Independent Learning – What we do when you're not there

Independent learning is one of the cornerstones of UK higher education yet it is poorly understood by students and is seen by politicians as a poor substitute for face to face teaching. This paper explores students' understandings, approaches and experiences of independent learning and how they may become more effective independent learners. This large scale qualitative study, funded by the HEA, included students-as-researchers, independent learning diaries, and student-led interviews. Findings suggest that student initially use low level reinforcing and organising skills and in later stages of their courses develop higher level extending and applying skills. Clearer guidance, clearer tasks and in-course support are amongst the students' recommendations for enhancing independent learning. However the most powerful influence on their independent learning was the support, collaboration and advice of other (more experienced) students in non-assessed scenarios. These findings have implications for staff involved in induction, student support, curriculum design and for staff and officers in Students' Unions.

Keywords: Independent learning, autonomous, higher education, student researchers

The place of independent learning in measuring value-for-money and quality learning in UK Universities

With the 'massification' of HE and the introduction of fees, the UK higher education (HE) sector has become ever more customer-orientated. As a consequence of this and other political and economic market forces, universities and other higher education providers have begun to publish statistics such as class size and contact hours as user-friendly indicators of 'value for money' and as proxy measures of quality of learning (see e.g. Gibbs 2010; Soilemetzidis et al. 2014)), intended to help students make more informed choices (see https://unistats.direct.gov.uk/find-out-more/key-information-set). Over recent months and years, the balance between contact hours and independent study time has been the focus of particular attention, the underlying assumption being that fewer contact hours means poorer value for money and poorer quality learning experience (see Neves & Hillman 2016; Morgan 2014). Indeed in the annual grant

letter from the Department for Business, Innovation and Skills, for 2016-17 (Javid and Johnson 2016), BIS ministers said they wanted HEFCE to "look into…teaching intensity/weighted contact hours across different subjects" with a view to including these as metrics for TEF (Teaching Excellence Framework) assessments for future years.

However, the number of contact hours measures only one half of the equation; the teaching input. The other side of the equation is student input or independent learning. In the 2014 Higher Education Policy Institute (HEPI)-HEA report (Soilemetzidis et al. 2014), the inter-relationship between teaching and learning is emphasised. The authors of this report suggest that quality of learning experiences may be dependent on the correct balance of scheduled contact hours and the expected time students spend engaging in directed independent learning. But still the popular focus is on number of hours rather than on how students spend these hours. This is because we simply do not know what students do when they are 'doing' independent learning. So there is an urgent need to understand what students do during their independent learning time. This would help us decide on the 'correct balance', address concerns about quality of learning and value for money, and help us to better support students to make best use of their independent study time.

Independent learning is a key feature of university education. 'Personal and intellectual autonomy' (QAA 2011) or being an independent learner is widely accepted in the sector as a 'graduate attribute' that appears in mission statements, learning and teaching strategies, and in course and module outcomes. It is described in the literature (Candy 1991, Chan 2001, Meyer et al 2008, Murad and Varkey 2008, McLinden and Edwards 2011) as:

- Taking responsibility for one's own learning
- Choosing and setting one's own objectives
- Deciding *what*, as well as, when and how to learn
- Monitoring one's own progress
- Developing an ability for inquiry and critical evaluation
- Evaluating and reflecting on what has been learnt
- Within the context of programme of study, facilitated by an academic

However, within these broadly accepted notions of independent learning, there is wide variation in practice. For instance, in their study of independent learning from the academics' perspective, Thomas et al (2015) found that the degree of structure and direction expected within independent learning varies from highly structured, directed independent learning to fully autonomous learning. This study also highlighted the need to see independent learning from the students' perspective and to examine the qualitatively different ways that students use this time, particularly given its importance as a potential measure of quality learning. In February 2015 the Higher Education Academy (HEA) commissioned a follow-on study to explore students' conceptions and experiences of directed independent learning. This paper, reports some of the findings from this study, focusing on the following questions:

(1) How do students understand and approach independent learning?
(2) How do students experience independent learning?
(3) What do students feel would help them become more effective independent learners in their disciplines?

The study

From the outset (and at the behest of the funders) we took a qualitative and overtly student-centred approach. Indeed the project was jointly conceived and led by the National Union of Students (NUS) to support the student voice throughout. Given the project brief, we needed a research methodology that would allow us to get close to a wide range of students from England, Scotland and Wales, from different types of HEI (see Bowes et al. (2012) categorization of institutional types) and from across the range of disciplinary subjects (see Becher and Trowler's (2002) taxonomy of disciplines). We needed a methodology that would enable us to gain students' trust in order that they could be honest and open about what they did during independent study time. We felt that this could best be achieved by students themselves taking part in the study, not just as participants, but also as 'student peer-researchers', working with us on the team, in what might be described as 'insider' researchers (see also Walkington 2015 on students as researchers). This had the following benefits:

- Student peer-researchers offer a more genuine and context-specific insight into the perspectives and experiences of students.
- They have understanding of their institutions, disciplines, and are closer to students than the research team.
- Peers may feel more able to talk openly and genuinely about their experiences and feelings.

Furthermore, by recruiting a team of student peer-researchers based in each of the 16 HEIs from which the participants were drawn, we could increase our capacity to carry out what was in effect a large scale *qualitative* study of some 126 students. Prior to data collection, we ran a series of workshops for the recruited student peer-researchers.

During these sessions we co-constructed data collection instruments, agreed protocols and developed a robust ethical framework.

In addition to co-opting student peer-researchers as insider researchers, we also needed a range of data collection methods that would open up the black box of what students do during, and how they feel about, independent learning. We decided to use a combination of student learning diaries kept over a three week period, with semi-structured interviews that had been co-designed and subsequently conducted by the team of 14 trained student peer-researchers. The final strand to this research design, was a series of 'user' workshops, involving HE staff, students and student organisations. The aims of the workshops were to disseminate emergent findings, check their 'credibility' (i.e. test confidence in the 'truth' of the findings through peer debriefing in line with Lincoln and Guba's (1985) evaluative criteria for qualitative research), explore alternative interpretations, and consider the implications for practice through member checking. Data generated from these sessions were captured through post it notes and flip chart paper used in the plenaries, and later typed up for ease of analysis.

In total 126 student participants from 16 institutions contributed to the research. Of these, 93 completed all 3 diary entries and gave follow-up interviews lasting 40 minutes on average. All diaries and transcribed interviews were entered into NVivo in a way that enabled analysis by individual student, by a range of student demographics, by subject group and by institution type. The research team then read through a sample of diaries and interviews and identified key themes in order to develop an initial coding framework. This was later refined in relation to the research questions and the codes derived from this process were subsequently applied to the whole data set in NVivo. A subset of the data was also exported to Excel in order to carry out a quantitative analysis of the time students spent doing independent learning by a range of variables. In the

following sections, we discuss some of the findings from this analysis that address the research questions listed above.

How do students understand and approach independent learning?

We wanted to know what students understood by the term independent learning because we felt that their understanding would influence their approach and consequently their experience of independent learning. This was one of the first questions that the student peer-researchers asked students two or three weeks into the diary writing process. The majority of responses suggested an understanding of independent learning as simply 'learning without direct teacher contact' for example:

> I guess anything that isn't directly with the lecturers or anything I do outside of what's in taught lessons or things like that….So, researching topics before lectures, going away and doing revision afterwards, I guess even assignments when they're not directly in lectures.

These definitions lacked the essence of independent learning reported in the literature (responsibility for learning, setting own goals, choosing what to study, etc). Deeper probing into how these understandings had been formed revealed a common influencing factor. The majority of students referred back to their experiences of school and college 'homework,' comparing and contrasting it to independent study at university. Homework at school and college was characterised by tightly structured, short cycle tasks that were closely monitored by teachers. Some also described the homework tasks as having right or wrong answers. Many spoke about following one key text book to cover a whole course and, on reflection, being 'handed things on a plate' and 'spoon fed'. In general, students would receive feedback on their homework and or discuss it in class on a weekly basis. Their teachers would know if they had not attempted their homework and or if they were struggling. They talked about being in small groups and

having close relationships with staff such that they could always get help from a tutor as and when they needed it.

So when students spoke about independent learning in HE, they tended to use this homework model as their benchmark (see table 1). Some relished the freedom that independent learning offered, others felt overwhelmed by it. Some recognised that with greater freedom comes greater responsibility but others, initially at least, felt 'short changed' by the apparent lack of tutor input. Indeed, many felt they lacked the self-motivation and self-organisation required, once they realised that there would be no monitoring contact and no weekly follow up at university. For first year students in particular, this was their biggest challenge (see also Jessen & Elander, 2009; McKendry and Boyd 2012). The following quote typified this sentiment:

> I don't know whether that's-, not the fault of the school but it's more that they wanted you to get the good grades so they put the effort in to make sure you did rather than leaving you to-, it wasn't that we weren't prepared, it was that, it's just that you would get in trouble if you hadn't done it. Whereas here, it's like, 'Do it if you want, see how you do.' It's just a big difference, I think. (Year 2, Modern languages)

When describing the nature of independent learning tasks, students from all disciplines talked about their anxiety around uncertainty and subjectivity. They had been used to right and wrong answers and text book certainty which had led them to successful exam results. At university they were being asked to question that certainty and to look at multiple sources and perspectives but with relatively little direction. When asked what they thought the purpose of independent learning was, many talked about 'making up the gap'. For some the 'gap' meant the topics that could not be taught in the face to face sessions because there was not enough time in the curriculum to cover everything. These students felt disillusioned that *they* were having to make up for a lack of contact time by doing independent learning. An alternative, more positive explanation was that

independent learning filled the ‘gap’ between ‘all the information you need served up to you’ and ‘just enough’ to spark students’ interest so that they could then follow their own paths, delving deeper into the subject themselves. Table 1 below summarises the ways students spoke about independent learning.

Table 1 about here

The ways in which students understood and rationalised independent learning seemed to influence the approach they took. Broadly, those whose conception had not shifted from the ‘homework’ model of independent learning tended to struggle with independent learning at HE both academically and organisationally. Left to their own devices, with little if any support and preparation, and in the absence of any explicit teacher-directed work, these students floundered not sure what they were supposed to be doing. This often led to anxiety, procrastination, and lack of motivation. Many simply focused on their assessment tasks, perhaps as the closest thing to ‘homework’, in the belief that this would make the best use of their time, combat their lack of motivation, and contribute to ‘making the grade’.

A common complaint among lecturers is that students are only motivated to study when they know the work is going to be assessed. This study offers an alternative explanation in that students are often unclear about what they should be doing as independent learning because they are not given specific instruction or direction. They felt they could be wasting their time if it was not relevant:

> It’s not that exact, so sometimes you have to guess what you will learn and what not. It’s a bit more risky, because you are not 100% sure that this is the right material to learn. Also, it goes beyond what they teach.

Even when they did do some reading or research on their own, the students in our study came to realise that this would not be 'checked' or 'gone through' by the teacher, which is what they had been used to at school. So focusing on assessment seemed like a sensible, if somewhat instrumental strategy. However, 'if learners are only extrinsically motivated by examinations, they are less likely to develop the motivation needed to sustain greater autonomy (Dickinson, 1987; Deci and Ryan, 1987) … and less able to cope with the demands of learner autonomy as it calls for a re-definition of their traditional passive roles and a re-orientation of past learning experiences and expectations.'(cited in Chan 2001).

When we asked the students how they were prepared for independent study before and during their first year in HE, all but a small number of students said they had received little or no preparation. During their final years of school or college they focused on getting the grades to enter HE. There had been no opportunity for independent study, rather they had become more dependent on their teachers to get them the grades they needed. On entering HE, students were overwhelmed with information during induction and had only vague recollections of being told how many hours of independent study would be required. None could recall being inducted into the ways of doing independent study by any disciplinary community. So the vast majority continued doing the things that had been successful at school or college, developing this approach with trial and error or time:

> In first, maybe second year, as well, I would spend most of the time re-writing the lecture notes. Especially last semester, I just found that it was a waste of time. It was taking so long that I couldn't remember what I'd written at the start. So, it was more effective to just read textbooks, re-read the lecture notes a couple of times, rather than write them out.

So it seemed from our analysis of the interview data that the benefits of independent leaning were not being fully realized across this cross-section of students in the study. We believed this was because they conceived independent learning as 'homework' which led to an instrumental or 'surface' (Marton and Saljo 1976) approach to learning independently. In the next section we explore the influence of students' approaches and their actions further by analyzing what students actually did in their independent study time based on the data from some 300 diary entries. This will address the second research question.

How do students experience independent learning?

We had given the students some guidelines for writing the diary entries with prompts and a suggested word length so they knew what level of detail and the style of writing they might use. Each week we received diary entries that described in detail what they had been doing as independent learning, what had been most useful, most challenging, and how they felt about it. They also provided an indication as to how long they had spent doing independent study that week.

Quantity of independent learning

The average time students reported on independent study was 13 hours per week. This is broadly consistent with the findings from the HEPI-HEA Student Academic Experience Survey 2014 (Soilemetzidis et al 2014), however there was some variation. We anticipated some variation by subject given the differences in contact hours and the level of autonomy expected across discipline areas. In the Sciences, for example, students may work on set tasks under supervision right up to doctoral level. By contrast, students in the Humanities and Social Sciences are expected to make their own decisions and choices from the first year of study. Despite their disciplinary

differences, we found little difference in time students spent on independent learning. Interview data revealed a lack of clarity on what was required and realistic:

> I am not really sure how much we are supposed to do each week, but I know it's a few hours for each class/lecture + assignments and 'extra' work. I imagine they can't expect us to do more than 10 hours a day, but maybe they do.

Not surprising given the issues raised earlier around transition to HE and lack of understanding of independent learning, first year students spent fewer hours per week on independent learning than second years and above. Again, not surprising and in line with findings from research comparing boys and girls time on homework (Roger and Hallam 2006, Wagner et al. 2008 and OECD PISA 2009: 46), the women in the our study spent 4 hours more each week than men. Mature students spent on average 15 hours per week on independent learning compared to young students (11 hours). Anecdotal evidence from the user workshops and our reading of the international student literature (Chan 2001, Gieve and Clarke 2005) suggested that international students would spend long hours studying in the library. So we were surprised that the international students in our study reported spending fewer hours per week (11) on independent learning their than UK (13) or EU peers (21). Applying Occams Razor, this might simply be a variation in reporting accuracy and/or in deciding what counts as independent learning, especially given the lack of clarity that even UK students expressed. Alternatively, it might be the result of adjustment to a less passive, less dependent learning culture in the UK (Kingston & Forland, 2008).

Whilst the variation in hours of independent learning was not great, it was clear nevertheless that all students wanted greater clarity regarding the number of hours of independent study required and how that may vary by subject and year of study. What is probably more important than *how much* time is spent on independent learning, is

how the time is spent. For this we needed an analysis of the quality and effectiveness of their independent learning.

Quality of independent learning

Our first level analysis was to note the different types of independent learning activity that were commonly used. We gathered this information mainly from the diary entries. We then grouped these into what we deemed as high level and low level skills (Table 2 below).

Table 2 about here

Low level skills included activities that involved reviewing and reinforcing knowledge that had been acquired in taught sessions or perfecting performance skills. We also included in this category organisational activities that helped students prepare for learning such as organising files, making and marking up wall planners for deadlines, key sessions, etc., printing and photocopying. We classified the skills and activities in this category as low or 'surface' level because they corresponded to the low level cognitive skills that are normally associated with a surface approach to learning Marton and Saljo (1976).

High level skills included activities that involved the application of knowledge to some task or situation beyond what had been given in the taught sessions. This indicated that student were attempting to test out their understanding by creating something using a new skill or technique e.g. computer programme, or by using a theory, model or framework to make sense of a phenomenon. This category also include activities that extended the knowledge that students had acquired through the taught course, going

deeper into a topic or broadening the field of knowledge. We classified the skills and activities in this category as high or 'deep' level because they corresponded to the high level cognitive skills that are normally associated with a deep approach to learning Marton and Saljo (1976).

It was clear from reading the diaries and from our coding frequencies, that some students used more low level activities than others and we wanted to see if there was any pattern, any particular groups who were more likely to use their time in this way. So we interrogated our data to explore the qualitative ways in which the students spent their independent learning time to see if this might be related to the subject they were studying, the type of institution, the age, gender or nationality of the student, etc. We did this by breaking down the time spent per group by the type of activities they did as coded in Nvivo. Figure 1 below summarises the results of this analysis. Having mapped out the usage patterns by each variable we then went back to the interview data and the literature for some explanations.

Figure 1 about here

Figure 1 Proportion of time spent in each type of activity by students in different categories

One can see from the 'all responses' result in figure 1 above, that all students used a combination of high and low level activities in roughly equal measures with application of knowledge being the type of independent learning least reported. This overall picture is quite positive as it suggests that students are getting themselves organised and ready for learning, consolidating subject knowledge, and going on to read around and do

further research in the subject. However, the picture by group shows some slight deviation from this overall pattern that raises some interesting questions and calls into doubt some preconceived ideas and stereotypes. For example, whilst women spent more time on independent study than their male counterparts, the table above suggests that more of their time is spent on preparing type activities than their male peers who use this time for deep, extending type activities. This finding suggested that males may be more efficient and effective in their independent learning habits than females. (See also Rogers and Hallam (2006) who found high-achieving males have better studying strategies than high-achieving females, and achieving higher standards while doing less homework). The relationship between independent learning and assessment will be explored in future publications.

In terms of year of study, in addition to an increase in time spent on independent learning year on year, there appears to be an increase in the quality of study as students progress through their courses, with larger proportions of time being spent in applying and extending knowledge. The diaries and interviews indicated that students undertaking final year were more likely to use these higher level skills, suggesting that this behaviour may have been related as much to the type and complexity of assessed work (i.e. project based, long cycle) as it was to do with the year of study. Nevertheless, the balance of activities over the life course did seem to be shifting towards the high level activities, as this student explained:

> It certainly took me a while. I would think it would be over the course of the entire degree you slowly learn how to do things independently. I certainly have improved a lot this year as opposed to last year. I'd expect it to improve going into third year. I would probably expect it to be over the course of the three years I'll come out being able to do things on my own, and be independent in learning and that kind of stuff. (Year 2, Geology).

Another expectation was that there would be differences in independent learning approaches according to the subjects being studied. There were 38 different subjects represented in the study, covering 12 out of 20 JACS categories (Joint Academic Coding System version 3 JACS3). We classified these according to Becher and Trowler's (2002) taxonomy of disciplines into hard-pure (i.e. pure Sciences such as physics, chemistry, mathematics), hard-applied (i.e. technology, laboratory- or practice-based subjects such as computing, medicine), soft-pure (i.e. Humanities e.g. History, English, anthropology), and soft-applied (i.e. Applied Social Sciences, e.g. business, law, education). We expected students who were studying 'applied' subjects would be spending much more of their independent learning time applying their knowledge. This was indeed the case for the soft applied subjects, but not so for the pure-applied subjects. The diaries and interviews did not provide a clear explanation for this. However, we conjectured that much of the application of knowledge in hard-applied subjects is likely to be carried out during the taught sessions or under supervision, possibly due to the specialist equipment and resources required, possibly due to the health and safety requirements of the particular learning space. Furthermore, we know from other studies that contact hours in the Sciences tends to be higher than in non-Science subjects (Brennan et al 2009) and that whilst students report spending more time on independent study in these subjects (16 hours per week) than their non-Science peers, their work is more highly directed right up to doctoral level. By contrast, Humanities and Social Sciences students have less contact time and more freedom to choose tasks and topics even from the first year of study (see also HEA 2014, pp 3-4). This seemed to explain why students in the hard-applied subjects would spend less independent learning time 'applying' knowledge and more time reinforcing and consolidating knowledge (writing up experiments, reporting on methods and results,

and preparing assessment), and reflecting on the process.

When we came to compare independent learning by institution types, we had expected that students from so called 'selective' institutions (i.e. research intensive HEIs, who select high achieving entrants) would report more applying and extending activities in either 'inclusive' (i.e. teaching intensive HEIs who recruit from a pool of lower qualified entrant) or 'small' institutions (e.g. colleges of HE or subject specialist colleges of HE). We had predicted that than they would be more accustomed to research, critical thinking, and would have developed and used high level skills more so than their peers. The results here indicate that there was little qualitative difference between students' independent learning in the selective and inclusive HEIs. However students in the small and specialist institutions reported greater application and extension of knowledge, and concomitantly less preparation and reinforcement of knowledge than their peers in either the inclusive or selective HEIs. With only a small number of these HEIs in the study we must be cautious in how these results are interpreted and indeed what we infer from the analysis by variables. Indeed, we recognise that further intersectional analysis is required to compare the independent learning patterns of say, mature males and young males; mature males in hard pure disciplines and those in soft applied disciplines. This work is on-going.

So, from the above analysis we see only small variations in the quality of independent learning carried out across the range of variables in question. However, there may be actions that we can take as a sector that may help to shift the balance from dependency to autonomy, and from surface to deep independent learning. What would be the outcome if students spent a higher proportion of their weekly independent study time on applying and extending activity and less on reinforcing? How could we support

them to become more effective independent learners? This was the focus of our third research question.

What do students feel would help them become more effective independent learners in their disciplines?

We wanted to know from the students' perspective what they had found useful in becoming independent learners. Two key themes emerged: direction from staff about the task; and support and guidance from peers.

Direction from staff

Students were generally positive about the support they got from their tutors and other support staff *during* the course. A small number said that their lecturers were so enthusiastic and engaging that they provided all the motivation and inspiration they needed to 'get going'. However, not all lecturers were as motivating, available or approachable as others:

> I think that you find that some lecturers are very enthusiastic and because of their enthusiasm you want to learn more and you want to find out more about a subject and you do well because of that… I think some lecturers don't really motivate you to want to be an independent learner. (Year 2, Music)

The most valuable staff support came from tutors who would respond to e mails or be available face to face for tutorials. Some students needed the reassurance of their lecturers to know they were 'on the right lines', particularly when doing extended assignments such as dissertations. Whilst it was clear that many students would have preferred a return to the security of a 'homework' regime with tutors on hand, they also knew that this was counter-productive to autonomous independent learning.

Students also spoke positively about organised forms of staff-led support. These included additional sessions that departments ran to support students struggling with difficult subject specific topics, and the generic skills drop-in sessions run by the Library, such as academic writing and referencing that were popular particularly around assessment time.

> Maths has drop-in sessions, well we've got maths lessons, which is actually the only kind of, lessons that we do have that we can go to twice a week. They've also got a third drop-in session for if you're struggling with a topic you can go there and you can have a one on one with someone. So maths is really good at the minute. Other subjects, one we've got another drop-in session for materials but the rest of them tend to just have the tutorials. (Year 1, Engineering and Chemistry)

Despite the fact that students liked the extra curricula 'support' sessions available as and when they needed them, the sessions tended to be poorly attended as this student lamented:

> I don't know how you'd actually fit it in because if you tell people that it's just a session to come in and ask questions nobody's going to turn up. (Year 2, Pharmacy)

One explanation for the underuse of these sessions is that they may be seen as 'remedial'. Students who might otherwise attend, fear they might be labelled as somehow 'deficient'. Another explanation is that these sessions take place outside the standard timetable so attendance requires additional time and effort or an extra trip to the institution for commuter students (Thomas and Jones forthcoming). That time and money may not be available to all students, particularly those with family or work responsibilities outside the course.

When this findings was presented to student representatives at the students' workshops, participants' reaction was that support sessions should be '…embedded in the

curriculum'; 'mainstream independent learning tuition…'; 'tailored to specific degree courses'. These views echo the study skills and inclusive assessment literature (see for example Boud & Falchicov 2006, Hounsell, 2007, Yorke 2003) that suggests that 'skills development' or 'assignment drop in' sessions are more effective and reach more students when they are embedded within the curriculum and within the context of the subject. This provides all students the same opportunities to learn what a good exam answer, essay, project or piece looks like (see also Thomas 2012), albeit unpopular with some lecturers who bemoan the loss of time in the curriculum that would otherwise be used for content.

Students in the workshops also argued for what we called dependency 'weening'. They suggested that tutors could start with provided clear, structured and directed independent learning (like homework), moving though the curriculum *with support* towards greater autonomous learning, as outlined by Thomas et al. (2015). So for example, by the end of the first semester students might be deciding and negotiating what independent learning they might do with their tutors, rather than their tutors telling them what to do.

Support from peers

One of the most powerful sources of support for independent learning reported in the diaries and interviews was the informal non-assessed peer to peer learning that students engaged in through face to face and on line social and family networks. Friends and family provided emotional support, hints and tips, as well as learning support, for example:

> Swapping my work with another student and commenting on it was by far the most useful independent learning I did this week. It allowed me to develop a more critical eye with my own work. It also reassured me that I was on the right lines…

> and have both positive and constructive feedback from a fellow student helped greatly with the motivation to complete the work. Just talking through aspects of the assignment helped make it clearer in my head (Year 3 Zoology)

Where possible students would seek advice from students further advanced in their courses as the most effective form of support and source of information about how to go about learning independently:

> I guess speaking to people who'd actually done it before. When a lot of them were students around my age, like, a year or two older, because it was quite current and they'd done it themselves and you knew that what you were telling you was genuinely how they'd felt, because they had no reason other than to be honest with you... (Year 3, Management)

However, not all students had the confidence or social capital to approach a 'stranger' and ask for his/her help:

> …for me the fourth years are scary. I won't go up to them myself and be like, 'Hi, can you tell me about this please?' because one, I don't know who they are, and two, I don't know if they would help me, like. (Year 2 Modern Languages)

This finding generated a great deal of discussion and suggestions from students and staff during the workshops, particularly around the ways in which staff and the Students' Union could support networking between peers so as to ensure that all students could benefit mutually from this support. Suggestions ranged from student mentor schemes, peer study communities, study buddies schemes, peer assisted learning, and online discussion boards. (For wide range of examples of ways in which peer learning can be embedded in programmes see Jones 2015. For a discussion of the benefits and pitfalls of these approaches see for example Ashgar 2010, Boud et al. 1999).

It must be stressed that whilst students found peer learning highly effective for non-

assessed work, they reported frustration and deep dislike of group learning when the outcome of the task was summatively assessed, resulting in a single 'group mark'. Assessed work is high stakes work and that can, and did, bring out competitive and individualistic behaviour among students. Non-assessed, low stakes, formative work by contrast, seemed to lend itself to collaborative, cooperative, and highly effective peer learning for many students. This study shows that when students take control of their learning and work together, they experience a qualitative improvement in the effectiveness of their independent learning. We believe this is worthy further research and development.

Theory and Practice

This study opens up the black box of what students do as independent learning. It has exposed some of the myths about independent learners and the challenges they face as they make the transition from dependent to independent learners in HE. From this study, two important findings have emerged which contribute to our understanding of independent learning. We discuss the theoretical explanations and practical implications of these two findings below.

Deep independent learning

We approached this study with no overarching conceptual framework at the outset. The research questions guided our research initially. However, as we began to dig deeper into the data, the difference between high quality and low quality independent learning became clear, as did the parallel between this finding and the findings of the phenomenographical studies of Marton and Saljo (1976). Their seminal work on approaches to learning showed that when given an academic reading task with the prospect of being questioned on it later, students would approach it in qualitatively

different ways. Some focused on recalling and reproducing the text (surface approach), others focused on understanding its meaning (deep approach). This coincided with our finding. Subsequent studies (see Crawford et al. (1998), Marton et al. (1997), Prosser and Trigwell (1999)) have shown that students who adopt a deep approach to learning tend to have higher quality learning outcomes. As we proceeded with our study, it emerged that students used a mix of high level and low level skills in their independent learning which, as Marton and Saljo remind us, supports the idea that surface and deep learning are not fixed traits, they are responses to the students' perception of the task and their intention. Students in our study described both the nature of the tasks and the circumstances under which they were being undertaken. Many of the tasks were not only considered uninteresting but demanded little more than recall or reinforcement. Such tasks do not encourage a deep learning approach. We argue therefore that if we are to support students to become more effective independent learners, we need to offer appropriately challenging and interesting tasks so that they spend more time doing high quality independent learning, ideally, with some form of peer learning support. This brings us to the second key findings from our study.

Peer power

The second key finding is the powerful role that peers played in the process of learning and as a source of moral support, advice and guidance on independent study. This finding has long been established in the work of social development theorist Vygotsky (1978) whose notion of the 'more knowledgeable other' helps explain the way peers in our study helped each other with difficult tasks and concepts, facilitating meaning construction through dialogue. Bandura's (1977) social learning theory also explains why students in the study looked to peers and older students as role models in developing their independent learning attitudes, behaviours and emotional reactions.

Bandura explained that 'from observing others one forms an idea of how new behaviours are performed, and on later occasions this coded information serves as a guide for action.' (Bandura 1977 p.22). In a survey of peer-led learning Keenan (2014) notes the main benefits as heightened sense of belonging, improved academic confidence, and friendship development. Similar findings were identified in the *What works?* study (Thomas 2012) in addition to the sharing of tacit knowledge about the learning process. Peer learning benefits both the learners and the tutors; peer tutors clarify their thoughts through explaining the subject matter to other students and develop employability skills (Zou et al., 2012, Keenan 2014), and learners develop deeper understanding of the issues under discussion.

So if peers are such a powerful source of independent learning development, how can we ensure that all students have access to this sort of support? The evidence would suggest that peer support should be embedded into the student learning experience but this can take many forms (Andrews and Clark 2011). Shapiro et al (1978) propose a continuum of peer support, including peer pals, who are people at the same level who share information and mutual support, and peer guides who explain the system, but are not in significantly more influential positions, while sponsors, patrons and mentors are in more senior roles and the relationships are more hierarchical and uni-directional. Students expressed interest in these horizontal rather than vertical types of peer support, with emphasis on the equality of relationships or slight differentiation (see Cropper, 2000). Here the emphasis is on '...learning with and from each other' (Boud, 2001). Topping (2005) describes this as 'the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions'. This approach, based on social constructivist (Vygotsky 1978) theory, places social interaction at the centre of learning and understanding, and contends that learning is fundamentally a social process,

and through collaboration, learning is deepened. While peer support is generally positive, there is potential for 'weak' pairings or groups to result in little or even negative pedagogical impact (Topping, 1996). Such 'meta-ignorance' (Thomas et al. 2015) can also lead to mistrust between students (Fox & Stephenson, 2006).

Overall, students felt that teachers and course teams could play a more proactive role in creating opportunities for peer support for independent learning. Given appropriate coordination, training and incentives, peers could offer students a more impactful induction into and on-going support for independent learning than is currently offered by teaching staff. Such support could potentially be offered in collaboration with staff and officers of the Students' Union as trainers and coordinators of student-led academic support and development.

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