PASS and ePASS were introduced in Semester 1, 2010 at two of the campuses teaching FIT1002 that had the largest student intakes.

3.1 Recruitment of PASS leaders

To recruit PASS leaders, all second and third year students, who received a Distinction or High Distinction in the target unit and a Credit average overall were sent an email and invited to apply. The shortlisted applicants were asked the following interview questions:

1. What sort of problems (academic, social, other) do you think students have in the transition from high school to university?
2. What sort of problems do you think students doing this course/unit face?
3. One goal of PASS is to help students become independent learners. How would you contribute to this?
4. How would you create a positive learning environment in your sessions?
5. Can you tell us about a recent group or leadership role you’ve been involved with?

3.2 PASS Leader training program

The PASS Leaders were required to successfully complete a two-day training program prior to semester starting. Day 1 focused on four modules: (1) How PASS works and why it is successful, (2) The role of the PASS Leader, (3) Dealing with different student types and (4) The practicalities of running a PASS session. Day 2 provided the leaders with an opportunity to practice the delivery of their activities, then review and evaluate them.

Module 1 contextualised PASS in terms of effective learning practice in higher education. Module 2 focused on differentiating the role of the PASS Leader from that of a tutor, and on establishing, fostering and maintaining good relationships with students. Module 3 focused on identifying potential difficulties that students might have, strategies for overcoming these, and familiarisation of other support services offered at the University. Module 4 covered setting objectives for a PASS session, selecting activities and structuring a session.

The programme highlighted two important points that distinguished PASS sessions from the regular classes in the unit:

i. PASS Leaders do not re-teach content. Rather, the Leader’s role is to facilitate the group gaining a greater understanding of content through discussion, with reference to lecture notes, the textbook and other study materials. Thus, the Leader will assist students to locate the information they need to answer their own question and to become independent learners. For that reason, Leaders do not make themselves available to students outside PASS sessions, except via ePASS.

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1 “Unit” refers to a single semester program of study. In other contexts, “course” or “subject” may be used.
ii. PASS Leaders do not provide individual assistance with assessment tasks, nor are PASS sessions used for students to work on tasks set by the lecturer. In the tutorials and labs students can ask questions related to their assignments and tutors can assist students on particular assignment problems. Students that participate in PASS do not work on these problems so are not provided with more time on assessment tasks. Acceptable Leader assistance on assessment tasks includes discussing the meaning of question verbs or how to approach different types of examination question.

3.3 Unit organisation
Students enrolled in the unit attend one 2-hour lecture, one 1-hour tutorial and one 2-hour laboratory class per week. The unit is delivered across thirteen weeks, the last week reserved for revision. The unit covered foundational programming concepts and taught Java as its first year programming language. Students attend lectures on-campus. All students are provided with the following set of learning resources via Moodle: unit guide, lecture notes and audio recording of lectures, summary sheets, tutorial exercises and solutions, lab exercises and solutions, assignments, quizzes and an online discussion forum. PASS sessions were scheduled straight after the lecture or at a convenient time during the week. Students registered for PASS via Moodle signup sheets.

4 Study Design
PASS was advertised to students in several ways. Announcements were made to students in the Week 1 and 2 lectures by the PASS Leaders, describing the scheme and outlining its benefits. A notice was also placed on the unit’s news forum advising students to register via the Moodle sign-up sheets, and tutors recommended PASS to students that they perceived would benefit from the additional support.

Face-to-face PASS sessions commenced in Week 3, and ran until Week 12, giving ten sessions per semester. Each of the four PASS Leaders facilitated two one-hour PASS sessions each week. Thus, four sessions were delivered each week at the Caulfield campus and four at the Clayton campus. At Caulfield, a further two sessions were delivered in Weeks 14 and 15 as revision.

ePASS was a basic online version of peer-assisted learning in FIT1002 in which a separate discussion board was created on the unit’s Moodle site. Students in the unit were told that the text-only ePASS discussion board would be monitored only by the PASS Leaders, and would be quite separate from the regular discussion board monitored by academic staff.

ePASS was set up to mirror the face-to-face PASS sessions in two important regards: students were told that the PASS Leaders could not assist them with specific assessment-related issues (such questions should be directed to the regular FIT1002 discussion board); and students were encouraged to use ePASS to ask questions broader in nature than those related to the content of the unit – questions on “How to Learn” rather than just on “What to Learn”. Students might not feel comfortable posting such transition questions on the regular discussion board monitored by academic staff. As with their face-to-face PASS sessions, the Leaders were instructed to point students in the right direction to answer their own questions (by referring them, for example, to the relevant lecture slides or section of the textbook), and to encourage students to contribute ideas.

Given concerns over relatively low attendance in the face-to-face PASS sessions in FIT1002, it was hoped that ePASS would appeal to a range of students: (i) those who could not attend face-to-face sessions due to timetable clashes, family, work and other outside commitments; (ii) those who might prefer the relative anonymity afforded by online interaction; (iii) those at the University’s smaller, outer metropolitan Berwick campus. In two previous attempts, it had not been possible to sustain face-to-face PASS sessions at Berwick due to smaller enrolments in FIT1002. It was hoped that ePASS would provide a way in which students at Berwick could make contact with the PASS leaders at the Clayton and Caulfield campuses.

The four PASS Leaders were rostered to monitor ePASS. On their day(s), the Leader had to check and respond to any new postings, ensuring that all student postings were provided with a response within 24 hours.

4.1 Data Collection Method
Data was collected from participating students in Weeks 3 and 12 of a 13-week semester, the first and final weeks of the PASS program, using voluntary, anonymous surveys. Postings on the ePASS discussion forum were also used as data. Approval from the Monash University Human Research Ethics Committee was obtained to use the data collected from PASS and ePASS.

Data was gathered by the one investigator who had no teaching or assessment role in this unit. The lecturer of the unit did not have access to the individual survey data and only had access to summaries of the data after the unit was over and grades had been submitted. It was not possible to identify students from this data.

4.2 Survey questionnaire
The initial Week 3 survey was distributed to students in their first PASS session (Appendix 1). The questionnaire focused on students’ expectations of PASS, their confidence about the unit and their reasons for signing up. In an attempt to gain an understanding of whether it is the more confident students who attended PASS to get a better mark, students were asked to indicate their confidence in the unit on a five-point rating-scale, in which a “1” indicated that the student felt they needed to attend PASS simply to pass the target unit, though to a “5” which indicated that the student felt confident they would pass the unit, but were attending PASS because they wanted a better grade (van der Meer & Scott, 2009). Students were also asked whether they had ever studied programming before. The final questions asked students...
to note concerns they had either about the unit or, more generally, about being a successful student at university.

The Week 12 survey (Appendix 2) explored the value of PASS to students. The survey comprised the following questions:
- How many PASS sessions have you attended?
- How would you describe PASS to future students in FIT1002?

Using a 5 point rating scale, with “5” indicating “very”, and “1” “not at all” students were asked:
- How confident are you of achieving your academic goal in FIT1002? (Note that for some students, their academic goal was simply to pass the unit. Other students were hoping to achieve a Distinction or High Distinction)
- How useful has PASS been in helping you reach your academic goal?

Students were also asked to indicate, on a 5-point Likert scale, how PASS helped them during the semester, in terms of:
- understanding unit content,
- increasing confidence,
- developing transferable study skills,
- having the confidence to ask questions,
- making friends,
- using study time more effectively,
- feeling more enthusiastic about studying IT,
- making it easier to adjust to studying at university.

In addition to the above questions the survey asked students to nominate what they liked best about PASS; what they would like to see more of in PASS; and whether they would recommend PASS to their friends.

4.3 Data Analysis
Survey results were collected by the investigator and analysed under the themes of student expectations, evaluation and relationship between final results and PASS attendance.

5 Results
In this section an analysis of the survey data is reported. First we report on the student attendance in the PASS sessions. We analyse the students’ responses to the Week 3 survey and provide insights into their expectations of PASS and reasons for attending. The Week 12 results are used to evaluate the usefulness of PASS. The final section reports on students’ final grades, categorised by PASS attendance.

5.1 Student attendance
Attendance records maintained by the PASS Leaders on each campus show that 28 students of the 133 students enrolled in FIT1002 at the Caulfield campus attended five or more sessions in the semester, as did 11 students of the 241 enrolled at Clayton campus. This means that 21% of the Caulfield campus students regularly attended PASS, while the figure for the Clayton campus was just 5%.

5.2 Expectations of PASS (Week 3 Survey)
There were 42 respondents to the Week 3 survey. When asked about their confidence in FIT1002 and to what extent they needed PASS to get through the unit, only ten of the 42 respondents (24%) placed themselves at the lower end of the confidence scale (1 or 2 out of 5), as illustrated below in Figure 1. Eighteen of the 42 (48%) placed themselves at the higher end of the confidence scale (4 or 5). Overall, $M = 3.17$, $SD = 1.21$.

Students were also asked whether they had previously studied programming, and 18 of the 42 (43%) respondents stated that they had. There appeared to be a positive relationship between relevant prior experience and confidence of doing well in FIT1002, as can be seen in Figure 1, below. Amongst the 18 students with previous programming experience, $M = 3.50$, $SD = 1.20$; amongst the 24 students with no previous experience $M = 2.92$, $SD = 1.18$. Eleven of the 18 students (61%) who rated their own confidence in the unit as high (4 or 5) reported previous programming study.

Figure 1: Student confidence in FIT1002, Caulfield and Clayton, by relevant previous study ($n = 42$, $M = 3.17$)

Twenty-nine students completed the open-ended item on specific concerns with the unit. Irrespective of prior programming experience, students who expressed low confidence wrote very broad comments, such as “Everything”, “Steep learning curve” or “How to learn it all?”. However, across the whole confidence spectrum students expressed “Time management” and “Not falling behind” as concerns. By far, the greatest number of comments, particularly amongst the more confident students, focused specifically on concerns with the syntax, code and functions of Java.

Only 16 students completed the open-ended item on broader concerns with adjusting to study at university. Again, irrespective of previous programming experience, the most common concern was time management and keeping up with the workload. Several students wrote about needing to develop effective study skills, while the
third most common concern related specifically to doing well in assignments and final exams. In terms of broader academic transition issues, then, there was a stronger focus on “How to Learn” – particularly with regard to developing effective time management skills.

5.3 Evaluation of PASS (week 12 Survey)
In Week 12, 36 respondents completed the anonymous PASS evaluation questionnaire.

Students were asked to indicate their confidence of achieving their own academic goal in FIT1002, whether this might be getting through the unit with a pass, or aiming for a high distinction. Students were also asked to indicate the extent to which they felt attending PASS had helped them achieve their academic goal (bearing in mind that they had not yet sat their final examination). Figure 2, below, illustrates the responses to these survey items according to the number of sessions attended.

As can be seen, there is a demonstrated gap in student confidence of achieving their academic goal in FIT1002 between the 17 students who attended 8-10 PASS sessions (mean response 4.18) and the 19 students who attended fewer sessions (mean response 3.47). It was gratifying to see, however, that all respondents rated the usefulness of PASS well above 4 on a 5-point scale.

When asked how they would describe PASS in IT to future first year students, the students focused on PASS as a technique for improving their grades, assisting their learning and as a revision tool.

Student comments that support PASS as technique to improve their grades include:
- “An opportunity to excel in a unit”
- “Impressive if you wish to maintain an HD standard”
- “Guaranteed your marks will go up”

Others perceived PASS as a way of consolidating what was covered in lectures, and teasing out difficult concepts:
- “Very informative and helps explain what was discussed in the lecture”
- “Brilliant. It’s like a private, personal class to discuss areas of difficulty”
- “Great study group. Good place to ask any questions or concerns you have”
- “An opportunity to share knowledge and understanding with your peers. You will be able to have your questions answered and gaps in your understanding filled in a comfortable, friendly environment”
- “A helpful hand in grasping the tumultuous content of the Java language”

A few mentioned PASS as a revision tool to test understanding:
- “A brilliant way to recap what you’ve learned as well as a place to ask questions”

Open-ended comments on what students liked about PASS in FIT1002 included the opportunity to make
friends, form study groups, ask questions and explain ideas to friends. Example comments include:

- “Helping other students to further my own understanding of the content. Even though I was very comfortable with the unit, with PASS I was able to solidify ideas through practice”
- “Basically like a study group with the class genius”
- “Everyone working together”, “Making friends”
- “Students who attend ask questions I wouldn’t have thought of”

Students felt that the leaders provided quality assistance, in an environment that was fun and relaxed:

- “The fact that you could ask a “stupid” question and it will get answered without being put down”
- “The PASS Leaders understand our current issues”
- “A very supportive environment”
- “Help was always available”
- “The personal feel”

Overall students enjoyed the PASS experience and felt that PASS helped improved their learning and understanding:

- “Able to talk through problems slowly which helped me understand things better”
- “The simplicity – it made complex stuff simple and easy!”
- “Gaining confidence”
- “It was fun!”

Open-ended comments on what students would like to see more of in PASS included: more sessions per week, longer sessions and embedding PASS in other units.

5.4 PASS attendance and students’ final results

Figure 4 below illustrates the proportion of students achieving different final grades in the target unit, by PASS attendance.

The graph highlights the fact that the proportion of regular PASS attendees who failed the target unit was considerably lower (15%) than in the unit overall (29%). The proportion of regular PASS attendees achieving Distinction and High Distinction was notably higher (54% to 40% overall). Regular PASS attendees were those students that attended 5 or more PASS sessions.

There is no claim here of any causal relationship between attending PASS regularly and achieving a higher final grade. Because students self-select to attend, it is the most motivated and engaged students who choose to attend, rather than students who might be feeling less engaged with the unit. No attempt has been made to try to isolate the impact on final grades of regularly attending PASS from other relevant factors, either academic (such as university entrance scores) or demographic (including gender, domestic/international status, socioeconomic status, first in family to attend university).

Regular attendees would be expected to benefit from the supplemental instruction. Indeed, the hour a week dedicated to programming study is one of the selling points used in Week 1 to encourage students to register for PASS.

5.5 Students’ use of ePASS

There were 21 postings on the FIT1002 ePASS discussion board between Weeks 2 and 12 of first semester. Only five individual students posted questions on ePASS, along with three of the four PASS Leaders, and one tutor.

Only eight discussion topics were initiated throughout the semester, and half of these were administrative in nature, posted by the PASS Leaders themselves (a welcome, and three notices of changes to session times). Of the four programming-related questions posted by students, only one, on the topic of string immutability, with six postings, resembled the type of online group discussion we had hoped ePASS would encourage.

Of the five students who made use of ePASS, only two also regularly attended face-to-face PASS sessions. All five students passed the unit.

6 Conclusion and Discussion

Studies into the effectiveness of PASS at other Australian universities have found that students need to attend at least five sessions in a semester to gain any real benefit from the program. This is supported by the data gathered in FIT1002. One of the measures of the success of PASS is the proportion of the total number of students enrolled in the target unit who attended five or more PASS sessions in a semester. Attendance in IT PASS sessions has always been considerably lower than in the other disciplines at Monash in which PASS is offered (ranging from 40% in first year biology units to 25% in first year engineering units).
So the key issue that needs to be resolved for PASS to continue in IT is poor attendance. The 29% failure rate in FIT1002 at the campuses in which face-to-face PASS ran in Semester 1 is evidence of the need for PASS, and the positive feedback from the small number of students who did attend regularly is evidence of the value of the program.

A list of possible ways to raise student awareness of PASS and increase attendance might include:

1. Obtaining testimonials on the benefits of PASS from IT students who regularly attended, and use these to help promote the program.
2. Making weekly reminders of PASS in lectures and on Moodle.
3. Raising tutor/demonstrator awareness of PASS and encouraging them to refer students to PASS if they see them struggling.
4. Issuing letters to students repeating FIT1002 describing PASS and encouraging them to attend.

Although PASS targets “at risk units” it is the students that disengage with the unit and who fail that make it an at risk unit. Given that much of the attendance records and in semester results are recorded on an LMS, a more efficient and automated way to identify at risk students might be useful in attracting more students to attend PASS sessions.

ePASS did not meet our objectives in terms of either the volume or nature of use, and there are several possible explanations for this. The first is that the unit had another, parallel online discussion forum in which students could interact with each other and with their tutors, and the distinction between the regular discussion board and the ePASS discussion board was probably not clear to the students. Second, the asynchronous, text-only model used in the trial of ePASS has severe limitations in terms of achieving the objectives of the PASS program.

Monash University has recently adopted Google Apps, and plans are in development for the trial of a more sophisticated model of ePASS for Semester 1, 2011, involving the scheduling of weekly, online evening ePASS sessions using text and audio chat functions and Google documents that are open to real-time group editing.

More broadly, Monash is currently trialling a number of models of in-class peer-assisted learning (PAL). This will look more at “horizontal” PAL (1st Year students helping each other), rather than the vertical PAL used in PASS (second and third year students helping first year students). Two arguments in favour of a move to in-class PAL are that it would benefit a greater proportion of the students in the unit (i.e. those who attend the tutorials), and remove the potential timetable clashes that prevent some students from attending PASS. In-class PAL might also encourage students to form study groups outside class, taking the benefits of PAL beyond the classroom.

In-class PAL, however, does have potential limitations. Two of the advantages of PASS being extra-curricular and purely peer-facilitated (i.e. there are no members of academic staff present) are that the PASS sessions are separated from assessment, meaning that students can (and do) ask any question without fear of being judged by their assessors. Furthermore, unless contact hours were increased, the provision of in-class PAL, whether horizontal or vertical, would not provide the same guaranteed additional study time as did the extra-curricular PASS sessions.

7 References


Appendix 1

*PASS in FIT1002*

What do you hope to get out of PASS?

Please tick one of the boxes below to indicate your academic goal for attending the PASS sessions:

- [ ] I'm worried about FIT1002. I think I'll need PASS to get through FIT1002
- [ ] I'm confident I'll pass FIT1002, but I'm here to try to get a better grade

What questions or concerns do you have about FIT1002?

Have you studied computer programming before?

Have you used Java before?

What questions or concerns do you have about being a successful student at uni?
Appendix 2

PASS Student Evaluation Questionnaire

FIT1002 Semester 1, 2010

How many PASS sessions did you attend?
1 – 4 □ 5 – 7 □ 8 – 10 □

How would you describe PASS to future students in FIT1002?

Not at all confident

Very confident

How confident are you of achieving your academic goal in FIT1002? Please tick one of the boxes below.

Not at all confident

Very confident

How useful has PASS been in helping you reach your academic goal for FIT1002? Please tick one of the boxes below.

PASS has not helped me at all

PASS has been very useful

How has PASS helped you this semester?

Please tick the boxes to indicate your response to the statements below:

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<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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<tbody>
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<td>PASS:</td>
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<tr>
<td>helped me understand the content of this unit</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>increased my confidence in this unit</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>helped me develop study skills I can use in other units</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>encouraged me to ask questions</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>helped me to make friends with other 1st Year students</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>helped me to use my study time more effectively</td>
<td>5</td>
<td>4</td>
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</tr>
<tr>
<td>made me feel more enthusiastic about studying IT</td>
<td>5</td>
<td>4</td>
<td>3</td>
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</tr>
<tr>
<td>made it easier for me to adjust to studying at university</td>
<td>5</td>
<td>4</td>
<td>3</td>
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What did you like best about PASS?

What would you like to see more of in PASS?

Would you recommend PASS to your friends?  Yes □  No □

Thank you for completing this questionnaire