SDK125 Student Intentions and Retention Study for eSTEeM

A quantitative and qualitative investigation of students' expectations and experience of studying or withdrawing from SDK125

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1. Background

The driver for this investigation was a desire to evaluate the validity of common suppositions about what makes so many students withdraw 'early' from SDK125, *Introducing Health Sciences: A case study approach*, and inform the design of SDK100 in order to reduce the attrition rate.

Table 1 illustrates the scale of the retention problem. In the 2013J cohort of 1244 students registered at the module start date, 310 (25%) did not submit TMA01 in December 2013. Some had formally cancelled their registration and others had 'passively' stopped studying without notifying the OU. (Note: The percent 2013B dropout was high for mysterious reasons mirrored in other February start modules across the OU.)

Table 1 Percent of SDK125 students not submitting TMA01 and not completing since 2011J

Cohort	Registered at start	Not submitting TMA01	'Early disengagement'	Non-completion
2011J	1262	278	22%	36%
2012J	1413	323	23%	38%
2013B	971	302	31%	52%
2013J	1243	310	25%	Data not yet available

As Table 1 and Figure 1 show, more than half of all students who don't 'complete' the module (i.e. sit the final exam) have disengaged before TMA01. Therefore, if we can understand the early drop out from SDK125 we may be able to reduce non-completion in SDK100. The attrition is slightly higher among New than for Continuing students (not shown in Figure 1), but the shape of the decline resembles that for All students. Figure 1 is also shows some recovery from the % submitting TMA04 to the % completing the module (i.e. exam-takers) in 2012J and 2013B, the first two presentations when continuous assessment became formative. This suggests that some students chose not to submit TMA04 before taking the exam because they had already achieved the 40% OCAS threshold. Formative assessment is discussed further in Section 5.

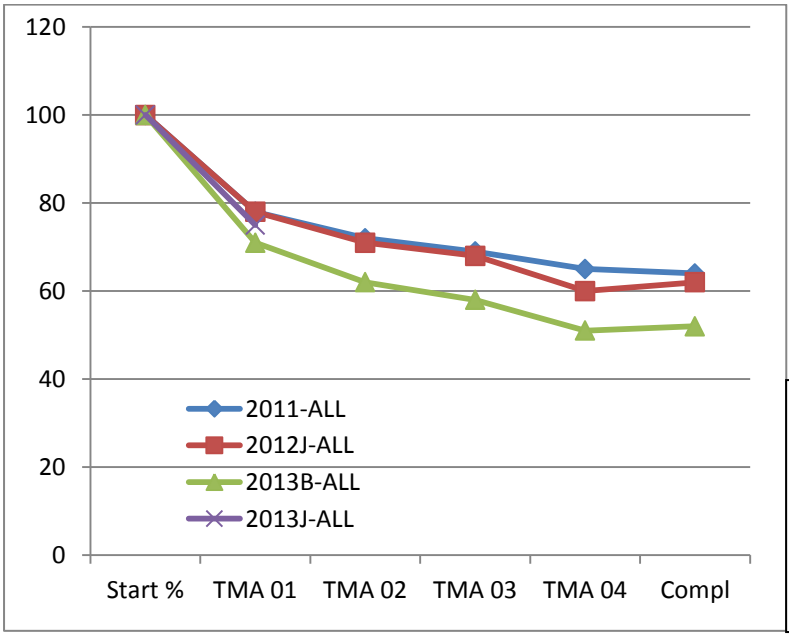

Figure 1 Decline in SDK125 TMA submission rates and exam takers (Compl) as a percentage of those registered at module start: All students in 2011J, 2012J and 2013B. (Data compiled by Saroj Datta)

Given the increase in fees for new regime students (54% of those starting SDK125 in 2013J were 'new') and the requirement to register for a qualification, there was a widespread expectation that retention would improve – not decline over time, but this optimistic forecast has not proved to be the case, as Table 1 and Figure 1 demonstrate.

Theories about why so many SDK125 students drop out 'early' include:

- They do not expect the module to require the 8 hours/week study on average notified in the Study Planner and/or they quickly discover that they cannot sustain this time commitment;
- They did not expect (or are unable) to study independently without a lot of 'hand-holding' from tutors – to put it another way, they expect to be 'taught' what they need to know in order to pass;
- They are daunted by the extent of the module materials when they arrive;
- The module includes maths and chemistry from the outset, which students dislike/can't cope with/or don't expect to find in a 'health' science module;
- They don't like the first case study on 'Water and Health', which makes an unappealing start;
- They don't like the complexity of having to collaborate with other students in their tutor group to post comments, collect data, enter it into a wiki and draw a graph for TMA01;
- They are put off by discovering that the final assessment is an exam;
- They register for too many concurrent modules and are overwhelmed by the reality.

This project attempted to interrogate these assumptions from students' own experience and shed light on the extent to which these factors contribute to early disengagement with SDK125. Data were collected in two phases: a quantitative questionnaire close to the start of the 2013J (October) presentation, and qualitative telephone interviews with a purposively chosen sample of students 3-4 months later in early 2014. (For more details of methods, see Section 3.) An 'executive summary' of the main findings follows for those who don't want or need to read the supporting evidence in Section 5.

2. Executive summary

2.1 453 students registered for SDK125 in 2013J returned the module-start questionnaire – a response rate of 42.9% (well above the University average); the key demographic characteristics of respondents were sufficiently close to those of the 2013J cohort to conclude that the sample was representative.

2.2 Telephone interviews were conducted with 38 students at 3-4 months into the 2013J presentation, i.e. at least six weeks after the TMA01 cut-off date. Interviewees were selected because they had already cancelled their registration, or failed to submit TMA01, or had expressed unrealistic expectations of SDK125's workload or science/maths content in the module-start questionnaire.

2.3 10% of questionnaire respondents were either not studying for an OU award or were unsure if they would do so. Alternative aims were eligibility for the student loan without a qualification goal; demonstrating recent relevant study to gain entry to a non-OU programme; or simply 'marking time' while waiting for acceptance to study elsewhere. This relatively high proportion has clear implications for achieving the 75% progression target from level -1 to level-2 recently set by Council.

2.4 Just over 10% of the students surveyed said they were not made aware of the weekly workload requirements for SDK125 before they registered.

2.5 However, almost all students had realistic expectations of the study time required; only 1.5% underestimated the hours/week required at the outset of the module and all of these individuals whom we could trace 3-4 months later were still actively studying SDK125.

2.6 There was no evidence that SDK125 is overloaded: students interviewed 3-4 months after the module start estimated they studied for 6-12 hours/week and all but one felt the scheduled 8 hours/week was 'about right' and adequate to keep pace.

2.7 We were unable to establish whether students with high study intensity were more at risk of dropping out of SDK125, partly because relatively few of those who had disengaged and those who were still actively studying 3-4 months into the module had registered for more than 60 credits. One student registered for 120 credits was studying them all and another had dropped down to 90 credits.

2.8 Only about half the students taking SDK125 alone in October 2013 who said they planned to register for an additional 30 credits in 2014B actually did so, suggesting that they may have made a sensible choice about study intensity once they experienced the reality of studying SDK125.

2.9 Although over 97% of questionnaire respondents said they had accessed the online module description before registering for SDK125, only 57% had accessed the 'Are You Ready for Science' quiz.

2.10 We found no evidence that the very small proportion of students who mistakenly assumed SDK125 to be about 'health' and not involving much 'science' or 'maths' at the outset were at high risk of dropping out; almost all individuals whom we could trace were still actively studying after 3-4 months.

2.11 Although difficulty with 'science' or 'maths' was not cited by any students who dropped out, anxiety about chemistry in particular was expressed by around half the interviewees who were still studying.

2.12 Interviews with students who cancelled their registration or passively withdrew before submitting TMA01 identified only three who dropped out because SDK125 was the 'wrong choice of module': one wanted more HSC-type content and switched to K101, and two wanted more science or maths.

2.13 Two students in our interview sample had withdrawn and re-registered for 2014B because their student loan was not approved in time for 2013J. Counting these students and those who defer part-way through the module as 'drop outs' adds to the difficulty of achieving the 75% progression target.

2.14 Other reasons for disengaging before TMA01 were because of health problems, work moves, unemployment, over-estimating their ability to sustain 8 hours/week to study, and inability to use a computer, i.e. reasons unrelated to the module content or workload.

2.15 Investigation of assessment issues revealed confusion among interviewees about the 40% threshold for continuous assessment – some thought they needed to achieve 40% on every assignment.

2.16 Some students referred to the importance of achieving a score well in excess of 40% as an indicator that they were 'learning what they were supposed to learn'. This has implications for student perceptions of the value of completing formative TMAs, particularly if combined with learning-outcomes-based marking (e.g. 'well demonstrated' vs high numerical score).

2.17 The majority of interviewees did not realise that 'formative' assignments meant their final grade was determined solely by the exam score; clarification by the interviewer elicited mainly negative reactions, e.g. that work on formative TMAs was 'pointless' and 'wasted effort'. The value of continuous assessment for learning has to be communicated to students more effectively.

2.18 Attitudes towards the final examination were less negative than expected – almost 23% of questionnaire respondents said they preferred an exam to an EMA and 35.5% had no preference for exam or EMA; exam anxiety was not identified by interviewees as a factor in early disengagement with SDK125, but a few expressed concerns that may deter them from completing as the date approaches.

2.19 Students identified active engagement by their tutor in the forum and responding 'within a day' to queries as highly valued characteristics; they were disappointed or felt let-down by the 'deathly silence' if tutors did not engage with them outside of tutorials and TMAs. The 'early tutor contact' pilot underway for SDK125 in 2014B will determine if this has reduced early disengagement.

2.20 Feedback on tutorials was mixed – invaluable to some and a waste of time to others; the number of students participating influenced positive or negative perceptions. Online tutorials and the ability to replay recordings were valued, despite some technical problems; students who were only offered face-to-face tutorials would have liked online tutorials too.

2.21 There were very few suggestions by interviewees for improvements to SDK125 – most expressed high satisfaction with the module, despite the interview sample targeting students who had dropped out or were at possible risk of early disengagement; suggestions included having a national forum and an online 'common room'; making the AYRF Science quiz more challenging; and providing additional support for chemistry and maths (e.g. workbooks, quizzes, interactive activities).

3. Methods

3.1 Module-start questionnaire

Approvals from the Student Research Project Panel and eSTEeM were obtained for the project proposal, and Data Protection clearance was granted. Financial support from eSTEeM was offered for an AL to assist with student interviews and gratefully accepted. The project leader designed a questionnaire with comments and contributions from colleagues in the SDK125 module team, IET's Survey Research division, three Science Staff Tutors and the Faculty Management Team member responsible for Assessment (Sally Jordan).

The survey team in IET identified 1055[1] registered students from the 2013J cohort who were sent an email with a short introduction and a link to the online questionnaire. The email notification was sent two weeks before the module start in October 2013, followed by a prompt to those who had not responded by the module start date, and a second prompt to non-responders at two weeks into the module. Data collection was then closed.

The questionnaire asked for limited demographic and educational data (e.g. age, prior OU study, highest previous educational qualifications), their OU qualification aim, intended OU study intensity in the year to October 2014, how/where they obtained information about SDK125, their level of confidence about using a computer to study and manage their time successfully, their expectations about workload (hrs/wk) and about the science and maths content of the module, their attitude to the final assessment being an exam and whether they would have preferred an EMA.

Students were also asked to give permission for a module team member to telephone in January 2014 to get feedback on their experience of studying the module up to that date.

453 (of 1055) students returned the questionnaire – a 42.9% response rate (well above the OU norm); of these, 271 agreed to the follow-up telephone call and gave their PI and contact details.

3.2 Telephone interviews

It was never intended (or practical) to interview all 271 students who agreed to be contacted. As the focus of this project is on students who dropped out early, we identified 60 students with potentially enlightening characteristics to telephone in January and February 2014. However, despite repeated attempts to contact these 60 individuals, we were able to interview only 36 and received email responses from 2 more who explained why they dropped out (see Table 2). Successful contacts often took several attempts and in 22 cases we gave up after leaving three voicemail messages, each backed up by an email explaining why we were phoning and encouraging the student to nominate a suitable time for us to ring back, or giving the option to reply by email. We took the view that chasing students more than three times was unlikely to be successful and risked jeopardising the OU's reputation.

Table 2 Categories of students interviewed (2 sent responses by email)

Student characteristics	**Number**
Student cancelled SDK125 registration (PK) before TMA01 submission date	14
Stopped studying: still registered in Jan/Feb 2014 but no TMA01 submitted	8
Expected SDK125 'to focus on health, with minimal introduction of scientific terms and concepts' in the module-start questionnaire	14
Expected SDK125 'to require little or no use of maths' in the module-start questionnaire	1
Still studying, but TMA01 returned so late we wrongly assumed 'passive withdrawal'	1
TOTAL (from 60 contacted)	**38**

[1] The entire 2013J cohort was 1244 students at module start date; IET excluded those who had previously been surveyed within a fixed time limit, leaving 1055 eligible to receive the questionnaire for this project.

Telephone interviews were conducted by two members of the SDK125/100 module team: Basiro Davey, the project leader, and Ellie Dommett, who is also an experienced SDK125 AL. Interviews took 5-20 minutes and were based on a schedule of questions and prompts agreed beforehand. The shortest were with students who gave very clear reasons for dropping out (two of whom replied by email). All but one of the longer interviews was tape recorded with the student's permission and the interviewer always made notes on the interview schedule. The student's OU PI enabled us to check study history, current modules and award intention, as well as whether TMA01 for SDK125 had been submitted.

The interviews explored:

- Qualification aim
- Reasons for dropping out if the student was no longer actively studying SDK125;
- Estimated weekly study workload and if it is adequate to keep up;
- Any areas of difficulty with the study materials (especially science and maths);
- First impressions of the module when the materials arrived;
- Experience of studying the first case study on 'Water and Health';
- Experience of collaborating with other students on TMA01 (includes a forum discussion, collecting online data, entering it into a wiki, drawing a graph from pooled tutor-group data);
- Understanding of and feelings about 'formative thresholded continuous assessment' and the final exam – including the overall grade being based on exam score alone;
- Contact with their tutor, including in tutorials, and its effect on their studies;
- Contact with other students and any influence on their study experience;
- Suggestions for anything the module team could have done to improve their experience of studying the module.

As mentioned above, we attempted to interview 60 students and were successful in contacting 38 individuals. The small number of interviews means we cannot assume that the views of these students are representative of the 2013J cohort – in fact, what strikes us is the very wide variation in feedback on the topics we asked about. The value of the qualitative data lies in its richness and its power to interrogate some of the assumptions about 'what SDK125 students misunderstand or dislike' noted in Section 1 of this report and discussed in Section 5.

4. Data sources for analysis

4.1 Comparability of questionnaire respondents and the 2013J cohort

We were able to compare demographic and educational background data from the 453 questionnaire respondents with those of all 1244 students in the 2013J cohort at module start. They were sufficiently similar to give us some confidence that the quantitative questionnaire data are reasonably representative of the cohort as a whole (Table 3 on p.8), noting that slightly more of the questionnaire respondents already have OU credits than the cohort as a whole, consistent with their slightly older age profile (33% were below 25 years, compared to 37% in the 2013J cohort).

Table 3 Key demographic data from the 2013J cohort and questionnaire respondents

Student characteristic	2013J cohort at start (n=1244)	Questionnaire respondents (n=453)
Female: male ratio	75:25	78:22
Age under 25 years	28%	25%
White ethnic group	87%	89%
Highest previous education: below A-levels	37%	33%
Qualification aim: BSc (Hons) Health Sciences	51%	47%
SDK125 first OU module	54%	58%
10-60 credits from prior OU study	21%	25%

4.2 Raw and aggregated data from the questionnaires

IET produced a data summary from the module-start questionnaire responses in which all answers to each question were aggregated and presented as tables and bar charts, which revealed some interesting themes for more detailed investigation. However, aggregating responses meant it was not possible to track associations between the answers given by individual students.

IET also supplied raw data extracted from the questionnaires as Excel spreadsheets covering all respondents as individuals, including those who had withheld their PI and contact details. This made it possible to filter the data to identify students in specific categories and associate their answers to a certain question with their responses to other items in the questionnaire. In this way we were able to identify students to contact for interviews in the categories listed in Table 2.

4.3 Telephone interviews: notes and recordings

We were able to refer to the handwritten notes taken by the interviewer on the interview schedule for each student and transcripts of the recordings prepared by the project leader.

5. Outcomes and discussion

We think the most useful way to structure this section is to pose specific questions of interest and report what light can be shed on them by the quantitative and qualitative data collected during this project.

5.1 Qualification aim

What was the qualification aim of questionnaire respondents when they registered with the OU? Do the interviewees say this qualification is a 'firm' study goal?

Of 420 questionnaire respondents who gave this information, 382 (91%) said they were studying SDK125 as part of an OU qualification, identifying 9 different named awards, including 30 students (7.9%) who were aiming for sub-degree awards at Cert/Dip HE level (see Figure 2 on p.9), and 8 students (2.1%, not represented in Figure 2) who were aiming for other awards outside Science, including Nursing, or a BA degree in Criminology or Law, e.g. *('for diversity within my law degree').*

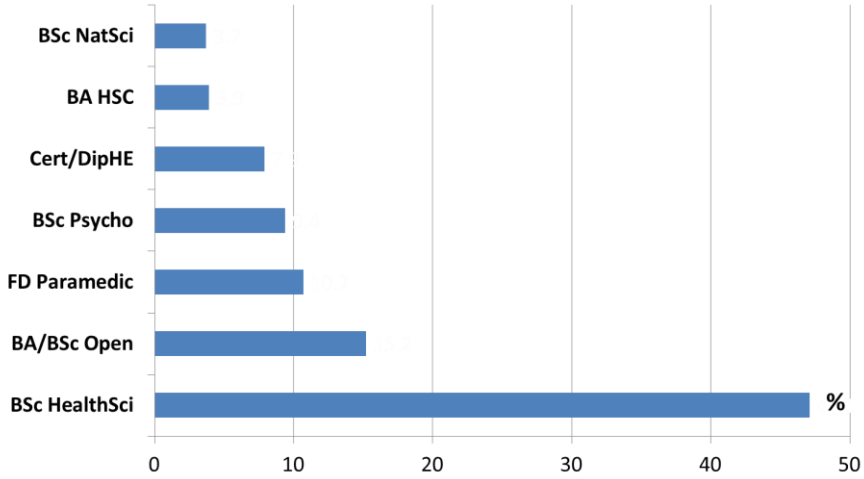

Figure 2 Award intentions of 382 questionnaire respondents who said they are studying for an OU award. (Note: a further 38 students said 'No' or were unsure if they would do so).

Some of the 38 questionnaire respondents who said they were unsure or not studying for an OU qualification added explanatory free-text comments to the questionnaire, consistent with what some interviewees also told us: some were studying SDK125 to demonstrate eligibility for entry to a non-OU programme or were 'keeping their hand in' while waiting for acceptance onto another course; and some had registered for a qualification only to be loan eligible, with no particular goal in mind:

- *I'm doing it to get accepted onto a nursing degree course as I need recent study experience.*
- *I just needed something that meant I could go on to study occupational therapy at [university] and they needed more recent study. Even though I'd got a degree, it was over ten years ago and they needed more recent study.*
- *I'm doing it to do midwifery.*
- *I dropped SDK125 because I got onto my pharmacy course now.*
- *I had to stop because I started a hypnotherapy course, which is 10 hours every Saturday.*
- *Basically an opportunity arose to do something else and I wouldn't have had the time to do that module.*
- *It was just an introduction to get me back into formal education.* (Studying SDK125 alone, not registered for any award)
- *I'm doing it as part of the Health Sciences degree. I know I want to work in a hospital or some sort of a caring situation. I'm not entirely sure where I want to go with it exactly.*
- *To be quite honest with you, it's to keep my hand in. If it means leading me back into some sort of work in the future – well my idea is to get the degree to get me working for myself.*
- *A BSc in Health Studies, is that it? I don't really know what it's called, sorry. A BSc in something.*

The number of responses of this type is small and they may not be typical, but we should not assume that the requirement to register for an OU named award signifies that all students have a firm intention to pursue it to completion. This has implications for achieving the Council target of 75% of Level-1 students completing and progressing to level-2.

5.2 Expectations of weekly workload and influence on early drop out

At the outset, did the questionnaire respondents have realistic expectations of the weekly workload required for SDK125?

The weekly workload of 8 hours given in the SDK125 Study Planner was based on the 2006 version of IET's Student Workload Planning tool, which estimated the module at 296 hours in total, including assessment and exam revision. SDK125 was recently re-assessed using the latest workload planning tool and came out at 312 hours. These estimates are close to the target for a 30-credit module and mirror the conclusion of previous IET student surveys that SDK125 is not significantly overloaded; for example, at the end of the first presentation year, roughly one-third of students thought it took about the same time as they expected, a third thought it took a bit longer and a third that it took less time than expected.

The 2013J module-start questionnaire asked students if they were made aware (from any OU source) of the number of hours required to study SDK125 before they registered for it: 405 students responded, of whom 42 (10.4%) said they were *not* made aware of this information.

Clearly, the OU needs to do better at getting the study time requirements across to students.

The questionnaire respondents were also asked how many study hours/week they expected their OU studies to take (concurrent OU modules combined) and 413 replied (Figure 3). Note that only 6 students (1.5%) expected to study for no more than 5 hours/week (i.e. less than the minimum 8 hours/week for 30-credits).

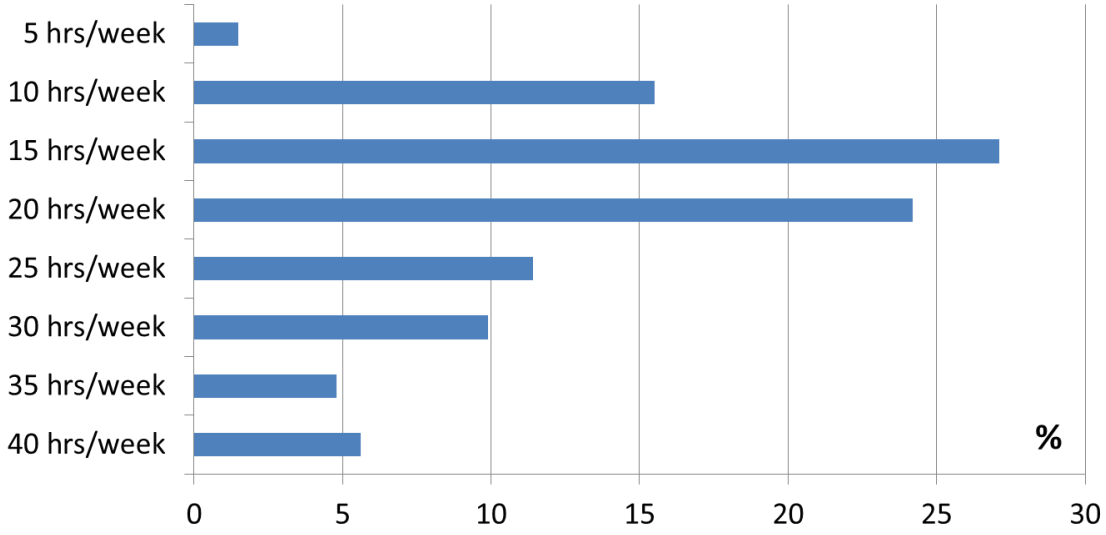

Figure 3 Expected weekly study hours (all OU modules combined) among 413 questionnaire respondents

The questionnaire respondents were also asked how confident they felt at the outset of SDK125 in being able to organise their time effectively to keep pace with the study schedule: only 29.4% of 396 students said they were 'very confident', whereas just over half (56.4%) were no more than 'fairly confident' and 4.3% (17 students) were 'not very confident'. As the interviews with students who dropped out early in SDK125 show (Section 5.3), at least two disengaged because although they had the realistic expectation that SDK125 required an average of 8 hours/week to study, they were unable to sustain this level of commitment.

Is there any association between early drop-out and *unrealistic* study time expectations?

We were able to extract questionnaire responses from individuals who were *only* studying SDK125 in October 2013 and identify their workload expectations from their questionnaire responses as the module started. Then we used the PIs of those who agreed to be contacted to discover (through CIRCE MI) whether

they were still registered and appeared to be actively studying the module 3-4 months later in 2014. Table 4 summarises the outcomes.

Table 4 Weekly workload expectations at 2013J module start of 157 respondents who were *only* studying SDK125 in October 2013

Expected no more than X hours/week (No. of students)	Still actively studying[2] in Feb 2014	Possible passive withdrawal[3] by Feb 2014	Reg cancelled by student or OU	Transfer to SDK125 in 2014B	Unknown (PI withheld)
5 hrs (6 students)	4	0	0	0	2
10 hrs (34 students)	28	2	0	0	8
15 hrs (55 students)	23	2	3	3	23
20 hrs (33 students)	20	0	1	0	12
25 hrs (11 students)	8	0	0	0	3
30 hrs (12 students)	5	1	1	0	5
35 hrs (2 students)	2	0	0	0	0
40 hrs (1 student)	0	1	0	0	0
Totals (157 students)	**89**	**7**	**5**	**3**	**53**

Table 4 reveals the surprising observation that so many of these students 'overestimated' the number of hours/week they expected SDK125 to take on average, relative to the 8 hours/week in the study planner. Note that all 4 of the 'traceable' students who expected to study for no more than 5 hours/week were still actively studying SDK125 in February 2014, based on their assignment submissions (TMA01 plus 4 iCMAs submitted – all scores above 60%).

Table 4 also shows that by early February 2014 a total of 89 respondents were registered for SDK125 alone. This relatively high number is interesting because when they completed the module-start questionnaire only 44 students expected to study SDK125 alone in the year to October 2014. Of the 413 students who answered this question, 111 expected to add another OU module in February 2014. It seems that at least 45 did not do so. Checking via the PIs of students who gave us their contact details revealed that several had cancelled February 2014 registrations, so they may have been making a sensible decision about how much they could manage once they experienced the reality of studying SDK125 (a 30-credit module).

The evidence from this project suggests that early disengagement with SDK125 is unlikely to be due primarily to students starting with unrealistically low expectations of the weekly workload.

5.3 Actual study hours per week

How many hours do the interviewees say they actually commit to studying SDK125 (when asked in Jan/Feb 2014) and do they experience this as enough to keep up with the module?

Thirteen interviewees who dropped out without ever seriously engaging with the module were unable to give us an estimate of their weekly study hours.

Table 5 (on p.12) presents the estimates given in January or February 2014 by the 25 interviewees who were still actively studying the module, or had persisted with it for long enough to feel confident about giving us an estimate.

[2] Active study assumed if they submitted TMA01 and at least one iCMA (three set in this period).
[3] Passive withdrawal assumed if TMA01 not submitted and no iCMA submissions after the first one.

Table 5 Estimated weekly study hours on SDK125 reported by 25 interviewees

Study hours/week	Students	Dropped out	Reason for drop-out
Up to 5 hours	3	3	SDK125 'too easy', wants more science and maths, transferred to S142+DSE141 (1); no time now, got new job (1); could not sustain study due to work/family pressure (1)
6-8	13	1	Unable to keep up (1)
9-10	5	1	Persistent maths difficulties – stopped after TMA01 (1)
11-12	3	0	
> 12	1	0	
Total	**25**	**5**	

It is notable that all three students studying less than 6 hours/week had dropped out – although one was because the module was 'too easy' and had insufficient science and maths content.

The two students who were unable to keep up with SDK125 gave these explanations for stopping:

- *Well to be honest it's just been a bit impossible, what with childcare and work and everything. So I'm failing to do it really. I'm still registered but I should really withdraw. I found the materials very interesting and also very easy to work with and good. I was just over-optimistic about being able to commit that much time to it every week. I thought I could organise my life to do it but I couldn't.* (Tried to study 60 credits in 8 hours/week)
- *The reality is that, you know, life takes over, although technically I had the time. You imagine that you're going to sit down and study for four hours at a time, but the reality is it's very difficult to just sit down and study and absorb yourself in it when you've got other things going on around you and you think 'The house needs sorting' or you need to get the food shopping, or the kids have got a concert that you've got to go and watch, or you've got friends to catch up with.* (Only registered for SDK125, but studying for 4 hours/week or less)

This raises the question of motivation, organisation and discipline – frequently mentioned by students who were keeping up with SDK125, but most memorably expressed by one of them:

- *No-one has enough time in the day anymore, but if it's important you just achieve it don't you? It was a bit of a challenge. I work full-time, I also run my own business and I'm involved in quite a lot of training for various events and stuff. But if you want to do it you just get on with it, really. I'm a little bit 'old school' as regards to that. And it is a sacrifice sometimes, isn't it? It might be nice to go out for a bite to eat with some friends, or have a few social drinks somewhere, but when you've got studying to do then kind of all the really lovely stuff to do in life just has to take a little bit of a back seat.*

None of the students we interviewed felt that the workload on SDK125 was excessive; most referred to it as manageable or even a little light. Several students mentioned the online Study Planner and the 'workload maps' in the Companions as helping them to keep on track:

- *To be honest, the work on the health sciences hasn't been too much for me just now. The work that you get given and going on what it says on the website is 'spot on'. It's given me quite an accurate timescale of how much time I would have to spend per week on the module and whatnot. It's pretty accurate. I think it might even be a bit generous for some of the books as well.*
- *I found it fine, just keeping going, just kind of following through with all the tick lists in the Study planner. I find it really good to do that. It's really helpful because I run my own business and I can come back to it and find that I can catch up very very quickly.*

- *In the way it's constructed, I find it's excellent, the way it's written, the way it leads you day to day, what's expected. It's all very clear and concise. Managing time is not a problem with it even though I work full time*.
- *I think on average I'm spending about six hours, which I know is less than the prescribed time, but because I'm an experienced student I think I can get away with that.*
- *I find that I cover it quicker than what they suggest.* (SDK125+SK143 in about 8 hours/week)
- *It could be a little bit harder in places. I'm keeping up OK – no problems with that at all.* (studies between 2 and 8 hours/week)
- *I have put in more than the 8-10 hours a week that the OU actually says, but that's my choice. I've probably been more thorough than I've needed to be – that's just me by nature. My notes are probably too thorough.*

Taken together, the interviewees tends to support the conclusion from the questionnaire data that excessive workload is unlikely to be a prime reason for early drop-out from SDK125, i.e. students who can study consistently for around 8 hours/week are able to keep up with the workload.

5.4 Study intensity

Are students with concurrent OU modules dropping SDK125 because they are overcommitted?

The module-start questionnaire asked respondents about their planned study intensity in the year from October 2013 to October 2014.

Figure 4 shows that when they began SDK125, 40% of these students were expecting to complete 60 credits in the year and almost 20% were planning to study at full-time equivalence, i.e. 120 credits/year.

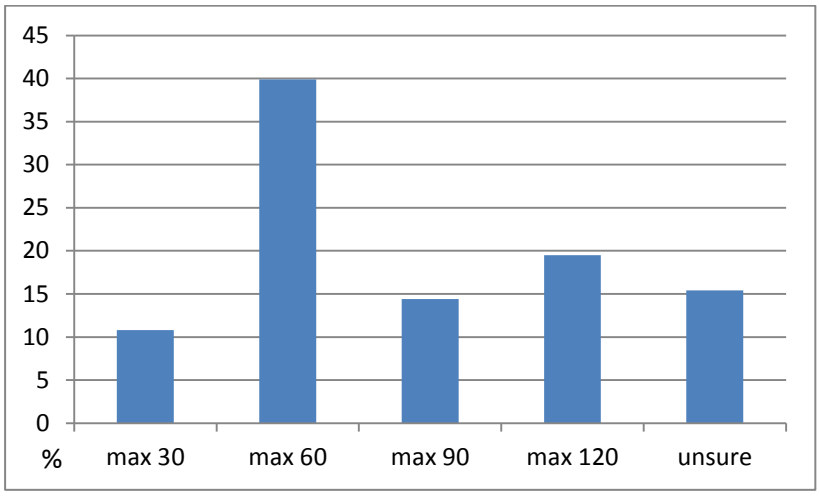

Figure 4 Planned study intensity in the year from October 2013 among 416 questionnaire respondents registered for SDK125 in 2013J.

However, a rather different picture emerged when the students we interviewed in Jan/Feb 2014 were asked about their *actual* study intensity. The students' PIs enabled us to check their actual registration records to see if they had dropped out of SDK125.

Note that we targeted students who had dropped out when we selected potential interviewees to contact, as reflected in the high proportion of students who were no longer studying SDK125 in Table 6 (on p.13), which summarises their reasons for withdrawing.

Table 6 Actual study intensity in 2014 and reasons for withdrawing from SDK125 (cancellation or passive disengagement) by 38 interviewees

Actual study intensity	Students	Dropped SDK125	Reasons for drop out
30 credits	12	6	Loan delayed, re-reg for SDK125 in 14B (2); paramedic, unsupportive employer (1); can't keep up due to work/family pressure (1); extra work commitments, hopes to re-reg SDK125 in 14J (1); wrong module, transfer to K101 (1)
60 credits	18	12	Accepted for non-OU training (2); disabled, can't drive, assumes can't get to SDK125 exam, transfer to AA100 (1); disability assessment delayed, needs computer (1); unable to keep up, computer problems (1); started own business, new job or job moved (3); health issues, hopes to re-reg SDK125 in 14B/J (2); wrong module, transfer to S142+DSE141 (1); persistent maths difficulties (1)
90 credits	6	4	Wrong modules, dropped all 90 credits, transfer to S104 (1); wrong modules, dropped all 90 credits, transfer to maths (1); dropped all 90 credits when job lost, financial difficulties (1); could not use the computer or submit eTMAs (1).
120 credits	2	1	Too many modules, had to drop SDK125 (1)
Total	**38**	**23**	

The reasons for dropping SDK125 are hugely varied, as Table 6 shows – and most are not related to study intensity. Only one student who registered for 120 credits admitted to having taken on too many concurrent modules and reduced his commitment to 90-credits. Two (of the four) students who cancelled 90-credits (including SDK125) claimed to have chosen the wrong modules and transferred to science or maths – in both cases registering for 60-credits – which suggests they recognised that 90-credits was too much.

The sample is small and we focused on interviewing students who had dropped out and given their contact details – so they may not be typical of the cohort as a whole. It is interesting to note that the Science data wrangler, Doug Clow, when asked about the impact of study intensity on retention commented:

> 'The data is quite hard to interpret! Sometimes concurrent study is even a positive – e.g. students near the end of a J presentation who are doing well sometimes sign up for a B presentation. On the other hand, the data query also shows students who defer from one presentation to the next, and of course every one of them fails to complete their earlier module. From my initial (not totally systematic) look at the data for S104 it looks like it's less massive as a problem than we might have thought, but investigations are ongoing.'

One interviewee who is registered for 120 credits in 2013/14 and says is keeping up with them all, made the following revealing observation about her experience of SDK125. It chimes with a comment that tutors sometimes make about students who want to be told what they can 'skip' and what they 'need' to study:

- *I can get away with not doing any work on some modules for weeks if I'm busy and catch up in a few hours, but with this [SDK125] if you fall behind you get way behind … You're expected to work through all these books and you're not sure which is relevant to the exam, or which you can manage to get away with skipping. Some days you're reading the entire book and you're not sure why a lot of the time.*

On the basis of our limited investigation, we were unable to conclude whether high concurrent study intensity is a major factor in early disengagement from SDK125.

5.5 Inadequate preparation for OU study online

Are students who are inadequately prepared for OU study online able to register for SDK125?

The module description for SDK125 on 'Study at the OU' clearly states …

> 'You'll also learn to study using ICT – including interactive DVDs, internet and online resources.'

We asked the questionnaire respondents at the outset of SDK125 about their confidence in using a computer to study. Although 88% of 396 respondents were very confident of having sufficient access to a computer and the internet to study SDK125, 11% were only 'fairly confident' and 1% 'not very confident'. The proportion who were 'very confident' fell to 83% when we asked about their ability to word-process their TMAs; and only 72% were 'very confident' they could learn how to use online research and communication tools such as wikis, forums and computer-marked assignments, or access the online tutorials. Between 10-15% of respondents were 'not at all confident' of being able to acquire these skills.

Three of our interviewees who had stopped studying SDK125 seemed totally unprepared to use a computer in their studies, but were nevertheless able to register for 60 or 90 credits as their first OU experience:

- *I got as far as doing the first exam (iCMA41) and I failed it. I hadn't studied for about 30 years and I was trying to get into studying as well. I didn't really know what I was doing to be quite honest. I didn't know what to expect when it started. I was new to the computer as well. I've never had a laptop, I've never had a computer so I was new to everything. So I probably wouldn't have known how to get on to do it anyway.* (Still registered for SDK125 and SK143 but no assignments submitted)
- *I didn't have a computer and I didn't have the money because I'm a single parent. I had to use it at the Library but it's only free for the first 20 minutes and after that I had to pay a pound.* (Disability assessment delayed, needs a computer, cancelled SDK125 and SK143)
- *It is hard, really it is tough. I could say it's the time, but also the computer I'm having trouble with. I wanted to find out the way how to operate it properly, but up to now I didn't get anyone to tell me how to do this and that, nobody helped me. I don't know how to do it, how to send the TMA to my tutor.* (K101 registration cancelled by OU, still registered for SDK125 but no assignments submitted)

SDK100 will be presented entirely online. We should not underestimate the challenge this will present to a minority of our students who – despite information about the ITC requirements of the module – have insufficient access to a computer or insufficient skills to use it in their studies.

5.6 Access to information about the science and maths in SDK125

The opinion has often been voiced that when students register for SDK125 they hear the 'health' in the title, but not the 'science' and they don't expect it to include maths. The assumption arising from this is that students drop out when they encounter percentage calculations, SI Units, scientific notation, the H_2O molecule and NaCl ions in the first case study. This project attempted to discover whether this assumed misunderstanding is a reality, and if so, is it a major factor in the high rate of early disengagement?

Are students misled by the SDK125 online module description into expecting little or no 'science' or maths?

5.6.1 References to science and maths in the online module description

The online module description of SDK125 clearly flags the scientific and maths content:

> 'This introductory Level 1 course explores the scientific and social aspects of disease and disability in a global context through seven case studies: water and health in an overcrowded world; pain;

alcohol; screening for breast cancer; chronic lung disease; trauma and accidents; and visual impairment. Each case study integrates the biological, chemical, and physical sciences with psychology, health statistics, and social studies to illuminate underlying causes and personal and societal consequences. You'll develop skills in: evaluating evidence; understanding and using key scientific terms and concepts; handling numbers; and interpreting graphs and tables.'

400 of the questionnaire respondents reported that they had read the module description on 'Study at the OU': 274 (68.5%) were 'very satisfied' with it and 110 (27.5%) were 'fairly satisfied'. Only 7 (1.8%) were 'not very satisfied' with the description and no-one was 'not at all satisfied'. Only 9 students (2.3%) stated that they had not accessed the module description.

When we interviewed students who had actively withdrawn or passively disengaged from studying SDK125, none said they were misled by the module description. One who withdrew and transferred to K101 commented *'I just didn't read it carefully enough'* which tends to support the contention that this student heard 'health' but not 'science' in the title.

Two of our interviewees also missed or ignored the references to 'science' at the outset, but both were still actively studying the module in February 2014 and had submitted the first two TMAs:

- *What you read from the OU is that it covers a vast range of conditions and that interested me, but I never took on what that might entail – the scientific elements of that. So actually although I might be sort of whinging about the chemistry, the other elements of what I've got – like how alcohol interacts with the body, overcrowding in other countries, water and health, the pain issue – they're all very interesting. I've had no problem at all with any of that whatsoever.*
- *I've gone back and I thought 'I've maybe made the wrong choice here. Why did I do that?' There's nothing really explicit in what you read online on what the actual content is with the subject, and if I had had a taster of what these books included in them I don't think I would have gone for it. I mean it's health* ***science*** *so I don't know what I was thinking about. It's as much my fault as anything else.*

It is also worth noting that three students who withdrew from SDK125 expected *more* science and maths than the module offered: two transferred to 'non-health' Science modules and one has transferred to a maths degree.

Overall, the module description is unlikely to have misled significant numbers of students about the scientific or maths content of SDK125 – but it isn't the only source of information for potential registrants.

5.6.2 'Are you ready for Science' quiz

Did students access the AYRF Science quiz before registering for SDK125 and did it give an accurate expectation of the science and maths in the module?

The questionnaire respondents were asked whether they had accessed the 'AYRF Science' quiz at any time, i.e. before they registered for SDK125 or during the Induction week. Note that this quiz is online, so students who were inadequately prepared to use a computer to study (Section 5.5 above) are unlikely to access it.

Only 57% (222 students of 389 who answered this question) said they had accessed the quiz, which may mean that they were unaware of the level of science and maths in SDK125. We did not ask the telephone interviewees specifically if they had completed 'AYRF Science', but a few made spontaneous references to it:

- *The only thing I would say overall – and this isn't specific to this course – is that the OU tends to have a consensus that it's for anybody. I think that really is dependent on the course that you take on. So I think that when you first look at the course and it gives you an opportunity to have a look at what it involves, and take the mini-test and it gives you an idea of your capability, that's a really good idea. Otherwise you could get the impression that 'I could do this' and then you get halfway down and looking through the module and think 'Well I can't do this. It's more in-depth than I thought it would be'.*

- *To be honest I just feel that the 'Are you ready for Science' quiz that you're giving at the beginning just doesn't give a good representation of what's coming. For some people they haven't studied for twenty, thirty years and then they're being thrown in with all this chemistry. The maths isn't too in depth on its own, but when it's maths and chemistry mixed together with all these letters and symbols it can be quite overwhelming. I feel that I'm comfortable with it, but others – I just don't feel that they're prepared for what's coming up.*
- *It says in the pre-course material that you can do a test to see if you've got the right level of maths – but the level of maths is the least of your worries, to be honest! Because once you get into the science, if you've got no science background at all, like myself, you really struggle with it.*

The comment below is from a student who was selected for interview because her questionnaire response indicated that she expected SDK125 to 'focus on health with minimal study of scientific terms and concepts'. It turns out that she made this assumption based on completing the 'AYRF Science' quiz:

- *I went through those questions and I thought 'If that's what's there then I'll be laughing'. But when I got into it a bit more I realised there's quite difficult chemistry for someone who's maybe not used to it.*

On the basis of feedback from so few students we cannot conclude that inadequate representation of the chemistry and maths in SDK125 via the AYRF Science quiz contributes to 'early disengagement' by students who misjudged the level required, but it would be foolish to ignore the possibility.

Work is already well in hand to improve the representation of the level of science and maths in the AYRF Science quiz, but more could be done to encourage students to complete it before registering for SDK125 (and in the future, SDK100). The University has agreed to make it a more prominent feature of the registration process, but will not make it an unavoidable step.

5.7 Expectations of science and maths in SDK125 among questionnaire respondents

At the outset, did students who returned the questionnaire expect a level-1 Health Sciences module to include 'science' (specifically biology, chemistry and physics) and 'mathematics'?

Feedback from questionnaires on SDK125 sent previously to all 12J and 13B ALs was almost unanimous in reporting that a significant proportion of students experience difficulties with the relatively simple chemistry and maths in the module. As noted above, we asked the 2013J students who returned the module-start questionnaire specifically about their expectations of the science and maths content of SDK125 (see Tables 7 and 8).

Table 7 Expectations of science in SDK125 among questionnaire respondents (n = approx. 409) [4]

I expect SDK125 to:	**n (%)**
Focus on health with minimal study of scientific terms and concepts	39 (9.8)
Introduce some scientific terms and concepts in biology relevant to human health	370 (92.7)
Introduce some scientific terms and concepts in chemistry relevant to human health	264 (66.2)
Introduce some scientific terms and concepts in physics relevant to human health	210 (52.6)

It is notable that over 90% of respondents associated 'biology' with 'health sciences', but far fewer were expecting chemistry or physics in the module. Concern about studying science – particularly chemistry – is illustrated by two of the 'free-text entry' comments added to the module-start questionnaire:

- *I am a little worried that I have too little scientific knowledge at the outset. I don't really know what depth lies ahead of me.*

[4] The number of students who answered each question varied slightly and students could choose more than one option, so % calculations are problematic.

- *I am a little concerned about the chemistry aspect as it wasn't my strongest subject at school.*

Maths in prospect seemed somewhat less of a problem than 'science' at the start of the module, as Table 8 illustrates.

Table 8 Expectations of maths in SDK125 among questionnaire respondents (n = 434)

I expect SDK125 to:	**n (%)**
Require little or no use of maths	17 (4.8)
Develop my ability to use simple maths	291 (73.1)
Require knowledge of maths for scientists	126 (31.7)

NB: Only four students who completed the module-start questionnaire had the expectation that SDK125 would include 'minimal science' *and* 'little or no maths'.

The option to include free-text comments to the questionnaire shows the range of maths abilities and expectations as SDK125 began in October 2013:

- *I chose this course as natural sciences had too much maths and it was too difficult.*
- *I'm not great at maths, so am hoping parts of the course will help with this.*
- *I studied maths to A-level 25 years ago. I expect the level to be within my grasp, but I am rusty.*
- *I already have advanced education in maths so this is not a worry*
- *I am an engineer graduate so would hope that any maths would be within my capabilities.*

5.7.1 Progress of students who expected 'minimal science' and/or 'little or no maths'

Were students who had unrealistic expectations of the science and maths in SDK125 at the outset more likely to drop-out 'early'?

We had PIs for 32 questionnaire respondents whose expectations of science and/or maths were below the reality for the module. The PIs enabled their current status to be checked in mid-February to see if they were apparently still studying the module, as indicated by submission of TMA01 and recent iCMAs. All but 4 of these students were still actively studying SDK125 and had submitted TMA01 (Table 9). Of those who dropped out, one has transferred to SDK125 in 2014B due to the student loan being delayed, one has passively stopped studying, and two who cancelled their SDK125 registration have long histories of OU cancellations and neither has completed any OU modules in the last 4 years.

Table 9 Status (in mid-February 2014) of 32 students who expected minimal science and/or little or no maths at the outset of SDK125 in October 2013

Expectation at module start (number of students)	**Still studying (TMA01, recent iCMAs)**	**No TMA01, no recent iCMAs**	**Cancelled registration**
Minimal science plus at least simple maths (23)	19	1	2 (PK) 1 Re-Reg 14B
Little or no maths plus at least some biology (8)	8	0	0
Minimal science plus little or no maths (1)	1	0	0

Table 9 shows that most of the traceable students who had incorrect expectations at the outset that SDK125 would not include much science or maths were, nonetheless, still actively studying the module in February 2014. All but one of the 28 who submitted TMA01 scored >60%. The exception (who scored only 13% on TMA01) has previously cancelled registrations for 13 OU modules, none completed since 2007, and must be

considered at high risk of not completing SDK125 – but probably not due to unrealistic expectations of its science or maths content.

5.7.2 Interviews with students who expected 'minimal science' or 'minimal maths'

We attempted to talk to all the students who gave their contact details and expected 'minimal science' content and/or 'little or no use of maths' at the outset, but who were still actively studying SDK125 in February 2014. We were able to interview 15 of these students and (without mentioning any categories) we asked if there were any aspects of the module they found particularly difficult. This is what they told us 3-4 months into the module:

- *I found it surprisingly easy, and I don't know if that's because of the way the textbooks and stuff are laid out and how clear they are, but I found it very surprisingly easy. I did science at college, A-level, and I really didn't do very well in it at all, even though I really enjoyed it. So I was a bit worried that I wasn't going to do well, but I seem to be understanding it quite well through teaching myself.*
- *I'm quite good at maths, to be honest. I find that relatively easy, some forms of it anyway. Other bits I struggle with, but it's better than I expected.*
- *The maths is fine. I've always been fine with maths. The chemistry's a little more difficult, but I think it's going ok, yeah. It's not too bad, yeah. I'm pleasantly surprised.*
- *The ionic bonds and chemistry in general is hard, because I've never really fully understood it at school, so I'm revisiting things that I've found hard in the past.*
- *With SDK125, some of it can be quite scientific in its nature, and as much as I'm interested in science to a degree, I'm not much into the chemistry. I've never done chemistry before even when I was at school. It's all new to me and I find it quite frustrating. For someone like me, who's a novice in chemistry, it might be better to start from the beginning and work all the way through.*
- *Some of the maths – the power of ten, for instance – I can't quite get my head around it, but I wouldn't say the maths is a big drawback for me, because I actually quite like maths. I'm quite happy to learn and find out about them issues, like power of ten and all that.*
- *The science content is all quite new to me, so I'm having to get my head around it. At the moment we've just finished the 'Alcohol and Human Health' and I found that quite intense, the chemistry part of it, working out the atoms and the bonds – that just kind of went over my head a little bit, but I keep going back to it and trying to work it out.*
- *If there's chemistry involved it takes me twice as long, because I'm not good at chemistry. The interactive DVD – I worked really well with that, especially the ones that had questions at the end.*
- *We do something on covalent bonds, which I've done at school anyway, but trying to read it out of the book and teach yourself was a lot harder than I thought it would be. Then we had a tutorial and the tutor went over it and it was very easy to understand ... Maths has been absolutely fine.*
- *Chemistry is my weakest thing and my tutor has been fantastic helping me with the chemistry side of it. So we've done bits on chemistry this and chemistry that in tutorials and she's given me the option of chemistry one-to-one's as well.*
- *When you have the iCMA tests, they're quite a lot of chemically based questions and I'm not very good at that sort of thing.*

It was clear from a few of the interviews that the way chemistry, physics and maths is taught in SDK125 was insufficiently explained for some students who were new to studying science. Several told us they had turned elsewhere for help:

- *The maths and the chemistry – they were quite hard, but I got help from outside the OU, they explained it to me so I could understand it for myself. I think a lot of students if they didn't have somebody else to explain it to them they'd be a lot worse off.*
- *I've got two brothers that studied chemistry with PhDs and they've really helped me.*
- *The maths is OK once I got into it. I got some books out the Library and I've done some online searching, YouTube lectures and things, so I've had to do a wee bit on my own to get myself up to the level that you need.*
- *The science, chemistry, physics, that it touches on – because it moves from one subject to the next quite quickly, that's what I tend to struggle with. It's led me to buy the idiot's guide to chemistry and physics just to get the basics more into my head. I think if you stayed on the subject for maybe slightly longer and didn't cover it so briefly? At the weekend I'll do some more concise learning that I got off YouTube or books that I bought separately.*
- *Maths has always been a weakness. My tutor did recommend like a maths workbook that I could have a look at on the website.*

We were able to identify only one student for interview who had withdrawn from SDK125 because of her difficulties with maths and to a lesser extent with chemistry:

- *I struggled with the maths, I couldn't learn it properly. I couldn't understand the numbers or make it stick in my head. I hoped the maths would help me not be so blocked in my mind, but the more I tried the more I was getting panicked. Learning the maths off a bit of paper doesn't work for me. I'm really gutted that I couldn't do it. I really enjoyed the chemistry videos moving the atoms around on the screen, but then I forgot what I learned about the atoms, so the next time they came up I had to go back and revise it all again*.

Despite having incorrect assumptions about the science and maths content of SDK125 at the outset, the majority of these students have found ways to overcome their difficulties (including referring to outside sources of help) and all but one is making progress. Some have clearly felt encouraged by being able to cope more easily than they expected, and two were disappointed that SDK125 had too little chemistry and maths:

- *I don't feel that it's touching on enough of the work that I would be required to do to enter medicine. I feel it's more of the sociology-psychology side of things in SDK125 that I'm not really interested in. I'm more interested in the human body, anatomy and physiology and whatnot.* (Still actively studying SDK125, TMAs 01 and 02 submitted)
- *I could pretty much read through the textbooks once and then be fine – that was one of the problems – it felt a bit easy. I was expecting a bit more science and maths.* (Cancelled SDK125 and transferred to S142 and DSE141)

Despite the encouraging progress of the relatively small proportion of students who had less than realistic expectations of the science and maths in SDK125 at the outset, a plausible explanation for at least some of the early disengagement with the module is the shock of meeting chemistry and maths in the first couple of weeks. This was certainly the opinion of the ALs when we surveyed them in 2012J and 2013B.

To counteract this problem, SDK100 has been re-titled '*Science and Health: an evidence-based approach'* to reinforce the scientific nature of the module, and almost all of the chemistry has been moved to the second topic, i.e. week 5 onwards – but students will still encounter some simple maths (percentages, means), the first SI Unit and scientific notation in topic 1.

5.8 First impressions when SDK125 study materials arrived

What did the interviewees say about their first impressions of the module when the study materials arrived?[5]

It may be useful to distinguish students' comments into those relating to the printed study materials and those referring to the module website.

5.8.1 First impressions of the printed materials

The comments below are typical of the interviewees we spoke to and suggest that the size of the single mailing could be a factor in why some students drop out without really engaging with the module:

- *Very daunting, looking at that big pile of text books, it's like 'Oh my god! There's a lot of information there' and I didn't think I'd be able to take it all in. But working through it now it's not too bad because the books aren't so big in themselves, it's just when you get that big box you see that's just one subject and you think 'Woah! That's massive!'*
- *I was shocked by the seven books – there's a **lot** of books. It did seem quite interesting and learning some awesome topics and things. I was quite excited to start it, but I'll be excited to finish it now.*
- *I didn't expect so many books. It's quite a lot of subjects. The materials are great but too complicated.*
- *Actually I thought 'Blimey, there's a lot of books there!' That was my first impression.*
- *Wow! Seven different textbooks and the Companion booklets. I thought 'Oh my god!' when this huge box came through the post.*
- *Wow! What have I let myself in for? It was a bit overwhelming.*

Some students told us that they quickly resolved their initial concerns about the amount of study material:

- *I think it is probably a little bit overwhelming to receive that amount of literature in one go. But I think if you read the module description it does actually prepare you for the fact that there is quite a lot of resources coming your way. But you need it all, don't you? You need it all in one go so you can move through at your own pace.*
- *At first I thought 'Oh my god!' The amount of books that were there, it looked quite a lot. But once I read the Induction Pack and broke it down it actually didn't seem that bad. I find it's structured quite well in telling you what you need to study and when you need to study it.*
- *When I first opened it I was obviously a bit lost, where do I start and all that. But once I went through it all properly several times, then I understood it. It took me a good while.*

There were also many positive comments when we asked students about their first impressions:

- *I was really excited when they came. I read through a bit of all the books.*
- *Excited. Enthusiastic.*
- *All quite exciting. I didn't feel anything bad. The covers were simple and not scary, white background, not much writing – it puts your mind at rest.*
- *The books looked like they'd been printed really well, it was easy to understand the academic English, it was all laid out quite nicely, the instructions were quite clear. I was very happy with it.*
- *I was excited! There was a lot of books, but once you'd downloaded the DVD and got the Induction section I was just raring to go with it.*

[5] Seven case study books (each about 100 pages), four study 'Companions' and an Intro & Guide (each about 30 pages) and an Assessment Booklet containing TMA01.

- *I was very glad this module had books. The last one I did (SK185) that was just all off the module website and I didn't really like that, because it's quite nice having something tangible in your hand. It felt like SDK125 was going to be a professional course, well put together.*
- *Very impressed. Everything turned up really quickly, all very well packaged, very well laid out, all the instructions are there for you.*
- *I was quite excited really. I hadn't done any studying for a long long time. Getting all the books together and getting online was quite an exciting experience.*
- *I was quite surprised how much there was, purely because I'd only done Openings courses before and you receive one small book. But it wasn't daunting. It looked as though it was going to be an in-depth and interesting course.*
- *Very nice, very easy, well written. I like the exercises online as well. It was my first study online and I wasn't alarmed. I like it.*

5.8.2 First impressions of the module website

We did not ask specifically about the module website, but a few interviewees mentioned it spontaneously:

- *The website is very thorough but it probably doesn't flow as well as it needs to be. When you first look at it you think 'Oh my god, where do I need to go?' But now I've gone through it I know exactly where I need to go for my online assessments and things like that. To me, you have to spend the time at the beginning to get yourself comfortable with where everything is, and once you've done that it's a breeze.*
- *I thought it was a good layout, easy to access, etcetera.*
- *I think really when you first go onto the website it's a little bit daunting as to how much information there is there. Again, if you don't panic and spend time going over it, it soon becomes pretty much second nature.*

The above comments tend to support the view that receiving all the module materials 'in one go' may be intimidating enough to deter some students from getting started, but it wasn't mentioned as a reason for disengaging by any of the interviewees who had dropped out.

This potential deterrent will disappear when SDK100 is presented entirely online in 2015J – but, if experience on SK320 is repeated, some SDK100 students will drop out when they realised that there are 'no books'.

5.9 Experience of the first case study: 'Water and Health in an Overcrowded World'

What did the interviewees say about their experience of starting SDK125 with the 'Water and Health' topic?

There is a persistent folklore within the SDK125 module team and some ALs that students 'don't see the point' of the first case study and think that 'water and health' is a dull or unexpected place to start SDK125. This may be especially true of the paramedic students; the three in our sample said this:

- *I was quite happy with it because I think a lot of it was relevant to the ultimate degree I was trying to achieve. I think it was a bit broader than I expected, which I think was a good thing, because it wasn't just my knowledge of things surrounding the module.*
- *I found it reasonably interesting, parts of it a little dull, but in the majority it's been fairly interesting. When you're working on something that you don't find relevant it's harder to retain the information. You've got to really push yourself to learn it.*

- *I found the first part, the 'Water', not very interesting to be honest, because I'm studying this to eventually get a Paramedic Sciences degree. I can see why it came into SDK125, but I wasn't expecting however many weeks on it. The modules are very interesting after that, the different categories.*

The majority of (non-paramedic) interviewees were surprisingly positive about case study 1 and only one really disliked it (see final quote below):

- *It was very interesting studying that one actually, because it made me realise how much you take things for granted in this country, you know … they're walking miles for water. I walk downstairs to my kitchen and I just get a glass of fresh water. It's very hard hitting, but I think the way it's described and the support that you get from the tutor is very good for helping with that.*
- *I liked that one – reading up on the impacts of water on people, how bacteria spread and so on. I didn't know that before. It gave you an insight into a lot of bits of what we're going to be doing.*
- *I quite enjoyed it actually. I think it was a nice way to get back, you know, if you've been out of learning for a while. I thought it was quite a nice way to get back into learning.*
- *Probably very good because there was very very little in it that you had to learn. It was nothing you wouldn't have normally read in a good newspaper. I think that for people starting this – and it **is** a level one, so you've got a lot of new starters – it was probably a very good introduction in the fact that it was very very clear and there wasn't much maths in it.*
- *It's obvious isn't it – water borne diseases, lack of water and how that can play a part in health. It was obvious from the module why it was included.*
- *It was fine. Water's the basis of health. If you can't get water and sanitation then your health is gonna massively suffer, so it's the basis of how you need to live, really.*
- *I worked in international public health before, so I knew the relevance of that.*
- *The first book was dreadful. I found that book to be a terrible starting point for that module. It left me feeling that if this is what this module's gonna be, it gave me a really down feeling about it … Everyone might be different, other people might be really enjoying it, but I'm really not thrilled with it.* (Student is not a paramedic and was still studying SDK125 after TMA02)

There is very little evidence from these interviews that (with the possible exception of the paramedics, who don't drop out anyway) students are disengaging 'early' from SDK125 because they are put off by 'Water and Health' as the first topic.

None of the students we interviewed who had cancelled or passively stopped studying mentioned it among their reasons for giving up. However, SDK100 has scrapped this topic and will begin with a new topic on 'Infectious disease' in which the water molecule figures briefly as a transmission factor.

5.10 Assessment issues

We investigated several aspects of the assessment strategy for SDK125, which has four formative TMAs and seven formative iCMAs with an OCAS threshold of 40%, plus a final examination with a 40% pass mark which determines the overall grade for the module.

5.10.1 Experience of working on TMA01

As this project is specifically concerned with the early drop-out from SDK125, i.e. before TMA01, we asked the interviewees who had submitted it about their experience of working on this assignment.

What was the interviewees' experience of collaborating with other students in the data collection wiki, graph drawing activity and forum discussion required for TMA01?

A persistent comment from at least some members of the SDK125 module team and ALs is that 'students hate collaborative activities' and/or 'students hate wikis'. The first TMA in SDK125 has both and is therefore

a candidate for prompting students to drop out early in the module. We asked all the interviewees who had submitted TMA01 to tell us their experience of the collaborative activities, including locating data online, entering it into a wiki and constructing a graph from pooled tutor-group data:

- *The instructions in the book were quite clear. Drawing [the graph] was fine, but getting it into the computer was quite hard and I was quite shocked that you had to hand-draw graphs now. Mine went ok anyway.*
- *Using the wiki table itself wasn't the easiest thing, it did confuse me slightly as to what I was supposed to do, to actually access it and put in my data.*
- *Yeah, we had to put data into a table and draw a graph – that bit went really well.*
- *I found that really straightforward actually. It was quite easy.*
- *I really enjoyed that. It seemed really daunting to start with, but once I'd got my head round what was wanted I found it really useful.*
- *I didn't find the first TMA particularly difficult. It was good it covered a broad range of things constructing a graph, touching a little bit on essay writing. The thing I think it teaches you about TMAs is that you don't have to wait till the last minute to do them all. It's good that you can do the TMA as you're going along, while the stuff is still fresh in your head, rather than going back a couple of days before [the deadline] and going through all your notes.*
- *Very easy to be honest with you. I could see why it was there, to get people used to entering data and to access data, but personally I found it all a little bit tedious. And slightly annoying because there's so much software out there that can do it for you. I can appreciate why we were asked to do a hand-drawn graph, because we're talking about people at different levels of entry. But it was time-consuming, scanning it and getting the right image so tutors can read whatever you're sending in. But it was a little bit, you know 'Why the hell am I having to do this?'*
- *It was a bit of a pain in the ass to be honest. Scanning it in and drawing it by hand – it was a bit like being back at school. But I suppose it needs to be covered, doesn't it, if you're doing this kind of course and you're learning as though you don't know anything, you're going up from the bottom sort of thing. It was a bit frustrating, sitting there with a ruler. I hadn't done that in a long time. But I needed to relearn it, so it was good.*
- *I think to be honest, from what I'm picking up off the internet, we were very lucky because we seem to have quite a good group. About 90% of the people had the data in on the date you were required, so you weren't held up. It really went very well. I know that in some of the other areas there's been a lot of complaints on the Facebook page that you were only getting two people putting the data on, so you couldn't do the feedback.*
- *I get the impression, rightly or wrongly, that people who are doing the course are … how can I put this? … doing it without full participation. That's the only way to say it. Because they didn't all respond, they didn't all put in figures [to the wiki] and things like that.*

A frustrating aspect of TMAs 01 and 02 was mentioned spontaneously by some students – the requirement to copy and paste a TGF comment from another student (as well as your own comment) into the assignment:

- *There was a closing date for the discussion [for TMA01] and people were submitting on the forum weeks after the date had passed. But then people are working and it must be difficult to fit it all in.*
- *I find that I'm now waiting on my tutor group in order to answer one of the questions [in TMA02]. The contributions that are there [on the TGF] are not what I would want to put in my assessment, so I'm trying to hang on until there's more of a conversation going.*

- *I'll be honest, the discussions for TMAs is my hardest thing, because I sit there and read what others have said and if you're not the first one on there they've probably already said what you wanted to say anyway.*
- *With this new TMA (TMA02) we've got a discussion where you've got to put comments on the tutor group forum, but no-one has done it yet so it's a bit hard to finish that section before you can go onto the 'Breast cancer' module. So I'm still waiting for somebody else to comment.*

The implication of the feedback from these students is that making comments on the forum or putting data into the wiki are not technically difficult in themselves – but they find collaborative activities frustrating because some students don't contribute at all or too late.

SDK100 will include at least one (possibly two) collaborative activities for students, but not in the first topic and therefore not assessed in TMA01.

5.10.2 Understanding of 'formative thresholded' continuous assessment

Did the interviewees understand (by Jan/Feb 2014) the implications of formative thresholded continuous assessment in SDK125? What was their attitude if they did understand it (or after the interviewer explained it to them)?

We couldn't get this information from students who had dropped out so early that they had not engaged with the assessment policy, but we asked the other interviewees what they understood about the TMAs and iCMAs being 'formative' and 'thresholded at 40%'.

Of the 15 interviewees who had adequate opportunity to obtain the information, only two gave detailed accurate accounts and clearly fully understood the assessment policy and its implications, including that they also needed 40% in the exam to pass the module. One said:

- *I have to achieve 40%, the way it's worked out, throughout the course in order to be able to pass the course, but if I've understood correctly the pass mark is dictated entirely by the exam.*

Two students – both with first degrees – commented that a 40% threshold seemed 'quite low':

- *It seems quite low to me, but I suppose it gives a bit of flexibility if you haven't understood a unit quite well or you haven't really grasped it. But my intention is to get the highest grades I can, so if I get less than 40% I'll be extremely disappointed. And so far I'm doing quite well.*
- *I think 40%'s pretty low really isn't it. I don't see any problem with that, if that's what the mark is set at. I suppose it's alright.*

Many students exhibited various degrees of confusion about the continuous assessment, including some who assumed they had to score 40% on each assignment:

- *I think it means for each of your TMAs and your iCMAs as well you've got to get at least 40%, and the same with your final written exam to pass the overall course.*
- *Basically I need to get 40% to pass the module and I need to keep getting 40% in the assessments. Obviously I'm trying to get as much as I can without spending too much time on it.*

When it was explained by the interviewer that the 40% threshold was the *average* of their continuous assessment scores (weighted for TMAs and iCMAs), there was some relief:

- *I think that's quite good really. It's not as much pressure on those smaller exams [TMAs, iCMAs] to pass, because I find especially with the TMAs I get a bit stressed if I know I've got to do well.*

But there was also this comment:

- *I didn't realise that. I wish you hadn't told me that because I might just forget to do the next one. But if there's an iCMA you might as well do it, right? Because you've paid to do all this stuff.*

One student who had received her score for TMA01 asked:

- *Where I do get confused is when you get given a score for a TMA, is that in points or is that a percentage? How does that work?*

The most extreme example of misunderstanding was a student who assumed the TMA scores were cumulative and had to sum to 40%:

- *If I've made 12% on that TMA, hopefully I'll make 20% or 25% on the next one, and providing I've made that 40% at the end of the day does it really matter about understanding the technicalities of how the grading works?*

Three students who understood the 40% threshold for continuous assessment was an average for their assignments, nevertheless thought they could not sit the exam unless they had achieved it:

- *I understand you've got to get to a certain level before you can actually sit the exam in June and if you don't reach that level then you won't be able to sit the exam. Is that correct?*
- *You obviously expect to achieve a certain amount with each part of the course and then whether you actually achieve that is whether you're able to take the final exam.*
- *The continuous assessments, overall I need to get 40% on those to be eligible to sit the final exam.*

On probing further, one of these students knew that the OU would not prevent her from sitting the exam without 40% on OCAS, but thought it would not be worth taking it, assuming she could not pass the module even with a better than 40% exam score.

This project reinforces the urgent need for the Science Faculty to resolve how to explain the formative assessment policy to students – including those who make the assumption that they are ineligible or wasting their time to sit the exam – given the recent guidance to Exam Boards that we have the discretion to pass students who have scored 40% on the exam but failed the OCAS threshold. There is also a risk of variation between modules in the application of this discretionary power, particularly where the OCAS threshold has been set below 40%.

5.10.3 Preferences for and against the final examination

What did the questionnaire respondents and interviewees say about the final assessment being an examination?

An unexpected outcome from the module-start questionnaire was the high proportion of students who – at the outset – said they were either 'pleased that SDK125 has a final exam' (22.9%) or indicated that they 'have no preferences for the format of the end-of-module assessment' (35.5%) (Figure 5). The largest group (41.6%) preferred a written report or extended essay, but was smaller than we predicted.

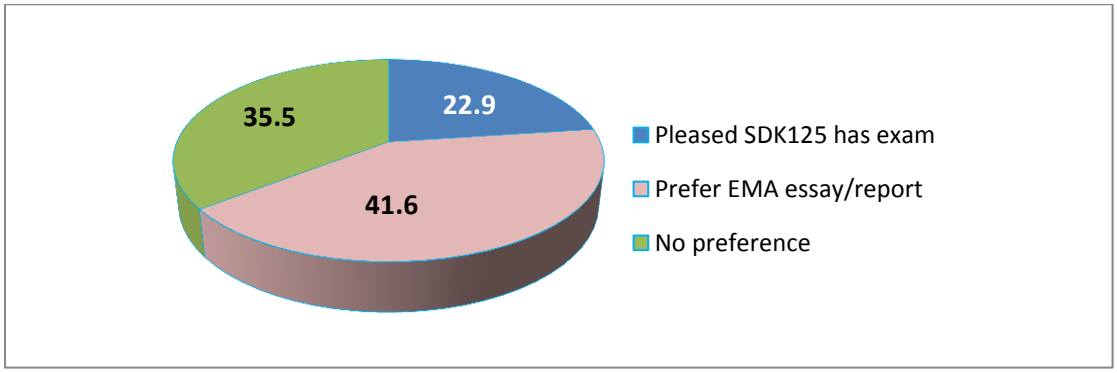

Figure 5 Preferences of 411 questionnaire respondents given a choice of three options for the final assessment

It is notable that this section of the questionnaire produced by far the largest number of free-text comments, which give some insights into students' rationale for their preferences:

- *It might be good for me to sit an exam again, my last degree was all course work based.*
- *At least with an exam I will know if I understood everything from what I was learning.*
- *I didn't actually realise that the final assessment was an exam until I received my study pack, I have never been good at exams but I look forward to the challenge.*
- *You have to test your knowledge and understanding and in my opinion that is best achieved by a formal examination.*
- *An exam is probably better to get into the feel of studying the rest of the degree, but I have no preference really.*
- *I have ticked that I am pleased about the final exam but am worried as it is many years since my last examination and this is a higher level of study than I have experienced in the past.*
- *I get very nervous about examinations and can feel very flustered.*
- *I know I get nervous and will have to make sure that I revise enough, exams are quite scary.*
- *Purely as a shift worker attempting to get time off from my employer will be stressful.*
- *I think an essay or report is perhaps a better example of a person's ability rather than a final exam.*

We did not ask the interviewees specifically about their attitude towards taking a final exam, instead focusing on the 'threshold and grade' issues in Question 9 above – but some mentioned it spontaneously. One continuing student had slipped through the net of 'student support; she told us she had withdrawn from SDK125 and transferred to an EMA module:

- *… because it was an exam at an education centre and I don't drive so I couldn't attend. Not exam nerves, it's just the practicalities of it all.*

Four said they were unhappy about the final exam, but all were still actively studying and had submitted TMAs 01 and 02:

- *It doesn't feel like the best way to me. I understand that it can make sense for the course, but it's putting a lot on you being ready and available and stuff on one day, on one date, especially for people who don't test well.*
- *It's a personal preference (for an EMA) because I know some people really struggle with stress.*
- *The exam is obviously the thing that's going to concern me more than the assignments, mainly because my ability to retain information is less than it was when I was younger. So I think the revision side of things leading up towards the exam is where I'll be concentrating my efforts quite heavily, because I think that's where I may let myself down.*
- *If I had known that there was an exam at the end I wouldn't have signed up for it, only because of my age and my memory. Because there's like seven things that you're actually covering in this and I'm going to find it exceptionally hard. I'm in two minds about whether to actually go and sit the exam but I realise that if I don't then I don't get anything for it.*

Anxiety may well be a factor in students deciding not to sit the final paper as the date approaches, but none of the interviewees who had dropped out mentioned it and there is no evidence from this project that it is a significant cause of early disengagement.

5.10.4 Feelings about the final grade being based solely on the exam score

Very few of the interviewees had understood that scores for their TMAs and iCMAs would not count towards their grade for the module, which would be based solely on their exam score. The interviewers clarified this for those who were unaware and asked everyone what they felt about it. The responses below represent the two dominant attitudes – disgruntled versus grudging acceptance:

- *That is the criteria set by the university. I can't comment on that. This is how it is*.
- *Well, that's very interesting actually because it means you've got to think – you know – wow, the amount of time you put in to do those essays and you hope they're good enough, and then to find out at the end that actually they don't really mean anything, they're just there to help you learn. [pause] I think to help you learn they do their job and that's probably correct, but finding that out it's very disheartening, it's like 'Oh wow, that's 60 hours of my life gone down the drain writing an essay that doesn't really mean anything'.*
- *I think it does help though [doing formative TMAs], because I know that when it comes to the essay at the end there are going to be times that you are going to need to put things in your own words and explain things. I think it does help in that respect, especially with the word limit and it's good having those when you have to take a large amount of words and cramp down into almost nothing. I think that's important skills you do need to learn, so it's swings and roundabouts. It might be pointless but the soft skills you learn supplement the others, so it might be helpful. Now I think about it, it does make sense.*
- *When I first realised it I was a bit surprised. I wasn't really expecting a final exam for sort of 100% of your marks, but I think it's quite a good thing because it keeps you on track with what you're supposed to be learning, so you can aim to be on the next module booklet by the right time. It spaces it out better. If we were kind of just told 'There's an exam at the end of year. Here's your stuff to study. Study it for the exam', I don't think we'd do it.*
- *I'm quite glad, cos I'm doing so much* [120 credits] *you see, I'm just interested in getting it done and passing, than doing less* [fewer modules] *and getting good marks. I think a lot of people just do what they need for the assessments, but then there is so much information you don't know what else you need that might come up later on.*
- *I think if you didn't do that people would slip behind. It's a way of prodding people to keep going and keep on top of it. I think it helps you focus and gives you a goal.*
- *Yes, I think they should* [count] *because it's a lotta work put into them and if it's not really included it's pointless really.*
- *I don't really like that. I think if I'm working quite hard for a year I'd like the work that I've done to count towards my final grade. I mean, if I have a nightmare in the exam then I'm screwed. This will be the first exam I've done since I was 16. But the fact that I'm going to have to do an exam means that I'm going to be revising closer to the time, which probably means I'm going to remember a lot more and learn a lot more from it. But at the same time I'm learning throughout the year and I think that should count towards my final grade.*
- *I think it's quite harsh that if you've done say 90%-plus on all of your iCMAs and all of your TMAs and then for some reason you freeze up in the exam and come out with 39%, you've failed the whole thing.*
- *I think some people may feel that it's maybe not made as explicit, or that they're working very hard to achieve good marks in the TMAs and then they find out that they don't actually count. I don't have a problem with it, but I can see how some people might find it demotivating and think 'I'll do less on the TMAs because they don't count'. Well of course that would be counterproductive, because it's through doing that work and revising for the exam it's basically cementing what you've learnt.*

- *Probably to be honest, I'd prefer that they counted because you can always do better in the ones you do at home. It was always a known thing that if you get 80s and 90s through the year, don't expect to get that in the final exam because you haven't got the books.*
- *They [assignments] are quite good to see where you're at and see where you need to improve. Use it as a learning curve really. The only thing I had a bit of an issue with when I first read it was that you pass the course on the basis of the exam result. But I think if you know that from the start it's not a great shock when you come to it.*

Only one student was positive about the final grade being determined entirely by the exam:

- *I don't really have a problem with that, because I'm used to that from my GCSE's – the exam was mostly what went towards it [final grade]. I felt the course work built up your knowledge and then you just had to demonstrate your attainment of the knowledge in the exam. I thought it was very good, a good way to do it actually.*

There seems to be sufficient disgruntlement from this sample for the SDK100 module team to consider the potential impact of formative continuous assessment on the commitment of students to study in depth during the year if their assignments 'don't count' towards the final grade.

However, the workload requirement to generate six new summative TMAs annually for each of two SDK100 presentations drives us towards formative continuous assessment. We must make more efforts to collect, articulate and publicise evidence of the benefits of fully engaging with formative TMAs.

A further point that emerged from the interviews is the emphasis students placed on the numerical score they had been given for TMA01. It was often quoted to us in the interviews and associated with comments like 'I'm doing quite well' or 'I'm doing better than I expected'. One student said she was used to getting high marks, but was pleased to score in the mid-60s for TMA01 because it was her first science module – she expected her scores to increase as the module progressed. Despite the generally negative response to the TMAs being 'formative' and therefore not contributing to the overall grade for the module, students clearly attach significance to getting a TMA 'mark' for their assignments.

We are concerned that the trend towards learning outcomes-based continuous assessment, where the level of attainment is indicated by 'well/partly/not well demonstrated' rather than a numerical score, may further undermine student perceptions of the value of completing formative TMAs.

5.11 Tuition and student support

5.11.1 Feedback on interactions with their tutor

The 'early tutor contact' pilot for the 2014B cohorts of SDK125 and S104 has yet to report, but it was initiated in the expectation that 'new' students may disengage quickly from their first module because they feel isolated or unsupported by the OU.

What do interviewees say they value or what disappoints them about the support they get from their tutor?

Although it is clear from our interviews that some students don't feel the need to interact with their tutors beyond getting feedback on their TMAs, tutor support is highly valued by many of these interviewees, all of whom were still only 3-4 months into studying SDK125. The comment below from an experienced OU student, who already has an OU Maths degree and is now studying science, refers to the 'deathly silence' she has experienced on some modules in the past:

- *I don't really use her much because I don't need to. There's one thing I'll say for her, in the tutor group forum, she starts off threads all the time, and if a couple of people put threads on she comes back every couple of days and says 'Oh that's nice, you're putting threads on'. She's very good that way. You're not getting the deathly silence.*

Students who felt well supported by their tutor said:

- *Really good, yeah. She's really easy to get hold of and if I email her she replies within a day. She's always on the tutor group forum, replying to everyone straight away. It's really good.*
- *I've had probably three or four emails, two phone calls, I should have had a phone call today [tutor has set up schedule of regular phone calls] but I saw her at the tutorial last week and I said there's no need to phone me to discuss what we've done in the tutorial, it's all going fine. She's really good, she's lovely.*
- *I keep in touch with her because I can't attend the lectures and she's sent me stuff so I'm not missing out.*
- *I've had enough contact certainly for anything I've needed. I sent an email when I needed it. Everything's been fine with that.*
- *If you email her you get a response within a day. She's always willing if you email her to be available on the telephone, so it's fine.*

Those who were generally unimpressed by the tutor support they received said:

- *Apart from the tutor group forum I haven't really had much contact. I can't really think of my tutor's name off the top of my head.*
- *I just need some support. You email your tutor and you expect a reply and you've got to wait days to get an answer. If you don't know what you're doing then you've got to wait a long time.*
- *On my other courses I can contact any tutor and they're really helpful. Whereas with this course I can only contact mine.*
- *He said 'Don't contact me individually – if you have a question just put it on the Forum', but I felt a bit embarrassed to do that. I wanted him to be a bit more open to helping me individually. I didn't feel like he really meant it when he said 'Contact me if you need help'. I did contact him, but a link to a maths resource was all the help he gave me'.* [Student dropped out after 2 months]
- *I'm not the kind of person who makes first contact. I've had no contact at all with my tutor, no emails, no phone calls.*
- *I feel a bit let down tutor-wise. There's been very very little contact from her at all, if any. If someone puts anything on the forum, if someone's got a question, she never replies to it, she leaves that to other students, she doesn't get involved in any of that.*
- *I sent a final email to say that I wasn't continuing with the course, but I didn't get a response from that. It would have been just helpful for her to say 'Oh, sorry you're not continuing. Thanks for letting me know'.*

Clearly our students expect a lot of communication from their tutor outside of tutorials and TMA feedback and they greatly appreciate it when tutors engage actively with them via the forum.

It is unclear whether there is any impact on early disengagement if tutors offer a lot less contact than students expect or need, but we would be foolish to assume it is not significant.

5.11.2 Experience of face-to-face or online tutorials

What did the interviewees say about their experience of F2F and/or online tutorials?

Most students who dropped out early had not attended any tutorials, either face to face or online, and several who were still actively studying SDK125 were unable to attend tutorials due to work commitments (e.g. paramedics rostered for shifts) or family and caring responsibilities. Distance to travel and time spent on the round-trip was also mentioned. For one student, this was her main concern about SDK125 and studying with the OU more generally:

- *A lot of the tutorials are held on a Saturday and that's where I feel I'm losing out, because I work on a weekend so I can't attend them. With me not being there at the tutorials, I feel that things could be being discussed between other students and with the tutor, and not necessarily all of it's going to be put on a handout or on the student forum.*

Feedback from interviewees who had attended at least one **face-to-face tutorial** was mixed:

- *On average we have six to eight people there and it's been very good to meet the other students and also to hear what they're struggling with.*
- *I went to the first tutorial. He explained the maths but I didn't understand and I didn't want to waste time asking silly questions.*
- *I have met [the tutor] at tutorials, but what she's gone over is something I could have figured out for myself.*
- *I find the tutorials very useful. Our tutor goes over things that otherwise I would take longer to understand. [She] explains things in different ways than in the books, and it does make more sense.*
- *I do have the odd tutorial but then there's only ever one person who turns up and it's a dead loss. There's only four in the year, two hours each.*
- *At first when we were there I thought 'Why are we doing maths when this is science?' but actually it was very useful.*

Students who had **online tutorials** gave generally positive feedback, but there were some technical problems and some disappointment from students who were not offered the online option:

- *No online tutorials for this course. I would have liked them. They would be really useful. I'm doing other courses and some of them are offering a weekly tutorial online.*
- *I'd got the special headset because it said in the materials that we'd need that, but we've never been offered anything like that.*
- *I've looked at the Elluminate, is that it? I've looked at the presentations after and listened to some of those, and they've been very helpful, 'cos they do talk about things in a lot more detail and it tends to be things that people have questions about, that they tend to answer, so it is rather clarifying.*
- *The good thing about them, the recordings are always there, and the PowerPoints, you can print them off, so that side of things really backs up what you've learnt.*
- *I've been to one or two online tutorials, but the problem with technology is that it doesn't always work the way you want it to work, and sometimes the mike will cut out so you can't say anything, or someone else's mike will cut out so you can't hear them.*
- *I've never done an online tutorial before in my life. So actually to do that first time out was an experience! I'm more inclined to let the tutorial go and listen to the recording, because I think I learn more from the recording than from being part of the tutorial – because I can listen to that at my own leisure and at my own speed. I find that far easier than having to push a button to be able to speak and then turn off your mike and all that.*
- *I didn't manage to get logged into the online one. I couldn't get into the room. I got into a ghost room. I don't know how I did that.*

SDK100 will offer online tutorials to all students and (presumably) some regions will also offer F2F options at either end of the module. It would be great if the technical problems can be reliably resolved!

5.11.13 Feedback on interactions with other students

What do interviewees say about their contacts with/support from other students, including in tutorials, on the module Forum or via social media (OUSA, Facebook)?

Every tutor group has its own 'conversation culture' – some more engaged than others – but there is a general feeling among most interviewees that contact with other students tends to decline after the first flurry of activity:

- *At first everyone was really eager to get going with it and then it seems the comments just slowly started to dwindle away. There's not been much activity.*
- *Everybody goes on line at the start of the course, but once you've stopped panicking and settled in there's really not so much need for it. But it's there if you need it.*
- *Nobody really speaks on there much. You just do what you need to do on there. There's the odd comment and question asking for help from somebody else, but it's not very active really.*
- *Yeah, I do read the forum, some of the discussions and stuff. People are helping each other, giving each other links and stuff if they're struggling. Like, the maths is one of the difficult parts, so they've put links to 'easy maths' websites and things. Everyone's helping each other.*
- *We all sort of collaborated quite extensively in the first activity, because it was for the first TMA, but once that was completed it all went a bit quiet. It's almost a loss that you don't get to talk to your fellow students as much.*
- *Not as much activity now – there was an initial flurry but not needed now as the panic is over. But it's a good safety net.*
- *Our tutor says we're probably the chattiest bunch she's ever had. We do chat quite a lot on the forum. We've got quite a few different strands going for various bits and pieces that we all contribute to.*
- *There's a core of about half a dozen that seem to be quite active in participating, they're driving it and there seems to be a good interaction there.*
- *The tutor group forum, I was a little bit concerned about, because putting comments out in the open, you're not quite sure how it will be received. So that was a bit of a concern, but I decided to jump in with both feet and put the comments out there, really.*
- *I haven't really had much contact with the group as a whole. I keep myself pretty much to myself. I do interact when I have to interact, but I read all the comments that are put on the forum. I look at it every day to see if someone's said anything new. Some days are quieter than others.*
- *I don't tend to use the tutor group forum unless they're part of an activity if you see what I mean.*
- *No I don't want to do that. I'm quite shy. If I've got any questions I just put it onto the private one, for the tutor.*
- *To be honest with you, I kind of keep myself to myself. I haven't interacted with many of the students on the forum.*
- *The Facebook page, to be honest, if half of them spent less time on it they might do better on the course. There's so much bitching on it, about 'My tutor's not got back to me' and 'I can't do this'. There's a tremendous amount that's bordering on 'How do I do the TMA?' There's been one or two where it's been very very close. If you look on Facebook, with a lot of the younger ones, there's so much needing their hand held, but that's not how the OU works. The bulk of it is intended that you're actually working on your own. To be honest, it's such a straightforward course, but some of them are like 'This is terrible. I can't cope with this'. Really, I've had to keep my mouth shut because, in a lot of cases, if you can't cope with this, god help you when you get to level three!*

The paramedic students are mostly registered in in groups of two or more from the same Ambulance trust and they tend to discuss the module with each other at work rather than on the TGF. Some students are happy not to have contact with others, but some were clearly disappointed that there is so little contact after the first collaborative activity.

SDK100 is considering having a national 'welcome' forum, a student 'chat room' to counteract the possibly corrosive effect of the Facebook page, and/or clustering tutor groups to increase the number of active participants in the forums.

5.12 Suggestions from students about ways to improve SDK125

What do interviewees say would have improved their experience of studying SDK125?

There were surprisingly few suggestions from the students we interviewed – most saying that the module was fine and they couldn't think of anything to improve it. But there were some clear ideas:

- *A national forum would be really helpful, for example if they have to make changes to a TMA and to sustain active discussions.*
- *A student 'common room' for chat – safer than using Facebook groups.*
- *The OU should link students to the Facebook group for SDK125 because there's a lot more mature students who've already done SDK125 and moved onto another module. Having their feedback and support is quite helpful.*
- *Improve the AYRF Science quiz – not enough chemistry or maths there to let students see what SDK125 will require.*
- *Make pre-test compulsory during 2 months before module start; tutors phone students who can't manage the test – offer extra help, e.g. maths or chemistry materials, or a week-long online access 'school' for students who can't do the pre-test.*
- *More interactive DVD programs to teach chemistry basics, e.g. covalent bonds – much better than reading it in books.*
- *Make sure the DVDs play correctly! Make them compatible with Apple-Macs.*
- *Provide a maths workbook for students who struggle with maths.*
- *Tell students to consider buying extra books, e.g. an idiot's guide to chemistry and physics.*
- *Study time planners in the Companions are excellent – incorporate them into the online study planner.*
- *Only F2F tutorials offered – would like online tutorials please.*
- *A lot more self-testing. More questions where you could see how much of the knowledge had sunk in.*
- *Reorganise sequence of case studies – maybe Pain or Breast Screening first?*
- *There was 40-odd pages of how to submit your TMA01. I was hoping to get something on how to set out your TMA. Do you put it all in one continuous file, or is it one file for each question?*

Several of these suggestions are already in hand, e.g. the AYRF Science quiz is being revised. A decision has not yet been taken on whether to have a national forum, but tutor groups will be organised into clusters to maximise participation. The DVD and Apple-Mac issues will be resolved by transferring to 'all-online' presentation with streamed video/audio and animations accessible via OU Anywhere. Every student group will be offered online tutorials. There will be no iCMAs in the continuous assessment package, but multiple Moodle quizzes and other SAQ formats will be embedded throughout the module for students to use as self-assessment.

SDK100 will start with screencasts 'talking' students through the process of studying the module, navigating the website, and introducing the first topic.

We could also consider recording video clips from students who transmit sensible advice to their peers like those below:

- *Some people are saying it's so complicated, like in a blind panic, and I'm saying 'Just sit and read it. It's all there, it's all explanatory and just follow what it says'. You've got to sit and read the information that you guys put out. It's not rocket science. I don't think there is anything you can change, it's all very well done, very well organised.*
- *I think the more time you can put in before your materials arrive or in your Induction week, you get to grips with it quite easily. If you don't spend time doing that it can put you off if you're studying the course material at the same time. It's really taught me that you only get out what you put into it.*
- *I think you just have to do it for yourself, really. Everything's there, it's just the individual has to put in the effort if they want do it. The Open University have done as much as they can to make it accessible, but they can't do the course for you!*

6. In conclusion

The points made in the Executive Summary (Section 2) may be relevant to other level-1 modules.

It is clear from this project and feedback from SDK125 ALs that the SDK100 module team must provide more support for students who are new to studying science – particularly chemistry – and maths, and maintain their excellent record of managing the student workload within realistic limits.

The Science Faculty is already evaluating early intervention by tutors to support students more effectively at level-1. Other aspects of the student's relationship with level-1 study that we think need careful consideration include our current inability to inform students adequately about formative continuous assessment and the possible impact on student learning if it is coupled with learning outcomes-based feedback. The 'Are You Ready for Science' quiz is being revised to give a more accurate representation of the level of science and maths required to study SDK125 (and S104) effectively – but students can avoid attempting it.

The University maintains it will address the problem of students registering for modules that they are inadequately prepared to study. Some form of 'diagnostic' should be required before registration – including adequate availability of study hours relative to the number of credits and adequate access to and competence in using ITC for online modules.

Retention and progression rates that 'double count' students who transfer or defer to a later presentation impact on our ability to meet the Council target for level-1.

PLEASE SEND COMMENTS ON THE OUTCOMES OF THIS PROJECT TO basiro.davey@open.ac.uk