Independent learning: student perspectives and experiences

Liz Thomas, Christine Hockings, James Ottaway and Robert Jones

In partnership with the National Union of Students and Liz Thomas Associates
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- Philip Thompson, University of Chichester
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We are also very grateful to the 126 students who agreed to keep learning diaries for three weeks, and for the academic staff who encouraged their students to work with us in these ways. The students’ experiences demonstrate the struggle many of them have fitting in all their independent learning and juggling their other commitments and interests, and so we are thankful that they added this study to their ‘to do’ lists. We also learnt that keeping a diary prompted many of them to think more about their independent learning, from ‘Do I do enough?’ to ‘Could I do things Differently?’ We hope that some of them have gained something from participating. We valued the contribution of all the Steering Group members and the Higher Education Academy in guiding this report to its conclusion and publication. Finally, the authors would like to acknowledge the partnership between the Liz Thomas Associates research team and staff at the National Union of Students, in particular Debbie McVitty, Ellie Russell and Tobin Webb. The authors take responsibility for the final report, including any errors or omissions. We hope that it is both informative and useful.
Executive summary

Introduction and research design

This study examined students’ perspectives and experiences of independent learning (IL) in higher education (HE) in the UK. It was commissioned by the Higher Education Academy (HEA) and undertaken by the National Union of Students (NUS) and Liz Thomas Associates (LTA) between February 2015 and July 2015. It built on a previous report on directed independent learning (DIL), which focused primarily on the views and practices of academic staff (Thomas et al. 2015).

The aims of this research study were two-fold:

- To explore students’ conceptions and experiences of directed independent learning, including how they were made aware of its role in HE, how they were prepared for it within the context of their discipline, and how they have approached it.
- To disseminate the findings in order to assist disciplines in developing or reinforcing effective practice.

In order to achieve these aims, the study applied the following research design:

- the study took an innovative qualitative approach, combining student learning diaries, kept over a three week period, with semi-structured interviews conducted by trained student-peer researchers;
- the study took account of different disciplinary and institutional contexts, drawing on Becher and Trowler’s (2002) taxonomy of disciplines and Bowes et al. (2012) categorization of institutional types;
- in total 126 students from 16 institutions contributed to the research, and 93 interviews were completed. All material was transcribed and coded up, and analysis was undertaken to answer the research questions;
- further interpretation of the findings and the implications for practice were facilitated by participative workshops during the research period, involving HE staff, students and student organisations.

Research findings

An overarching finding of the study throughout, was the comparatively few differences between students studying in different discipline areas. Bearing this in mind, the main research findings from the study are:

1. **Students lacked clarity regarding the meaning and purpose of independent learning in HE and how it differed from school and college**

In relation to this, it was found that:

- students had a limited understanding of independent learning and under-estimated the difference between independent learning in HE and homework at school or college;
- students expected learning to be different, but they were not prepared for the reality. Students from all discipline areas were surprised that they bore more responsibility for the contents of their learning, and that their independent learning was not monitored;
- students individually developed their understanding of independent learning, via trial and error, rather than it being transmitted to them by a disciplinary community.
- a widely held view was that independent learning was necessary due to a lack of contact hours;
- independent learning was also viewed as an important part of preparation for employment and professional roles;
- students tended to focus on tasks directed by teaching staff, and on how best to organise time, combat a lack of motivation, and ‘make the grade’.

2. **Independent learning is informed by students’ views of its purpose**

In relation to this, it was found that:

- students from across the disciplines displayed instrumentalist approaches to independent learning, and concentrated their efforts on tasks that contributed directly to assessed work;
- assessment determined students’ learning priorities and approaches, but this caused motivational challenges. A genuine interest in their subject, and/or their future aspirations was more motivating.
3. Students in the study undertook a mixture of independent learning activities each week, and most students developed their skills over time

In relation to this, it was found that:

- on average, students spent 13 hours per week on independent learning. This varied by:
  - discipline: students studying hard-pure subjects reported spending the most time (16 hours) and those studying soft-applied reported the least (10 hours);
  - year of study: first year students reported the lowest number of hours of independent study, while students in the 2nd year of study and beyond spent about the same amount of time each week on independent study;
  - gender: women reported spending four hours more each week than men on independent study;
  - age: mature students (21 or over at start of course), spend an average of 15 hours per week on independent learning compared with non-mature students (11 hours);
  - nationality: international students reported spending fewer hours per week (11) than UK (13) or EU students (21).

- students who were aware of the expected number of hours of independent study, tended to think the expectations were too high, or difficult to fulfill. However these expectations were seen as informal guidance only;

- students undertook a wide range of independent learning, from narrow and ‘surface’ tasks to broader and deeper activities, but more than half of students’ time was spent on activities that were narrow and directed. There is little difference between the subject classifications, or between the inclusive and selective institutions, but there are different patterns by year of study;

- over the course of the degree programme most students develop their skills as independent learners, there are however some students who do not develop their skills over time.

4. Students found it easier to learn independently if they knew what to do

In relation to this, it was found that:

- if students knew what to do it was easier for them to get started; not knowing what to do made independent learning riskier and more stressful. Students therefore tend to prefer explicit, clearly defined tasks with definite and tangible outcomes;

- students for all discipline areas wanted direction from programme staff;

- students needed to be aware of, and know how and when to use, different ‘learning tools’;

- students utilized peers to help them undertake their independent learning.

5. Students discussed a wide range of personal struggles with their efforts to learn independently

In relation to this, it was found that:

- procrastination and lack of motivation were widespread, especially when the task was felt to be difficult, when students had little sense of discovery, or when a task and, or, subject area was thought to lack relevance;

- many students felt overwhelmed by the sheer volume of work they were faced with. This was particularly true for those with other responsibilities, such as children and employment, and was exacerbated by a lack of skills to gauge the relevance of material or to perform the task;

- specific problems student encountered included understanding academic language, comprehension of material and a lack of epistemological certainty (which was more challenging for students studying more scientific subjects);

- several ‘systemic’ and resource related issues had a negative impact on their independent learning: bunched deadlines, limited learning resources and restricted access to facilities.

6. Students experienced problems with independent learning tasks

In relation to this, the particular issues raised were:
group independent learning could generate dissatisfaction and frustration, including organizational issues and the process of group working itself, such as unfair division of workload, group dynamics, the learning process, academic contents or agreeing recommendations;

not being sure of what was required in an independent learning task, and anxiety that they would waste time collecting or studying incorrect material or doing the task wrongly;

where to get guidance from and lack of instant access to academic support when they got stuck, and lack of feedback and inconsistency of feedback;

tasks that seemed to lack value or relevance.

7. **When students spoke about their own effective practice in relation to independent learning, their focus was on assessed activities, especially how best to retain information**

In relation to this, it was found that:

- effective independent learning activity reflected assessment type and students most readily identified effective ways to revise for exams; *et al.*
- there was scant mention of their preferred methods of identifying, collecting and collating relevant material for assignments and essays, for example, or how they extended, broadened and deepened their course-specific stocks of knowledge;
- students were often not clear about what was effective for them, and found it difficult to articulate specific practices or techniques, and were reliant on the kinds of independent learning techniques used at school.

8. **Strategies for developing effective independent learning skills**

In relation to this, it was found that:

- when asked what would help them become more effective independent learners, respondents tended to focus on how their tasks could be made easier;
- pre-entry preparation in schools and colleges could help students know what to expect. Workshop participants also felt that the transition from pre-entry 'high dependency' learning to HE independent learning could be eased by 'information days' (ideally held in schools and colleges) in which 'student ambassadors' could meet directly with potential entrants and address the issue of independent learning at the higher level;
- informal, non-assessed peer-to-peer learning was identified as a particularly important source of support, which could be facilitated by staff. This could include mentoring by higher year students.

**Links with previous research**

This study links to previous work, in particular:

- the findings from this study demonstrated a widely shared view among the student participants that they felt uncertain about many aspects of independent learning, and wanted more guidance and support. This points to the importance of 'directed independent learning' (Thomas *et al.* 2015). It reflects the literature on transition into HE, described for example as the 'academic culture shock' (Quinn *et al.* 2005) and the struggle to become autonomous learners;
- students approached their independent learning in qualitatively different ways, reflecting Marton and Saljo's (1976) deep and surface approaches to learning, with a greater emphasis on surface learning: requiring direction and guidance. But students did not necessarily take just one approach.

**Implications and recommendations**

This study identifies a number of implications and recommendations to particular HE audiences:

- **students and students’ organisations**: students have to help themselves to become more effective independent learners. Prior to entry they could develop understanding of how independent learning is different in HE compared to school, why it is undertaken, and appropriate skills and useful strategies. Once in HE students could take advantage of the opportunities to develop expertise in being an independent learner, and experiment with different approaches. Transmission of this information can be undertaken by peers and facilitated by student organisations, working in partnership with academic and professional staff.
academic departments and programme teams:
- staff should help students to understand more about independent learning, including how many hours of independent learning are likely to be required and how they should use this time;
- programme teams need a shared view of independent learning in their field, and consider how cohorts of students are inducted into this collective understanding of independent learning, and how students are supported and enabled to develop the appropriate skills and how their individual development is facilitated and managed;
- the provision of clear task briefs and criteria, and some form of scaffolding to enable students to develop the skills necessary for higher level complex tasks. This has implications for formative and summative assessment and independent learning activities across programmes and modules;
- programme teams should review how they guide and support students to become effective independent learners. A checklist is provided.

pre-entry institutions: Schools and colleges could do more to prepare students for independent learning in higher education, but this may be in tension with their priority of helping students to maximise their assessment outcomes. They should look for ways of integrating pre-entry preparation; some suggestions are made.

Higher Education Academy: Academic staff and programme teams could be facilitated to improve students’ experience of independent learning, through mechanisms, such as:
- CPD focusing on independent learning;
- HEA reward and recognition schemes, for example, National Teaching Fellowship Scheme (NTFS), HEA Fellowship, and the use of the UK Professional Standards Framework (UKPSF);
- a change programme focusing on independent learning.
Introduction and context

This study examined students’ perspectives and experiences of independent learning (IL) in higher education. It was commissioned by the Higher Education Academy (HEA) and undertaken by the National Union of Students (NUS) and Liz Thomas Associates (LTA) between February and July 2015. It built on the previous report on directed independent learning (DIL), which focused primarily on the views and practices of academic staff (Thomas et al. 2015). Summary findings from this previous study are presented below.

The UK context

It is widely recognised that the UK higher education (HE) sector is becoming more focused on customer-provider relationships as a result of the ‘massification’ of HE and the introduction of fees. As a consequence, concerns around quality and ‘value for money’ have arisen – particularly among students and their parents. To address these requires clarification of the purposes, activities and anticipated outcomes of HE study. It goes without saying, perhaps, that quality measurements vary, and are often reliant on certain forms of proxy indicators, such as lecture/seminar/lab size, contact hours, number of complaints received, learning gains, etc. (see e.g. Gibbs 2010; Soilemetzidis et al. 2014).

It should be noted here that research from 2010 (Gibbs 2010) maintains that the quantity of contact hours does not translate to quality of learning, and that there are other more relevant factors such as pedagogical frameworks and study styles. European HE research seems to support this, using the idea of ‘student effort’, and in the UK the concept of student engagement is gaining prominence (NUS 2012a; QAA 2012; Trowler 2010), as is that of active learning (Chickering and Gamson 1987). Moves to encourage students to become more deeply involved in the processes of learning continue, in the adoption of such methods as action-learning, enquiry-based, problem-based and peer learning – and in some quarters there have been attempts to move away from traditional models of knowledge transmission (see e.g. Soilemetzidis et al. 2014).

For these and related reasons, the field of teaching and learning has, perhaps more than ever before, started to conceive of students as partners in the educational experience (see e.g. Healey et al. 2014), and as a recent Higher Education Policy Institute (HEPI)-HEA report (Soilemetzidis et al. 2014) emphasises, the quality of learning experiences in HE can be highly dependent on the correct balance of scheduled contact hours and the time students spend engaging in directed independent learning.

Summary findings from the previous study

The research team’s previous study of effective practice in independent learning (Thomas, Jones and Ottaway 2015) focused on the views of staff, students and other stakeholders and on the existing body of academic knowledge relating to independent learning. A literature review conducted for the study found great variety in definitions of independent learning but also agreement about its central features.

Invariant features present in all understandings were:

1. Independent learning is related to students’ essential nature as enquirers, or to their needs as learners within their academic programme of study.
2. The need to provide structure and support to foster and enhance capacity for independent learning.
3. The importance of metacognitive aspects of independent learning: ‘learning to learn’ is seen to be as important as learning about a specific subject.
4. Responsibility for independent learning is generally shared between staff and students.

Variant features included:

1. Conceptual focus: independent learning is rarely discussed directly, but rather implicitly through a range of different concepts sharing a family resemblance, such as ‘self-directed learning’, ‘active learning’ and ‘student-centred learning’.
2. The degree of structure and direction expected within independent learning varies from highly structured, directed independent learning (characterized e.g. by problem-based learning) to fully autonomous learning.
3. The roles of staff and student are delimited differently. In some formulations, staff guide, facilitate or enable students through curriculum contents; in others staff are more like facilitators of knowledge
acquisition than teachers. Likewise, students’ roles vary from autonomously setting their own goals in a partnership with staff to being guided by curriculum contents, pedagogy and support from staff.

The study focused on ‘directed independent learning’, which was understood as learning in which students are guided by curriculum content, pedagogy and assessment, and supported by staff and the learning environment, and in which students play an active role in their learning experience – either on their own, or in collaboration with peers. The study suggests a broader understanding of the notion of, as well as preconditions essential for effective practice in, directed independent learning.

Directed independent learning (DIL) describes one of the processes by which higher education (HE) students engage with the curriculum – and academic staff – to achieve learning goals. It may also include interacting with peers, other HE staff, employers, communities, families and stakeholders. DIL places increased responsibility on students when compared to the forms of learning they are most likely to have undertaken prior to entering HE. But students should be engaged, enabled, facilitated and supported by staff through relevant and guided opportunities, suitable pedagogies and an appropriate learning environment. Staff should ensure students have informal and formal opportunities for feedback, and monitor participation and understanding. DIL is integral to students’ development as autonomous learners and their graduate attributes. (Thomas et al. 2015, p. 4).

Thomas et al. (2015) identified diverse and inspirational examples – from across the UK higher education sector and beyond – of how staff created directed independent learning activities to develop, engage and educate their students in inclusive ways. The study found that effective independent learning requires a clear structure and ongoing support for students, especially as they make the transition from learning at level three to higher education. Capacity development is necessary to help students to learn to study differently, rather than to study harder, and they need reassurance through support, guidance and feedback that they are doing the right thing. In addition to knowing what they need to do, students need to be motivated to engage in independent learning by understanding the benefits of independent learning, which they often articulate in relation to future career aspirations.

Many of the examples explored were developed individually by staff out of commitment and enthusiasm, and without an approach to independent learning that is shared at the institutional, departmental and/or programme level. There was a lack of consistency in understanding what was meant by independent learning, and how it operated in institutions. Independent learning was not explicit in many learning and teaching strategies, and where it was mentioned it was not always defined. Some staff had a very good pedagogical understanding of the concept, often through a disciplinary lens, while others did not. All staff would have benefited from more opportunities for initial and continuing professional development in relation to independent learning, and practical support to enable them to develop effective learning opportunities. The individualistic approach to DIL reduced the impact of independent learning and resulted in differentials in the quality of the student experience within programmes, departments and institutions. Broader engagement was lacking: the engagement of the institution, including senior managers, the wider staff body and professional services; and engagement of stakeholders such as families; sector-wide and professional bodies; and employers.

The study suggested that to improve policy and practice in relation to directed independent learning, the following is required:

- clarification and leadership of directed independent learning;
- developing understanding of ‘learning gain’ rather than ‘contact hours’;
- provision of suitable independent learning opportunities, which includes clarity and structure, relevance, support, flexibility and inclusiveness, and student monitoring;
- development of student capacity and engagement.

The new study reported here focuses exclusively on student perspective and experiences, and it confirms and extends the findings and recommendations from the previous study. Furthermore, it finds more commonality than variation between students studying in different discipline areas.

**Aims of the study and research questions**

The aims of this research study are two-fold:
To explore students’ conceptions and experiences of directed independent learning, including how they were made aware of its role in higher education, how they were prepared for it within the context of their discipline, and how they have approached it.

To disseminate the findings in order to assist disciplines in developing or reinforcing effective practice.

In pursuit of these aims, the project has explored the following research questions:

1. How do HE students understand independent learning in their disciplines?
2. How do HE students approach independent learning in their disciplines?
3. How do HE students experience directed independent learning in the context of their disciplines?
4. How are HE students introduced to and prepared for different forms of independent learning in the disciplines?
5. What aspects of directed independent learning do students find most challenging and why?
6. What examples do students consider to be effective independent learning practice in their disciplines?
7. What do students feel would help them become more effective independent learners in their disciplines?

**Institution and discipline contexts**

This study has taken into consideration the context in which independent learning occurs, in particular, the discipline and the institution. An HEA report based on undergraduate student responses to an engagement survey suggests that there is a marked difference in student engagement in research and participation in enquiry across different institutions and calls for more investigation of disciplinary approaches (Buckley 2014). Previous research on directed independent learning (Thomas et al. 2015) found that respondents from all types of institution felt that their students are under-prepared for independent learning.

With regard to differences between disciplines, both Hativa and Marinkovich (1995) and Neumann et al. (2002) find significant contrasts between teaching and learning in different disciplines. However, the NUS (2012) report relatively similar findings regarding students’ experiences of learning and teaching across the disciplines (STEM and non-STEM in particular). Jessop and Maleckar (2014) looked at the influence of disciplinary assessment patterns on student learning in three discipline groups – in humanities, professional and science disciplines. They found less differentiation between the discipline groups than expected (e.g. the categorisation of assessment practices by disciplines in Australian Universities, Warren Piper et al. 1996).

Thomas et al. (2015) found that some independent learning is explicitly informed by disciplinary concepts, contexts and norms, but problem-based learning is used in both hard and soft-applied fields, and enquiry-based learning is used in some soft–pure subjects as well as soft–applied. Collaborative and peer learning, and the use of technology to facilitate independent learning are ubiquitous across all disciplines and institutional types. Thomas et al. (2015) recommended further research to explore how independent learning operates in different disciplinary contexts, including how it is communicated to students pre-entry and post-entry, and how their norms, concepts and professional/applied opportunities are utilised to make independent learning more relevant and engaging to staff, students, employers and professional bodies. It was striking that this new research found little evidence of such disciplinary differences.

**Structure of this report**

The remainder of this report is organized as follows:

- research design, research participants and limitations of the study;
- research findings, presented thematically;
- discussion of the conclusions and implications of the study in relation to the literature on student transition and learning in higher education;
- recommendations for key stakeholders.

Throughout the report, a number of student profiles are provided, which are intended to give a sense of participants’ personalities and mindsets lend substance to what may otherwise seem like disembodied voices quoted passim. These profiles have been composed from the diaries and interviews of individual students in different subjects and institutions; students' names have been given a numerical code to protect anonymity.
Research design

In order to address the research aims and questions outlined above, the team developed a largely qualitative research study that involved students throughout the process. A diary-interview methodology was adopted for this study (Zimmerman and Wieder 1977; Elliott 1997), utilising students as peer researchers. The diaries were intended to capture students’ experiences of independent learning and how they approach it in their day-to-day lives. Post-diary interviews were used to capture students’ more reflective and retrospective views on independent learning and to follow up preliminary findings from the diary submissions. Students were offered payments totalling £30.00 for participating in the research: £10.00 on registration and £20.00 on completion of diaries and the follow-up interview (94% chose a bank transfer in preference to redeemable online vouchers).

Prior to commencing the research, ethical approval was gained from the Higher Education Academy. As part of this process an information sheet and consent form was developed (see Appendix 1), which was used to help ensure students understood the study, their role, confidentiality and rights, and how information would be used.

The diaries covered individuals’ understanding of independent learning; their experience of transition to HE learning; and of the ways in which their independent learning was structured, delivered, and supported in different discipline areas. They were also asked to make suggestions for improvements in preparation and process. Follow-up interviews with approximately 80 students who had completed diaries teased out how expectations of learning in higher education were shaped and informed, and how these compared with their experiences at different levels in higher education. In addition, a Facebook group forum was set up for the participants in an attempt to facilitate a more contemporary form of research participation. This was open to all students, and was intended to encourage further sharing of experiences and reflection on these issues. However, the group was mainly used by students to contact the team and other students about payment, and to request administrative information.

Research participants

The context of learning

A key issue was the context in which directed independent learning took place, in particular, the discipline and the institution. Given the ambiguity of the impact of institutional type and the anticipated significance of the discipline field, Buckley (2014) and Thomas et al. (2015) identify the need for further exploration of differences contexts.

In terms of the discipline-type dimension, the study utilised the Joint Academic Coding System version 3 (JACS3) and Becher and Trowler’s (2002) taxonomy (inspired by the classification by Biglan in 1973). This classification identifies two divergent dimensions of knowledge: hard and soft, and pure and applied, which are combined to create four categories of disciplines (see Table 1).

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Subject type</th>
<th>Examples</th>
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<tbody>
<tr>
<td>Hard–Pure</td>
<td>General laws governing areas of human understanding; clustered around limited number of small problems; quantitative focus.</td>
<td>Pure Sciences</td>
<td>Physics, Chemistry, Psychology</td>
</tr>
<tr>
<td>Soft–Pure</td>
<td>Heterogeneous; personal and specific; study the particular rather than the general; qualitative bias.</td>
<td>Humanities</td>
<td>History, Anthropology, English</td>
</tr>
<tr>
<td>Hard–Applied</td>
<td>Derives underpinnings from hard pure subjects, but focused on products and techniques.</td>
<td>Technologies</td>
<td>Engineering, Computer Science, Medicine</td>
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A second variant is institutional diversity, in particular the types of students enrolled in the institution. The study will therefore use the typology developed by Bowes et al. (2012), shown in Table 2.

**Table 2: Typology of institutions**

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<tr>
<th>Category</th>
<th>Description</th>
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<tr>
<td><strong>Inclusive institutions</strong></td>
<td>Large, usually teaching-intensive institutions that recruit significant numbers of non-traditional students. Increasingly these institutions are recruiting overseas students. They teach a wide range of subject areas.</td>
</tr>
<tr>
<td><strong>Selective institutions</strong></td>
<td>Large, usually research-intensive institutions that recruit high-attaining and well-prepared students from the UK, as well as significant numbers of international students. These institutions teach a wide range of subjects, with greater emphasis on pure subjects.</td>
</tr>
<tr>
<td><strong>Specialist or professional training institutes</strong></td>
<td>Smaller HE providers (HEPs) and colleges that offer only a small range of courses, usually dedicated to a particular profession. These institutions can be highly selective, with a lower proportion of non-traditional or less-well-prepared students.</td>
</tr>
<tr>
<td><strong>Small institutions</strong></td>
<td>Further education colleges or smaller HEPs that recruit from their local area, often first generation entrants. Low number of international students. These institutions generally teach a more limited range of subjects, particularly in soft areas (both pure and applied).</td>
</tr>
</tbody>
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**The students involved**

In line with its qualitative approach, the study adopted a purposive form of maximum-variation sampling with stratified selection (Miles and Huberman 1994, p. 28) intended specifically to capture a roughly equal representation of cases within the hard–pure and soft–applied typology, together with an institutional mix. Academic staff who had contributed to the previous study (Jones 2015) were invited to express an interest in the research. Contacts from across the discipline and institutional groupings were then requested to recruit students from across their discipline area and from different levels of study. This was completed in different ways, but the financial incentive helped to offset potential problems of self-selection.

In total 149 students expressed an initial interest in participating in the study. These students were sent an invitation email with a link to an online registration form, and links to textual and video information about the study, presented by the NUS. The registration process included ethical information and informed consent, plus the collection of course, level and mode of study, and some demographic data.

126 students registered from 16 higher education providers, with a response rate of 85%. Broadly speaking, the sample achieved its aims, with a reasonably even distribution across disciplinary and institutional types and good representation of other characteristics such as age at start of course, year and mode of study, nationality and ethnicity. One demographic imbalance was the large proportion of female students taking part, approximately twice as many as males. However, there were enough male students (39, 31%) to provide adequate coverage across the range of disciplinary types. Full descriptive statistics of students are provided in Appendix 2.

In total, 26 of those who registered did not complete all three diaries (21%): seven did not submit any, 20 submitted one, and six completed two. Most attrition thus occurred after submission of one diary. Among those who did not complete the course of diaries, nine explicitly notified us that they wished to withdraw from the study (35% of non-submissions).
All students who completed three diaries (100 students) were invited to participate in a follow-on interview. In total 93 interviews were completed.

**Research methods**

**Diaries**

The diary was kept over a three-week period, delivered as a set of questions by email each week. A semi-structured question schedule was used covering a range of topics, including questions about different kinds of independent study undertaken that week. Students were also asked to estimate how much time they spent on each activity, and how much time they spent over all in independent study. The prompt questions are provided in Appendix 3.

**Interviews by student-peer researchers**

A key feature of this study was the recruitment of 14 student-peer researchers (from the participating HEIs with more than one diarist) to join the core research team. The reasons for this were threefold. First, peer student researchers would provide context-specific insights; second, they would have greater understanding of their institution and discipline; third, they would be closer to students in age and experience and students would, therefore, feel more able to talk openly and genuinely about their perspectives, experiences and feelings regarding independent learning.

The research team held three student-peer researchers workshops in London and the north of England to enable each peer student researcher to attend one workshop before interviewing took place. Each day included familiarisation with the context and purpose of the research, developing competence in the interview process, research ethics and developing appropriate relationships with research participants. A key outcome from these workshops was the drafting of a set of student-informed questions that would be used by all peer researchers to interview the student diarists back in their own institutions.

The peer student researchers’ main role in the project was to interview the students once they had completed a number of diary entries (they did not have access to the students’ diaries). A total of 93 students were interviewed by the student peer-researchers. The interviews were in-depth qualitative interviews using the semi-structured topic guide co-created by the student-peer researchers. The interviews lasted for 30-40 minutes and they were digitally recorded and subsequently transcribed. The student-peer researchers also contributed to the participatory workshops, reflecting on their experiences and learning from contributing to the study. Student-peer researchers were supported throughout the process by a member of the research team, they were paid for their work and they received a certificate confirming their participation in the project.

**Participatory workshops**

The research design included ‘participatory workshops’ for staff and students and student organisations. These provided opportunities to share, validate and disseminate the interim findings and generate further data about the implications of the findings for policy and practice.

Twenty-five student representatives from a cross section of institutions attended two workshops, during which they considered the following questions:

- How do the findings compare with your experience in higher education?
- What are the differences between institutions with respect to how students are prepared for independent learning?
- What information do students need to know and when?
- What additional information, skills or support would be useful?

Participants shared their reflections on the findings and generated ideas for effective support for students’ independent learning in relation to their particular institutions and roles. Participants presented their thoughts and ideas using flip charts, with discussions captured in note form by the facilitators.

Two staff workshops were planned, and an additional two were delivered due to high demand, and approximately 70 academic and professional staff participated. The staff workshops followed a similar format to the student workshops; participants were asked to consider:
How do the findings compare with your experience in higher education?
What are the differences between discipline areas?
What could you and your colleagues do differently to enhance students’ preparation for, experience of and support with independent learning?
What forms of communicating and disseminating these findings will develop and reinforce effective practice in directed independent learning?

As with the student workshops, the outcomes were captured on flip-chart paper and field notes, and informed final analyses, thus enhancing the relevance and usefulness of findings for the academic community. Furthermore, these events raised awareness about the study and began the process of dissemination.

Analysis
A sample of the transcribed interviews was coded independently by two members of the research team, and a detailed coding framework was developed. The team then re-visited the research aims and questions and identified the central themes to be explored. The detailed coding framework was used in conjunction with the research tools and the central themes to develop a less complex and more focused coding framework around the key themes:

- understanding – how the student conceives of the term independent learning and why it is undertaken in HE, including answers to interview question two;
- approach to independent learning – how students go about their independent learning, for example, getting the task done, ‘reading around’ the subject as an end-in-itself, etc. (e.g. diary questions 1 and 4, interview question 6);
- independent learning activity in the disciplines – what students did (drawing on diary questions 1 and 2 and interview question 6);
- feelings about independent learning – students’ emotional reactions to independent learning (in particular diary question 3);
- preparation and support for independent learning – student preparedness, views on support (including interview questions 3 and 4);
- effective practice – what students have found works for them (e.g. diary question 4, second additional diary question and interview question 5);
- challenges – what students found difficult (e.g. personal, skills, environment/support/ resources, group work, assessment, see diary question 5 and interview question 3 in particular);
- ways to improve – suggestions about ways that students and staff can do things differently to contribute to more effective independent learning (see e.g. diary question 4, second additional diary question, interview question 5).

Members of the research team worked together to test and refine the coding framework, and to ensure shared understanding.

Subsequently, all of the diaries and interviews were read and coded to the above framework, using NVivo. Other information including discipline and level of study, institutional type and student demographic information was also added to the NVivo database and connected to the individual respondents. Thematic reports were run relating to the coded themes, and these were analysed by discipline type, institutional type, year of study and student demographic characteristics. The reports were then read and sub-themes identified, which form the basis of this report. The themes were frequently reviewed and discussed to deepen understanding of key issues, findings and implications.

Limitations of the study
This is an extensive qualitative study of students’ perspectives and experiences of independent learning. However, certain methodological limitations must be acknowledged:

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1 NVivo is computer-assisted qualitative data analysis software.
engaged students – empirical studies of the student experience risk researching the perspectives of the most engaged. In this study, a £30 payment per student helped reduce this risk because it incentivised those who might otherwise not have participated;

- timing – respondents kept diaries prior to the Easter vacation and were interviewed during or immediately after the holiday period, at a time when students were preparing for assessments. The stress of exams and assessment deadlines might thus have influenced some of students’ perspectives and experiences of independent learning. At other points in the academic calendar they may have displayed less strategic and, or, instrumentalist approaches to learning;

- institutional types – the number of small and specialist institutions involved in the study is relatively small, although it includes students from soft–pure and hard–applied subject areas;

- discipline groups – the study has not identified significant differences between the discipline groups used (soft–pure, soft–applied, hard–pure and hard–applied). This may point to the limitations of this taxonomy, or it could reflect the perspectives and experiences of students;

- mixed methods research design – in order to further explore disciplinary differences a mixed methods research design would be required, for example, a large-scale survey to identify disciplinary differences, and/or focus groups to tease out similarities and differences between disciplines and/or discipline groups.
Research findings

Students lack clarity regarding the meaning and purpose of independent learning in higher education

This section explores how respondents understood ‘independent learning’. More specifically, what it involves, how it is different to learning in school or college, and why it is undertaken in HE.

To help respondents complete their learning diaries they were provided with the following simple, broad definition of independent learning:

Independent learning is any course-related study that you undertake when not being taught by lecturers or other academic staff.

Although this ran the risk of participants parroting back the definition with little or no elaboration added, it was deemed necessary by the research team in order to steer responses into relevant areas, and avoid confusing students with unfamiliar terms and concepts. As the research progressed it became apparent that students’ understanding of the meanings and purposes of independent learning were sometimes quite limited. This is an important finding in and of itself, and should be borne in mind before turning to the following subsections.

Students underestimated the difference between independent learning in HE and school/college

In general, respondents expected learning in higher education to be different to learning in school or college, but often could not explain quite how or why. They described their experience of independent learning prior to university as consisting primarily of homework and exam revision. Few if any spoke of receiving preparation for the kinds of independent learning that would be required in HE. Once in HE, stark differences became apparent – students quickly discovered that they were not directly provided with all content, and that their learning activity received markedly less scrutiny. This held true for students from all disciplines and the following comment illustrates this commonly shared view:

Basically it’s spoon-feeding, because when we were back home and in high school, they taught us, like properly, properly taught us. They didn’t just... drop us in the middle of the sea. In university it’s not like that. They just go through the lecture notes and they give the very basics. It’s not enough. They give a rough idea, but there’s a lot more to be done. (Year 4, Engineering and Chemistry)

Compared to teachers, lecturers in HE could seem disconcertingly distant:

At school, someone’s monitoring your levels of what you’ve learnt, whereas at university that rarely really happens... if I didn’t turn up for the next two months, no one would email me. (80, Year 4, Marketing)

Various explanations for students’ unpreparedness can be offered, but one of the more obvious links to approaches to learning acquired in school and college, where an emphasis on exam results (and league table performance) can create a climate in which learners are ‘taught to the test’. Consequently the freedom accompanying degree level study can be experienced as an academic culture shock (Quinn et al. 2005), where some students felt they were left to sink or swim.

Students developed a personalised understanding of independent learning

Students’ understanding of independent learning in HE was acquired piecemeal, via trial and error – and was thus prone to being quite personalised and individual. It did not appear to have been transmitted to them through, within and by a disciplinary community. Suffice to say, on the basis of their approaches to learning independently, it was difficult to conceive of respondents as junior members of a particular ‘academic tribe’ (Becher and Trowler 2001).

For some, independent learning was business as usual – a continuation of the study styles used at school/college:
It’s just learning by yourself, without teacher assistance. So homework, home learning, research for your projects or your assignments. That sort of thing. (124, Year 2, Education and Media)

Others seemed to suggest learning independently in HE required slightly more autonomy, motivation and decision-making:

I’d describe it as work... that isn’t set for you, but I think I’d also include assignments because that’s your own independent choice, like assignment topics and research is all dependent on what you want to do. I wouldn’t define it as homework and stuff. (12, Year 3, English)

Although rare, some interviewees had clearly embraced aspects of learning independently and saw it as an opportunity to exercise greater freedom. It represented a chance to exercise curiosity, and could be detected in a broad cross section of subject areas, as illustrated by these comments:

I found it a lot more interesting because in the essays I’ve done in first and second year, there’s been a lot more choice as to what I wanted to write about. So the first essay I did at university, we were told to look at an issue relating to popular music and culture ... So I picked something that really interested me, so I wrote about feminist punk in the 1970s in London. It’s that sort of freedom that lets you discover the sort of things you actually want to focus on. (10, Year 2, Music)

I’ll go read that book about some subject because I’m interested in it and learn about, and then maybe apply it to other stuff. (45, Year 2, Geology)

What we’re finding... me and my group of friends... is that we’re... getting certain areas that we’re really interested in that we thinking we might want to specialise in long-term. We’re doing extra reading... and spending days with the specialist midwives... [so] you find your own areas of interest. Then... if we do dissertations... we’ll have a good background for research. (32, Year 1, Midwifery)

Reinforcing taught content and studying additional material

The predominant focus of respondents’ independent learning activity was directed at tasks set by teaching staff. In some key ways this reflected a rather underdeveloped conceptualisation of independent learning, consonant with instrumentalist attitudes (Dale and McCarthy 2005), and did not constitute much of a departure from the kinds of activities they had undertaken in school and further education. More specifically, it resulted in being preoccupied with how best to organise time, combat a lack of motivation, and how to ‘make the grade’. At the risk of sounding idealistic, a more thoroughgoing understanding of independent learning would help create a mind-set fired by curiosity. Students would regard their degree as a quest for knowledge, and display a passion for their chosen subject. The following quote goes some way to typifying the former attitude:

I have to-do lists that I do and then tick things off, because then it makes you feel like you’re doing something, or in my diary I’ll scribble things out every day after I’ve done them, because then it feels like you’re achieving something. I’ve got a Gantt chart thing on my wall that I cross of each day. I tick it or cross it depending on if I’ve done my work, because then you can visually see if you’ve actually done your independent learning, and then you feel bad if you haven’t. (137, Year 3, Zoology)

This can be described as a ‘surface’ approach as opposed to ‘deep’ learning (Marton and Saljo 1976). The former tends to prioritise memorising facts and applying procedures, preferring information, received wisdom and taking knowledge at face value. By contrast, deep learning styles are more reflective, critical and liable to challenge, question and interrogate knowledge. Underlying assumptions are teased out, and implications regarded as contingent. But, far more succinctly, deep learners simply love finding things out as this example demonstrates:
Toad Patrol consists of driving to a location where toads are known to be undertaking an annual migration to a breeding pond, and their route is interrupted by a road. Between 7pm and 9pm we walk up and down the short section of road on either side of the pond, collecting any toads on the road in buckets and taking them to the pond to prevent them getting run over. Despite advertising this event on posters at college and in college email and Facebook groups, we only persuaded 2 people to join us on one trip and 1 on another, with me and my girlfriend doing it on our own for the other nights. It’s a rare opportunity to see and handle native UK amphibians and observe their mating behaviour, and as such is very enjoyable. For some, a possible negative aspect is that it works best in bad weather. (116, Year 1 Zoology)

Please note: it was not possible to detect a preference for either deep or surface learning styles by discipline type, but rather students used both.

Independent learning and ‘crowded’ curricula

Students in contrasting subject areas believed that independent learning was necessary primarily because it was not possible for lecturers to convey all the relevant material during contact hours. The shortfall had to be made up during private study time; this belief was echoed by students for all discipline groups, for example:

- Something outside the classroom and outside of lectures and considering how little time we actually have in lectures, you need to do independent learning. (105, Year 2, English)
- Just time, not everyone has time to, like, teach everything you need to know ... you kind of need to take it upon yourself, no one is going to help you. (53, Year 2, Pharmacy)
- I know I should be doing a lot more because ... what we are getting in lectures ... it’s not enough. Plus, they don’t spoon-feed like in high school. So we have to do it on our own. (112, Year 3, Engineering and Chemistry)
- I think it would be too expensive... to teach everyone because there are so many students and it’s a very important skill to have as well, to work independently. (27, Year 4, Mathematics)

Independent learning for the world of work

The world of work and career aspirations were prominent concerns for numerous respondents. For them, the purpose of independent learning was conceived as an important part of preparation for life after study. They believed employers valued applicants who could demonstrate independence and the ability to complete tasks without direct supervision. It was not clear whether those who held this view thought this learning outcome had been explicitly engineered into their degree programmes or occurred by default (as part of a hidden HE curriculum, as it were). These comments were made in response to the question: “Why do you think independent learning is undertaken at university/college?”

- In a job... independent learning would probably be found quite frequently, as opposed to in school... so university’s... the bridge between the two. To try and encourage people to start thinking independently so [they’re suited to] jobs they need to go to after. (83, Year 3, Management)
- People in jobs... and careers, they’re looking for people that can think... independently and... do things for themselves off the top of their head without them telling, babying them through everything... they want people... to have initiative. (124, Year 2, Education and Media)
- I do want to become an independent learner... but my priority is to... get a job. Some of the skills that are applied, like the dissertation, like organising yourself and revising, are really important for future life. (79, Year 1, Earth Science)

Issues for consideration regarding students’ understanding of independent learning

Respondents tended to lack a cogent, shared, discipline-specific understanding of what independent learning was and why it was undertaken in higher education. One current policy document states that independent learning differentiates higher education from previous learning experiences. The report also identifies the types (and quantity) of tasks students are expected to undertake. This is summarised in a QAA guidance document (2011) as follows:
Higher education is distinguished from general and secondary education by its focus on independent learning. Scheduled learning and teaching activities typically feature alongside time in which students are expected to study independently, which may itself be ‘guided’. Independent study might include preparation for scheduled sessions, follow-up work, wider reading or practice, completion of assessment tasks, revision, and so on. The relative amounts of time that students are expected to spend engaged in scheduled activities and independent study varies between courses.

The total amount of time that students are expected to spend studying (student workload) is typically denoted by the volume of credit attached to the course or unit of study (Section 6).

In all cases, students are expected to be responsible for their own learning, with appropriate support being provided by the institution. Such support can be via a variety of means, including, for example, through the provision of study skills training, feedback on assessed work, access to libraries and learning spaces, language skills training, and so on (see description of academic quality in section 4). (Quality Assurance Agency 2011, p. 7)

Issues for consideration:

➢ the purposes and meanings of independent learning must be made explicit to students;
➢ students should be inducted into a shared understanding of independent learning that has its origins in their chosen subject;
➢ students should be disabused of the idea that independent learning is merely homework or revision, or that it is undertaken to make up for a shortfall in teaching time.

Independent learning was informed by students’ views of its purpose

This section explores in more depth how students approached independent learning, and addresses such issues as time management, autonomy and motivation.

Independent learning, assessment tasks and time management

The importance of assessment in students’ independent learning emerged as a strong theme throughout the diaries and interviews. It can be argued that an assessment-driven approach to learning gives rise to instrumentalist attitudes, often consonant with surface and/or strategic (Biggs 1999) learning styles. This is particularly true with respect to exam and test type assessment, when independent learning becomes focused on pouring information in so that it can be regurgitated – whereupon it may remain disgorged and banished from the memory banks forever. Moreover, assessment fixation can all too easily generate anxiety (see Problems of Procrastination, page 30), which can in turn lead to a slump in motivation levels. This produces something of a negative feedback loop, because the resultant slump can become a fresh source of anxiety.

For those students who have internalised a strategically orientated approach to independent learning (most likely acquired at school and in college), assessment – and especially exam type assessment – can become the primary impetus for study:

I have to really get into it (and) have some kind of kick and realise I have to... start doing this and that’s normally in the form of an exam or a mock test... I hadn’t started revising for and didn’t do as much as I should and did a lot worse than I thought. So for me, mock tests and stuff like that are a big thing that... helped me do it. (98, Year 1, Engineering and Chemistry)

Students from across the disciplines displayed instrumentalist approaches to independent learning, and concentrated their efforts on tasks that contributed directly to assessed work, for example:

I prioritise things that are assessed, and then after that things that are-, work you have to prepare for a class. Then I prioritise things that I think will help me most. I say prioritise, but my expectation is that I still do all of that stuff, but I’ll give more time to things that are assessed. I do a lot of lists, and do the most important things first. (150, Year 4, Modern languages)

While a focus on assessed work is understandable, it can lead to the relegation (and even avoidance) of other, deeper kinds of independent learning:
If I have an assessment due, my independent learning will be very much focused on the module that the assessment’s in. I know, in my diary, I end up, one week, having a lot of hours being put in to C Programming. That’s because we had our final programming assignment of the year due in, in that week. We got it set on the Friday, due on the next Friday. So, I spent a lot of hours just devoted to doing that because it was worth a lot of the overall mark. (*107, Year 2, Engineering*)

The significance of assessment in motivating students should not be under-estimated, but cannot be taken to imply that more assessment will necessarily create better independent learners. Indeed, in some circumstances, more frequent assessment could lead to more surface learning activity, leading students to become increasingly focused on ‘making the grade’ – with all the anxieties and pressures this can entail. Perhaps the most that can be said is that the viability and utility of increased assessment regularity will vary by discipline and student. This was touched upon by a modern languages student:

I have assessments... every two, three weeks and ... one for each language at the same time and it’s quite stressful, but I’m always doing something. Whereas... [a friend] doesn’t get assessed on her work so I think that a lot of that gets left to the end of it and then... she struggles a lot when it comes to exams. (*154, Year 2, Modern languages*)

The approach to learning that a staged form of assessment could create can be contrasted with the ‘cramming’ used by students prior to a singular, end of term, ‘summative’ kind of assessment:

I find it hard to study really far in advance for... exams. So as much as it’s really bad to cram, I learn quite a lot in the days before. So I’ll completely focus on that sort of subject, and I seem to get a lot more work done, because I know that I have to get it done, and then remember it a lot quicker, like, a lot easier, than doing notes in advance, and then reading over. It just doesn’t go in. (*131, Year 3, Forensic and Analytical science*)

Where exam-orientated approaches to independent learning focus on how best to remember and reproduce course content, assessments such as essays and dissertations called for quite different methods. Regarding the latter, the emphasis was on locating, assessing, and applying knowledge:

The basis of my summer mapping project, which is kind of my dissertation...[is] on sediments, basically because I enjoy it so much. I have now gone and read papers on this type of, all these different sorts of things. I feel confident now in my ability having understood the class to go and do that... I could go and read papers on crystallisation and all this kind of stuff, but I just don’t because I-, yes. I’ll cut to the chase. I think there’s a real correlation between good marks back. It really encourages you to then go and further your knowledge in that area. (*45, Year 2, Geology*)

It perhaps goes without saying that respondents found this latter type of assessment far more enjoyable than exams and tests.

*Independent learning as developing interest in the topic and its relevance to achieving future aspirations*

A key challenge for students (particularly those with strategic aims) was finding the motivation to undertake independent learning:

Independent learning requires a lot of self-motivation, you have to really believe in what you’re doing and feel passionate about the outcomes in order to get anywhere with your never ending list of things to do! (*103, Year 3, Management*)

Although assessment, and the prospect of gaining good marks, provided sufficient impetus to learn independently, some students were motivated by other (arguably more positive) factors. These included genuine interest in their subject and, additionally, their future aspirations (particularly those linked to careers). The following respondent recognised that levels of motivation could be compromised if a wholly strategic (i.e. assessment focused) approach held sway:
I’ve been picking things that really interest me, and that’s been helping a lot. Rather than last year, I picked whatever I thought would be the easiest to get me a good grade, and it didn’t end up getting me a good grade because I wasn’t interested enough to try and put in the extra effort to do enough work for it. *(10, Year 2, Music)*

In the following quote it is evident that career aspirations could be a valuable source of motivation:

I have to admit that up until this year I’ve not done much work in my own time at all. It’s only been this final semester where I’ve found some drive and motivation to finish uni... My work experience... really gave me an idea of what I want to do in the future, so it’s made me want to work hard to finish uni and move on to the next step. So... it’s knowing what I’m aiming for in the future that has made me a better learner. *(128, Year 3, English)*

**Issues for consideration about students’ approaches to independent learning**

The following considerations were identified:

- students may need a wider appreciation of the value of independent learning to help them balance their priorities and select appropriate learning tools;
- staff may need to give greater consideration to the role assessment plays in independent learning: it motivates students, determines their IL priorities and influences the type of learning they undertake;
- emphasising the relevance of the IL to applied practice and/or skills for future employment and life in general may also increase students’ engagement.

**Independent learning quantified**

This section explores students’ experiences of independent learning on a day-to-day basis by reviewing activities reported in their weekly diaries. Information relating to activity type, time spent, and variations by discipline, institution type and demographic factors (including gender, age, year of study, and nationality) is provided. As this data was drawn from qualitative sources no conclusions can be drawn regarding the wider student population.

**Time spent on different types of activities varied**

Students were asked how many hours they spent learning independently each week. Not all students chose to answer this question. Where they did not, time data was extracted from the descriptions of activities using a combination of searches, and when that was not possible, manual inspection of diary data. In total, time data was extracted from almost all participants (112 out of 117).

Taken as a whole, students spent an average of 13 hours per week on independent learning (see Fig. 1). Some students reported as few as eight hours per week, others more than 20 with a few students spending more than 40 hours in a given week. The overall interquartile range was 12 hours: eight hours per week at the lower quartile, and 20 at the upper quartile. The average of 13 weekly hours reported in the diaries on independent learning is broadly in line with the 13.9 hours reported in HEPI/HEA’s 2015 Academic Experience Survey *(Buckley, Soilemetzidis and Hillman,2015)*.

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2 The mean hours reported spent on independent learning per week was 14.4, with a fairly high degree of variability (standard deviation: 8.9). The median in this case was used as a more robust measure of central tendency because of this high variability.
In the final week of the diary period, participants were asked if they knew how many hours they were expected to spend on independent learning. In response to this question, 16% of first year students gave a number; 18% in the second year; 24% in year three; and only 7% in their fourth year. Of those who gave an answer but did not give a figure, 16% of first year students and 21% of fourth years said they did not know. The remainder, 67% of all participants, did not answer the question. These figures must therefore be seen in this context. Nevertheless, the mean number of expected hours stated among the group of 26 supplying an answer was 22.7, considerably higher than the average of 13 hours of actual independent learning reported for each week.

Of those who stated a number of expected hours, there was a sense that expectations were too high:

I am expected to do 20 hours singing a week, and 10 hours clarinet, which is almost impossible, given my other commitments. (10, Year 2, Music)

I believe the amount of independent study is 2 hours to every hour in lecture. But I do not know anyone who can fit that amount of independent study in. (137, Year 3, Zoology)

I know that for Spanish we are expected to do about 2 hours a night which I think is ridiculous... (144, Year 4, English and Modern Languages)

Others did not find the expectation too great, but other demands such as work or childcare intervened to stop them completing the required amount:

We are expected to undertake approximately 25 hours per week of independent study... but I normally find that I’m too busy with other things to do anything like the amount that is required. (70, Year 3, Management)

Another widespread view among the students was that the expected hours were quite informal and not especially precise, either because the teaching staff had indicated this, or because they had only a rather vague recollection:
I am under the impression that I am meant to do four hours external work for every one hour lecture, I have nine hours of lectures in an average week. However, this is not precise just something I think I remember them saying in first year. (121, Year 3, Management)

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 ten hours a day, but maybe they do. Most of the work is independent as I have 11 contact hours a week. (150, Year 4, Modern Languages)

I know that we are expected to do 100 hours work (including lectures and practicals) for each course, but I don’t know what that works out to weekly. (29, Year 3, Earth science)

I am expected to typically do 100 hours of work per ten-credit module, equating to ten hours per credit. I’m not sure how much work this means I should be completing in a week but I do think the time I could spend working it out could be better spent learning the lecture content. (152, Year 3, Mechanical Engineering)

Others viewed the number of hours needed for learning independently as being an individual matter; some people required more, some fewer.

I just do what I think is expected of me rather than what they suggest, because I don’t think you can really put a number on how many hours you spend on something, because it depends from different individuals. (103, Year 3, Management)

I think the teachers, the lecturers, think that you know that already. I don’t think we’ve ever been sat down and told you have to do the independent learning. I think it’s just to the individual. Just people might do good off one hour, some people might do good off ten hours. I think it’s different. (44, Year 3, English)

It is, perhaps, surprising that expected hours seem to have such a low salience among respondents: as has been shown already in this report, the most common motivation and approach to studying for a degree is related to doing well in assessments. This might reasonably be expected to translate into a high awareness of expected hours to be spent studying independently.

Respondents’ diaries reported a wide range of independent learning activities, from short and highly task-directed work (such as preparing and using flashcards) to course-related extra-curricular projects (e.g. involvement in Science Week). Some examples illustrating the breadth of these activities include:

- reading set texts in preparation for seminars;
- following work sheets, problem-based learning, quizzes, etc.;
- reading around a topic to increase depth of understanding;
- researching a topic either for coursework or general understanding;
- using online learning environments such as Moodle;
- writing up essays, preparing slides for presentations;
- writing lab reports;
- group work, either for a specific task such as a presentation, or as a way of supporting learning;
- dissertation work;
- preparing and using methods such as flashcards and mind-maps to help memorize facts;
- catching up and reinforcing information from lectures and seminars by note-writing, following up reading, listening to recordings, etc.

To classify these, the following coding scheme was used, based initially upon theoretical considerations emerging from the study as a whole and then inductively during the coding:

1. Preparing – simple tasks such as typing up notes, preparing slides for presentation, planning structure of essays, etc.
2. Reinforcing knowledge taught during staff-led sessions (lectures, workshops, etc.). Focus is on remembering/memorising taught material. Activities include reviewing notes, listening to recordings of lectures, practicing speaking a language, playing a piece of music, technical skills, etc.
3. Extending knowledge – the focus is on increasing knowledge and understanding, for example, by researching a topic, preparing for an essay or presentation, reading academic or professional material, identifying gaps and filling them.
4. Applying knowledge from taught sessions in different contexts – this centres on using knowledge and so may be more likely to occur in applied discipline areas. Activities include running an experiment or practical, real-world activities, applying theory to a specific context, etc.

5. Creating new knowledge – activities involve undertaking primary research.

The classification covers a continuum of depth and breadth, from narrow and ‘surface’ activities focused on a specific aspect of learning, to broader and deeper activities more related to a sense of the subject as a whole. There were few examples of category five (creation of new knowledge), which was subsequently merged with category four. Some tasks inevitably overlapped two or more categories. For example, a student might have typed up lecture notes (reinforcing) but at the same time undertaken extra reading to ‘fill in gaps’ (extending). This may account for why the ‘extending’ category is the largest overall (see Figure 2, below); 39% of activities reported were of this type, compared to 25% for preparing, 29% for reinforcing, and a relatively small 7% for applying.

![Figure 2: Proportions of types of activities by selected independent variables.](image)

This suggested that just over half of their time (54%) was spent on lower level work, that is, preparing and reinforcing activities.

**Disciplinary influence**

In terms of number of hours learning independently per week, students studying hard–pure disciplines reported spending the most time (16 hours) – mostly preparing lab reports, a highly directed task. Those studying the soft–pure subjects reported a slightly higher level than average (14 hours) (see Figure 1).

When it came to the distribution of type of independent learning activity, there was little difference between the subject classifications (see Figure 2 above). However, students studying hard–pure subjects appeared to spend more time on extending type activities than students in other disciplines. Of particular note is the relatively low level of application activity by students within soft–pure and, more surprisingly, hard–applied subjects. One possible explanation for this is that some applied activities require supervision by staff or in specialised teaching environments, for example, laboratory or within a work-based environment such as midwifery. Independent learning in these subjects would be, understandably, less applied and more likely to include reflection on and evaluation of lab-based or supervised application. However, the level of preparing and reinforcing activities that students in these subjects appeared to spend time on suggests this may not actually be the case.
The results presented in Figure 2 suggest that in all subjects students spent most of their independent study time on 'extending' type activities. Further analysis of this activity type indicated that the independent learning activities given by staff in some hard–applied subjects was highly directed and, therefore, supported their extending activity. This contrasted with the soft–pure disciplines where highly directed 'extending' activities were rarely reported. However, further research is needed here to explore the nature and degree of direction in all subjects and the impact this has on developing independence.

**Influence of institution type**

The research team found little difference between inclusive and selective institutions with regard to time spent overall and on each type of independent learning activity (see Figures 1 and 2 above). However, there does appear to be a difference between students in these institutions and those of smaller institutions. Not only did students in smaller institutions spend more time learning independently than those in selective and inclusive institutions (14 hours per week as shown in Figure 1), they also reported greater levels of extending activities (54%) and correspondingly fewer reinforcing activities (6%) (Figure 2). The number of small institutions participating in the study was comparatively low, however, and this should be borne in mind when considering this information. It may be speculated that this variation is a consequence of students’ closer and more frequent contact with teaching staff. Such close contact may well provide greater opportunity for feedback and monitoring, thereby increasing the quantity and quality of the work undertaken. Further research is required to explore this particular line of enquiry.

**Gender**

Among the participants in the study, women reported spending four hours more each week studying independently than men. The amount of time spent on different types of activity also varied according to gender. Men did proportionately more extending activities (50%) than women (36%), who did more preparing activities (28%) than men (18%).

**Year of study**

The research team conjectured that there would be a change in independent learning behaviour as students went through their course. Figure 1 confirms this, with first year students reporting the lowest number of hours of independent study. Students from the second year of study and beyond seemed to spend about the same amount of time each week.

In terms of the types of activity, Figure 2 shows the pattern of activity by year of study to be remarkably similar for the first two years. The notable change appears to occur in year three when students appeared to undertake a higher proportion of extending activities (46%), mostly related to dissertation work. A further change occurred in the final year of the four year courses when students reverted back to more reinforcing (34%) at the expense of fewer extending activities (28%). This may be explained by the emphasis on dissertations in the final year of a three year course compared to the apparently more exam-based work that fourth year students face in their final year.

**Age**

There is a large difference between mature students (21 or over at start of course), who spent an average of 15 hours per week, and non-mature students (11 hours). Mature students did slightly fewer extending activities (36%) than non-mature students (40%).

**Nationality**

International students spent fewer hours per week (11) than UK (13) or EU students (21). The HEPI results show that international students' weekly academic workload is marginally greater than UK students (HEPI and HEA 2015), but less than EU students: international students reported spending half an hour less than UK students (30.7 hours compared to 30.3). EU students cited the highest levels (32.3 hours), around two hours per week more than the other groups. The results from the diary study can only be taken as indicative, since they are based upon a qualitative sample. They do, however, suggest that international students might spend a lower proportion of their academic time workload on independent work than other nationality groups.
What is clear from this section is that students were not fully aware of how much time they should be spending on independent study. The time they did spend on average (13 hours per week) is less than they believe they should have spent. Those in the first year of study spent less time on independent study than in any subsequent year on the course. Overall students spent the same amount of time on independent study in years two to four and the type of activities they did become increasingly more applied as they progressed. Students in the hard–pure subjects were more likely to carry out activities that were heavily directed by teaching staff than other subjects. Further research is required to explore the effect of this on their independence as learners.

**Students’ activity developed over time**

Students may have begun by expecting independent learning to be about doing the same learning activities as they did previously (in school or college) and subsequently realised that their approach needed to change.

I thought it would be a lot more, just, sort of, reading a book, getting that information, learning that information. I thought that would be about it. I think it was a bit different in the way you had to actually use the knowledge at the same time that you might have learnt and, sort of, apply it a bit more. Rather than just, sort of, just trying to retain the information. (90, Year 4, Psychology)

Indeed, most students felt that their approach to and skills in independent learning had developed over time, and that they had developed more effective ways of using their time.

It probably just develops you as a learner and a researcher. It’s one of those classic cases of the more you do it, the better you get at it, kind of thing. (45, Year 2, Geology)

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. (31, Year 3, Forensic and Analytical Science)

Developing effective skills, and knowing when to use which tool, takes time. Over the course of the degree programme most students developed their skills as independent learners:

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. (45, Year 2, Geology)

There are however some students who did not develop their skills:

Interviewer: Have your strategies changed over time, in terms of independent learning?

Student: No, I think that’s my shortcoming. I keep falling into the same cycle every year, where I’m just cramming at the end, and stuff. I tell myself I’m going to change every year, because it is so, so stressful when that time comes, exam season. You have to revise so much content. No, I would say it’s not changed. (152, Year 3, Mechanical Engineering)

Another student, who had a degree in a different discipline area, explained that her learning strategies had not really changed over time but that she had come to recognise that what she did was more effective for her, even though she had changed discipline areas:
I think that I know myself more than I did eighteen, twenty years ago, and for that reason I know how I learn more effectively, so for me that’s writing things down, but then I did that before, but I didn’t recognise that that’s what I was doing so much. So, now, I recognise in myself how I learn effectively, so for some people... they’re very visual people. For some people... it helps them to talk things through, and for some people it helps them to... write it down. For some people, it helps them to read. So, for me, I know that writing things down helps... and I have more of an awareness of that now. I don’t think my strategies have actually changed. I just think I’ve developed as a person to know myself better in the way I use them.

(94, Year 2, Midwifery)

This supports the finding that some students constructed an individual understanding and meaning of independent learning once in HE, rather than being inducted into the shared understanding of the disciplinary community. Students’ development as independent learners was often individualistic and did not appear to be managed or overseen by the curriculum or staff team.

**Issues for consideration relating to students’ independent learning activities**

The following considerations were identified:

> students may benefit from greater clarity regarding the number of hours of independent study and the type of activities required. This may vary by subject and year of study but students need to know how that varies and why;

> staff within the programme teams need to be consistent regarding the hours per week per module required and set tasks that require appropriate levels of application and extending activities for the level of study.

**Students found it easier to learn independently if they knew what to do**

Making time to study and summoning the requisite levels of motivation are important, and no less obvious, preconditions for successful study. But they are not always sufficient in themselves. Students must also possess the necessary skills. As is discussed in Effective Practice and assessment, page 37 below, many did not know what constituted effective independent learning practice nor what was expected of them. For these and related reasons they tended to prefer explicit, clearly defined tasks with definite and tangible outcomes:

I quite like grammar exercises for Portuguese, and Spanish. Once you’re done, you’re done. Whereas... reading a book can be frustrating, because... it takes so long to get through. Whereas it’s easier just to do these exercises and then build up the knowledge and feel like I know this is going to help me. Sometimes, when I read, I don’t know whether it’s going to be relevant or not. (144, Year 4, English and Modern Languages)

If they know what to do it is easier for them to get started. Not knowing what to do makes independent learning riskier.

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. (79, Year 1, Earth Science)

Students looked for:

> direction from staff about the task;

> knowledge of the learning tools to use;

> support and guidance from peers.

**Direction from programme staff**

Students from all discipline areas sought clarity regarding independent learning tasks (see Sect. 3.7), otherwise they were unsure if they were making best use of their time. When lacking confidence, direction and/or information relevant to the study tasks at hand, some students requested pointers from staff:
I do like to know what to do, I do ask, I want to get things right and because I want to please people and get things right, I’m a bit like, “Is this definitely how you want it or would you rather it like this?” (124, Year 2, Education and Media)

Consequently, they experienced anxiety and frustration when it was difficult to contact staff or responses were slow (see Students sought clarity and guidance, page 34).

**Developing knowledge of appropriate learning tools**

Some students recognised the need to develop confidence which, for one engineering student, came about by sharing knowledge with others:

...when it comes to you doing it, you’re just, like, “I don’t know what I’m doing”... to explain to other people what you’re doing – it allows them to learn and you to broaden your understanding... at the same time. (107, Year 2, Engineering)

Greater certainty came not just from clarity about the task (see Students sought clarity and guidance, page 34) but also from understanding how to undertake different tasks. This included being aware of and knowing how and when to use different 'learning tools', and this awareness had to be accompanied by confidence that these were the appropriate tools for the job:

I know I have to write stuff down and take notes, and know that that has gone in, whereas before I would do exams and think, “Oh God, I haven’t learnt anything and I don’t know whether it’s gone in,” but actually it does. So the longer time goes on, the more confidence it gives you to realise you do know what you’re talking about. So, yes, I think you just learn, don’t you? (115, Year 3, Zoology)

Students’ capacity to learn independently developed over time (Students’ activity developed over time, page XX), however some failed to acquire the relevant skills (Academic skills for academic material, page 32), or did not always know which to use (Effective practice and assessment, page 37).

**The role of peers in independent learning**

There is a burgeoning literature addressing peer learning and peer support (see e.g. Arendale 2014; Parker 2012; and Schmidt 2009) an important component of which assesses the role of digital technology (see e.g. Downes 2005; Siemens 2005). Several respondents cited peer support as an important part of their effective independent learning, although some preferred face-to-face contact rather than via PC/laptop/tablet/phone, etc. Thus peer learning and/or peer support need not be technology-dependent, or driven by digital or web-based applications. Moreover, face-to-face interaction with others was often sought for the purposes of reassurance, to promote or confirm the feeling that “we’re all in this together” and as a potential source of moral support. As such it need not be bound by subject, field or discipline – as this level two Modern Languages student noted:

it helps a lot when you talk to people and say, “You know what? I’m actually struggling, how are you dealing with this?” and they say, “I’ve been doing this,” or “I spend two hours in the library between my lectures so I get extra work done.” Then I would go with them and I was like, “Can you just show me how to work this?” and they’d say “Yes,” or... they’d ask me, “How do I do this?” It’s a lot of inter-relationship and the thing is that some of my friends don’t do my degree, so I have friends who do medicine, friends who do veterinary and they have different approaches to learning and things that they’ve been told that can then help me. (Year 2, Modern Languages)

Conversely, however, contact with peers occasionally appeared to inhibit learning – or at least have a slightly adverse effect on confidence levels. One level three Forensic and Analytical Science student said she sometimes didn’t feel “as efficient and clever as (others) which makes me avoid saying things sometimes as we all have very different personalities and beliefs.” But in its most effective form, peer support built both confidence and course-specific knowledge:
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 with my assignment and 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. (118, Year 3, Zoology)

Given the continuing ubiquity of the online social networking service, Facebook, its use by students was inevitable. It is possible to create and participate in specific groups on this site – which was particularly useful for this third year journalism student:

Last semester, we had a Facebook group and all of us were doing newspapers in the twentieth century, so if anyone read an interesting article, you could just put it up. Everyone was sharing... sources and stuff, and then it would help you with your own work. (153, Year 3, History)

In periods with increased levels of independent learning the frequency of contact with peers also increased, and the speed and convenience offered by digital technology facilitated this:

with my degree I just do what I need to do when I need to do it and usually it’s enough to get by. I have a group message with all my friends on my course and we... talk each other whenever there’s a deadline, so that helps really. I suppose that’s independent. We’re all in the same boot and get each other through the last few days. It definitely grew. I think there might be nine or ten people... now. We’re all on the same course so it’s good. Most of the time, it’s just a social thing but obviously when there is work to be done, we all ask each other for help. (128, Year 3, English)

Some respondents described informal group work that was well organised with clearly defined tasks and high levels of motivation. A level two midwifery student explained how she and others gathered relevant information from a range of sources and shared findings:

One of the useful ways is to form a study group and... there are six of us that work together, so often we’ll book a meeting room in the library, focus on a specific topic, and then we’ll all work together on that topic, or, for example, recently we were preparing for an exam. So, we all took a topic in revision... and then presented it back to the rest of the group and shared those resources. So we’d all... look at the evidence around a particular subject, for example gestational diabetes (and) look at the evidence base, look at the clinical guidelines, look at the local policy guidelines, looking at... UNICEF and the World Health Organisation. Bring all of that evidence base back and then share that with the rest of the group, and that’s a really helpful way of doing it. (94, Year 2, Midwifery)

One final example of peer learning that warrants mention was cited by a second year Mechatronic and Robot Engineering student. What marked this particular exemplar out was the fact that the respondent talked explicitly of teaching peers:

Doing the mathematics questions also involved me meeting up with some course friends who were struggling with grasping how to do some of the various techniques that we had learned about in the previous weeks so I found myself teaching the material to them in preparation for a test that was coming up. (107, Year 2, Engineering)

Reflecting on a specific module, this student went on to explain how the process of trying to convey meaning to others helped clarify and cement the relevant knowledge:

It's better than I expected because, yes, I thought it would be a lot of reading, but I've found it's a lot of discussion with other people. Or, sort of, teaching, in a way, other people in my year, so that I learn it better and they learn it because I'm giving a slightly different way of explaining it than a lecturer would, which is quite good... me and my friends try and arrange it where, if none of us knows certain modules, we'll each learn them. Then, teach everyone else to try and solidify the knowledge, and get the independent learning really good... teaching other people, and being taught by other people, gives a different perspective on how you could put across the same argument. I think that's been really helpful. (107, Year 2, Engineering)

In summary, peer support and peer learning constituted an important dimension of independent learning. It was not always reliant upon web-based technology, and students often met face to face. Group activity
provided a source of very generalised support (boosting an individual's morale and giving a sense of comradery and collegiality), but at other times met more specific needs, including the discussion of dissertation topics, etc.

**Issues arising**

Students found experienced independent learning to be more risky if they were not sure what to do. They overcame this challenge in a number of ways, but staff could try to develop students’ capacity to undertake independent learning by:

- providing a time or online mechanism for clarification about the activity;
- providing or directing students to support to develop a wider range of learning tools and developing confidence that they are doing the right thing;
- encouraging or facilitating peer networking and support.

**Student-related challenges to independent learning**

Throughout the diaries and interviews, students spoke about their personal struggles to learn independently. Their trials and tribulations were recurrent topics in the transcripts. This section sets out the more prominent issues here.

Students face a range of motivational and capability challenges and resourcing issues, common to all disciplines. The key issues are motivation (connected to interest and perceived relevance); insufficient time, which may be a manifestation of ineffective IL skills; and specific challenges. They also identified resource issues, which, again are across all discipline types.

**Problems of procrastination**

Procrastination is a recognised problem for students in higher education (see e.g. Sommer 1990), and can become tightly entwined with difficulties managing time, sustaining levels of motivation, and organising workloads. Students from across discipline areas identified these as some of their biggest and most enduring challenges:

I think my problem with it would be I’d spend more time on the diary than I would actually doing the work, and I’d use it as something to procrastinate on... One of my friends has made a big list... and she said she made it so she didn’t have to start the work yet, because if she made that it was doing something else instead of working, but it feels like you’re doing some work.

(60, Year 1, Civil Engineering)

As always, self-motivation is hard to maintain when learning independently. I found it hard to stick to a direct time schedule because if you don’t meet that – no one else cares. I overcome this by trying to write a note of what I needed to accomplish on each day in terms on learning on my computer and this helped. (80, Year 4, Marketing)

Students tended to lack motivation, not only when the task was difficult, but also when they had little sense of discovery, or when a task and, or, subject area was felt to be irrelevant:

I think the main reason I find university so difficult is because I find my course so irrelevant… I’ve done summer placements before where I worked for 11 weeks... at an office... and I loved it. I wasn’t even getting paid for it! But I learnt so much and even the chief design engineers commented on how little of what he learned in uni was actually applied in his career. I love the student lifestyle and independence but my course is for the most part so dry and I’m supposed to be learning about one of the most exciting subjects known to man: ENGINEERING! (152, Year 3, Mechanical Engineering)

Addressing these difficulties required both resolve and ingenuity, and respondents discussed several tactics they themselves had developed. One level three student gave equal weighting to each particular task, to ensure the less palatable jobs did not get neglected:
I [try] spending equal time on everything. Some things, like... communication studies, I’ll try and rush it. I'll think I’ve done an hour, and then I'll do four hours on something I like. I need to treat it equally because the stuff I don't like isn’t going to go away. (44, Year 3, English)

Tackling multiple assignments and essays also tested respondents’ resolve and time management skills. A Zoology undergraduate favoured a staggered approach:

when I started my assignments I used to just do a bit of this one, a bit of that one... but now I try and always have them so I've got one in the starting phase, one in the... main writing phase and one in the polishing and editing bit so I've always got... them in stages, which I find... more helpful than trying to do all the research for three assignments at once and then all the writing. (67, Year 3 Zoology)

This student also pointed to the importance of keeping track of all those potentially slippery bibliographical details when embarking on essay-based projects:

...everyone else in my group leaves it until last and they spend hours doing it and they often can’t find the references – doing my reference list as I go ... is a bit easier.

**Tackling volume and juggling tasks**

Diary entries revealed that many students felt overwhelmed by the sheer weight of work they were faced with. This was particularly true for those with other responsibilities, such as children and employment:

It’s trying to juggle my personal life and my schoolwork... if I didn’t have kids... I’d be ace at this, not to big myself up... I know a lot of the marks that I’ve got back which haven’t been so impressive are because I ran out of time... So yes, it really disappoints, it’s such a let down for me because I know that if I had the time, I know it would have been an 85%, nearly 95% assignment. (124, Year 2, Education and Media)

These and related comments raised the question of whether students would have felt more capable of tackling their workloads when learning independently if they had had the opportunity to acquire relevant, usable skills (see Developing knowledge of appropriate learning tools, page 28). The student cited below wanted guidance with what to read, but it was evident that her reading could have been more efficient had she known how to read (e.g. how to identify the relevant sections, when to skim, when to read in detail, etc.):

I found the sheer volume of reading difficult. I found this challenging because on one day I was reading for five hours and it was very hard to pay attention to the texts for such a long period of time. Academic reading is challenging as the language used is complex and sometimes I have to look up the words they use because I don’t understand the sentence if I don't understand one of the words... It would also have helped if I had gotten some more guidance about what to read, as if I know the article is relevant to what I am going to be writing about in my essay, I find it much easier to put the time into reading the text. (144, Year 4, English and Modern Languages)

The problem of volume – not knowing how to gauge relevance of material, and lacking academically orientated reading skills are issues that cut across the disciplines – afflicted respondents from all subject areas:

It was quite difficult because there are lots of texts to read. I am not sure which ones are more useful than the others. At last I have to read them all before deciding on picking the right ones. Perhaps I should just ask my supervisor instead of getting lost on the Internet. (59, Year 3, Civil engineering)

The potential irony in seeking support and guidance in order to survive without support and guidance did not go entirely unnoticed by one third-year interviewee (cf. Sect. 3.8.1):

I had not managed my time well beforehand... Staff could have set targets for when we should have completed each part of the assignment to help keep me on track, however, I could have done this myself. (121, Year 3, Management)

Pinch points in the academic calendar witnessed severe increases in stress levels, and as one diarist commented, obstacles to completion sometimes seemed insurmountable:
Some difficulties I faced this week with my independent learning was that of time and prioritising time to important things. This semester I have four classes, five assignments to complete and one dissertation. For me this is overwhelming and trying to decide where to start with my studying is difficult at times because although I know my dissertation is important and should be prioritised, I also have to start my assignments. (12, Year 3, English)

One final remark in this subsection will illustrate just how inundated a student can feel when confronted by an imposing workload:

I’m just so over rammed with work. I’m so under pressure I just cry, you know? My children have actually seen me cry a few times over the stress of work ... So yes, it’s really, really hard. (124, Year 2, Education and Media)

Academic skills for academic material

While the challenges discussed above linked to quantity of work, problems also arose in relation to the more qualitative elements of study. For example, academic language could appear needlessly esoteric and prove overly difficult to ‘decode’:

...if you’re looking at a paper, and sometimes they’re just written so complicated, like, even just the title can just put you off, and you can, like, you would be able to understand what they did, but they’ve just written it in a way that, it’s almost like they didn’t want you to understand. Yes, just like, when it’s just a bit complex like that. (135, Year 3, Zoology)

The following diary extract noted how hard it was to interpret and understand the basic content of a particular document:

The most difficult part of the independent learning this week was tackling an activity which I felt hopelessly out of my depth on, with no assistance from anyone but the Internet. I felt it was very difficult not having a lecturer to break down the fundamentals of an annual report as this would have prepared me better for what was about to come. (83, Year 3, Management)

The potentially ‘slippery’ nature of much academic knowledge presented its own unique challenges. Some respondents were more used to occupying epistemologically firmer ground, and did not always cope well with grey areas, a lack of black and white factuality, and the notion that, ultimately, it might be necessary to settle for the most compelling argument:

Everything is subjective, so even if you’re arguing in favour of something you’re not really sure... there’s no good or bad thing. It’s very subjective. Even when you actually think, “Okay, I think this is a good essay,” for example, and then you get your feedback and it wasn’t that good. (75, Year 2, Politics)

Such ambiguity afflicted students in ‘harder,’ more scientific subjects as well – indeed, this was commented on more by students in the sciences, who perhaps expected more certainty than students in ‘softer’ subject areas:

Sometimes there isn’t a right or wrong answer because it’s science, so... you can use... can say this therapy would be good for this patient because of this and this and this but you can also say that about many other things as well so you... have to use your judgement. (53, Year 2, Pharmacy)

None of the above should be taken to suggest that respondents singularly failed to receive effective academic support, however.

I am developing a more methodical approach of note taking as I go along instead of just reading and forgetting where I read it! One lecturer in particular has taken time after class to discuss my ideas further and guide me towards a coherent idea. (49, Year 2, English and History)

Online tutorials were also cited as a valuable source of help:
The most difficult part was getting the programming language correct in both C++ and in Matlab. It was difficult as both of these will not work if there is an error but does not say what the error is and Matlab requires checking through the entire code. These difficulties were overcome by looking at the various online tutorial pages. (107, Year 2, Engineering)

**Systemic factors and resource issues**

Transcript and diary content pinpointed several ‘systemic’ and resource related issues that had a negative impact on independent learning. These included bunched deadlines, limited learning resources and restricted access to facilities.

Because assessment is so crucial to the ways in which students learn independently (see Independent learning was informed by students’ views of its purpose, page 20 and Effective practice and assessment, page 37), it is not surprising that closely clustered deadlines created problems. These difficulties were compounded for those with other commitments and responsibilities:

> It has... been massively difficult because I have multiple assignments to do (four to complete before April) and will be stuck at the aquarium for 10 days running! Sometimes I don't know how the teachers expect all this from us, in fact I'm almost 100% certain these types of courses are designed for people with no children and a really free/available lifestyle. (124, Year 2, Education and Media)

Students mentioned limited access to a number of learning resources that hindered study. In one institution a lack of access to journal articles was cited:

> Unfortunately my university seems to not have the same scope of access to journals as others and often I... have to ask friends at other universities to access them for me. (15, Year 3, Psychology and Forensic Science)

Barriers were also encountered when attempting to use specific facilities, such as computing and printing resources, and labs:

> The only bad thing about doing this research project is as I have to do it in a lab, I am only allowed in their under supervision so therefore access to the lab is restricted and I often have to work my time around lecturers or technicians. (122, Year 2, Veterinary Medicine)

**Issues for consideration in relation to motivational and capability challenges and resourcing issues**

The following issues were identified:

> issues of motivation and capability could be tackled at the discipline or programme level through curriculum design, pedagogy and development of a more effective independent learning ‘toolkit’ for students;
> students appreciated and engaged more with tasks which were relevant to the real world and their future aspirations, but the relevance needs to be made more explicit to students;
> equally students need to be empowered to become effective learners in their disciplines. Sometimes students do not have the appropriate skills for independent learning tasks, and so they could be encouraged to develop the skills and experiment with different approaches to independent learning. Students could be encouraged to develop a set of independent learning tools that they can pick and choose from to best achieve their learning tasks;
> sometimes students expect independent learning to be easier than it is – it may therefore be necessary to help students to think about their activity differently. For example, subjectivity or ambiguity is to be embraced not overcome, and programming is a process of trial and error for professional programmers and getting it wrong is the norm. In other words, some of these challenges are common to all or many students, but are only perceived as challenges by some students; other issues are integral to either study in higher education in general, or to the study of a particular discipline in higher education, and should be accepted rather than viewed as problematic. The process and norms of learning in higher education should be discussed with students from a disciplinary perspective, and be transparent and shared, rather than internalized and individualized.
Problems with independent learning tasks

Students from across disciplines encountered task-specific problems. Among the more prominent were those relating to group work, the desire for greater clarity, and the perception that some independent learning tasks lacked relevance.

Group independent learning

On the whole, students found their peers provided a valuable source of guidance when learning independently (see The role of peers in independent learning, page 29 and Strategies for developing effective independent learning skills, page 39). However, some aspects of group independent learning created dissatisfaction and frustration, especially when the group was assessed collectively and a ‘weak link’ (i.e. less motivated student) was detected.

Some issues were more organisational or practical, for example, contacting colleagues and finalising meeting arrangements:

Getting hold of people fast when I needed to. I sent a general message to the group and only had one reply, and then texted the other members as I needed to urgently send an e-mail and eventually got a response. This was difficult because I felt like I could have been doing other work while I was waiting for people to reply. (131, Year 3, Forensic and Analytical Science)

The difficulty was contacting people, but the frustrations felt related more squarely to the time expended on this activity at the expense of other tasks. Other common concerns were linked to the process of group working itself. A range of frustrations were cited. This student, like others, felt that the workload was unequally shared, but she also recognized how she had learnt to work in a team:

Sadly, my group were a bit rubbish and I ended up doing all the prep work and was the only one really prepared for the lab. I learnt how to work better in a team and I also learnt more about fluid behaviour than I’ve learnt in several weeks of lectures. (95, Year 2, Civil Engineering)

Group dynamics presented other problems too, though balance was eventually restored:

I felt frustrated during the string quartet rehearsal on Tuesday because I felt that we needed a tutor to act as a voice of authority and also advise us on what we were disagreeing on ... We did not overcome the difficulties until our next rehearsal last Friday when the particular person was a lot easier to work with – she considered our ideas rather than just disagreeing with them and she was helpful with other sections of the music. (34, Year 4, Music)

Students sought clarity and guidance

Students were anxious they would waste time collecting or studying material that lacked immediate relevance (see Students found it easier to learn independently if they knew what to do, page 28). This was felt to be exacerbated by poorly designed tasks, vague instructions, and ambiguous assignments:

I didn't have much information to start my report on. I feel like my teacher does not know what he is really doing. The information and guidelines he has made for the report are not suitable for the context we have to use them in. (53, Year 2, Pharmacy)

These concerns were magnified when tasks were formally assessed (and students tended to become preoccupied with grades), and, or, when guidance was difficult to obtain:

...if there are no criteria of what you’re getting marked on, it becomes increasingly difficult to be able to learn effectively, to get good grades. Because people do want to learn, but also, their priority at university is to get a good grade. So people would rather know how to get a 2:1 than independently learn and learn a lot, but actually, when they get their results back, they've failed it. (80, Year 4, Marketing)

The assignment only came out a week ahead of time and the teachers kept on getting confused and telling us the wrong information. I found this very stressful and tried to just ask a lot of questions until things became clearer. The hard thing was when working on it at home and not being able to ask somebody and being afraid of doing it wrong. (150, Year 4, Modern Languages)
Anxieties were also linked to the sheer volume of material to be covered, compounding difficulties stemming from a perceived lack of clarity vis-a-vis assessment aims, etc. Some respondents thus spoke of feeling overwhelmed by lengthy reading lists and the revered job of revision:

Writing the palaeobiology essay has been hardest because we were given little direction on what was required from the essay – we were simply given a selection of titles. There is also a lot of reading to do, stretching back as far as the 1800s! I would have liked a little more direction as to what is wanted. I have just tried to write the essay in a logical way that is interesting and critical of scientific methods. (29, Year 3, Earth Science)

I think sometimes I struggle with revision because it’s so broad and it’s a bit daunting, and sometimes I feel like I’m not sure if what I’m doing is very effective and quite what I should be doing. (121, Year 3, Management)

The biggest challenge associated with not being sure of what was required in an independent learning task linked to how to find guidance. Some consulted core texts books, talked to course-mates or approached academic staff:

Sometimes you can look at a textbook and read something over and over again and it still doesn’t make sense, and in that situation I think I’d have to go and speak to a lecturer, or that would be the kind of thing I’d bring up in the problem-based learning session. Or I’d speak to friends about it. (158, Year 2, Midwifery)

Students from across the discipline areas and within all years of study lamented the lack of instant access to academic support when difficulties were encountered:

The most difficult thing about independent learning is that when you have a question about any difficulties arising as your trying to work on a report, is that there is no one there to ask for help, you either have to email the tutor, or wait for a seminar or lecture. (73, Year 1, Psychology and Counselling)

In the absence of timely (i.e. early) guidance some respondents noted how their independent learning had headed off in the wrong direction, and remained on an erroneous route:

Without the direction of a teacher you can also end up making mistakes and following the through to the end of a long question, wasting so much time and often disheartening you from continuing with the work. (152, Year 3, Mechanical Engineering)

Because previous educational experience tended to equate with more or less continual steering and signage, some found the solo navigation of independent learning too challenging:

The most difficult part of independent learning was not receiving constant feedback throughout the task. Throughout our academic lives we have become accustomed to having a figurehead such as a teacher, parent or friend who we could turn to immediately if we had a query or a problem with the work we were doing. By not having a figurehead this time it made the task more difficult as we had no one to tell us that we were going down the wrong path and were not following the requirements of the task at hand. (83, Year 3, Management)

Paucity of feedback was also cited as an example of where guidance was lacking. Some spoke of how hard it was to catch the ear of staff members, and the ways in which completed assignments were returned without helpful comments or pointers on how to remedy mistakes:

The only feedback we get is through tutorial sessions, and this is basically where you have questions that they set you... They're often quite popular, for example, a lot of people might go to one session, so it's quite hard to get everything out of the lecturer that you need... Some assignments give you feedback, not all. Some just give you, like, a mark out of 100, a percentage. A few, very few assignments give you feedback. Which is quite annoying. (152, Year 3, Mechanical Engineering)

Relevance and usefulness of task

As noted above and in previous research (see e.g. Thomas et al. 2015) some students’ preference was for meaningful tasks relevant to career aspirations and ‘real world’ situations. Boud and Falchikov (2006) argue that students should engage with authentic assessment practices that are situated within relevant
communities of practice, and offer a set of ‘illustrations’ for ‘sustainable’ assessment that help prepare students for uncertain futures.

The following quote explains how certain learning tasks were felt to have only esoteric, academic relevance, and although not against theoretical, abstract content per se, some students needed to be reminded of its role within a professional context (and/or their lives):

I think at the beginning of every lecture at the beginning of term, they need to say, “We’re teaching you this because you can apply this in the future”… Also, I think theory needs to be enforced, definitely, because it’s an academic thing, but I think it needs to be backed up for some reality… It’s difficult to independently learn something that you can’t relate back. (80, Year 4, Marketing)

Respondents’ diaries were peppered with suggestions of how to make independent learning tasks more relevant, with references to activities held to be particularly rewarding because of their applied nature:

when I was on community placement, if I asked my mentor something, she’d say, “I’ll tell you what, you go off tonight, do a bit of research, come back and tell me about it tomorrow and then we’ll talk about it.” Then we’ll talk about it the next day and I’d researched up on the basics and then she’d, kind of, go over it with me and about what would we do in that situation and why. (32, Year 1, Midwifery)

While it may be easier to show ‘real world’ relevance in some of the more vocationally orientated subjects, applied activities can be developed across a range of discipline areas (see e.g. Jones 2015), for example:

I find doing the exercise and solving the practical questions is most useful. It helps me go beyond the theory and concepts and understand them better by practice. It is also an excellent way to check my blind spots in learned knowledge. (41, Year 1, Politics)

Issues for consideration relating to problems with independent learning tasks

Addressing common challenges at the task level may help to improve equity, as all students are assisted. Staff could consider:

> the role of formal (as opposed to informal) group learning, and how it can be facilitated and supported;
> a review of their independent learning tasks, to check for clarity, and providing students with the opportunity to ask questions and clarify meaning;
> making tasks as relevant and useful as possible, to meet the interests of all students.

Effective practice and assessment

The students interviewed (and who completed learning diaries) identified various approaches, skills and techniques that helped them to develop effective forms of independent learning. These tended not to vary by discipline types and were far more likely to differ in relation to assessment formats. Some respondents focused on the issue of time management, while others identified their preferred kinds of independent learning for a particular form of assessment (how best to revise for exams, or gather and assess information for essays, etc.). The question of whether to learn alone or in groups also emerged. On the one hand were the lone scholars, silent in splendid isolation, ensconced within their musty study carrels. On the other, the more gregarious types who met to compare notes, buoy each other at the prospect of fast-approaching finals, and share another round of vending machine caffeine.

Suffice to say there was a measure of subjectivity in all this. What worked for one proved much less useful for another, and one student’s effective practice was another’s recipe for failure. But what was perhaps most striking was the somewhat underdeveloped nature of students’ understanding of approaches to learning independently, and the methods employed. On reading the interview transcripts and diary entries the feeling was often that undergraduates struggled continuously with the task of independent learning. Moreover, students’ approaches seemed to have developed piecemeal, by personal trial and error, in a largely uninformed way. Some appeared simplistic and not entirely fit for purpose when used in the context of HE. There were few if any references to receiving formal advice and guidance on academic skills development. To reiterate – these findings could not be seen to differ by discipline type.
Effective independent learning and assessment type

Students were most concerned with how best to retain information. There was scant mention of their preferred methods of identifying, collecting and collating relevant material for assignments and essays, for example, or how they extended, broadened and deepened their course-specific stocks of knowledge.

In certain key ways, it is axiomatic that different forms of assessment give rise to contrasting approaches to learning – put simply, revising for exams will usually entail separate techniques and methods to those used in the preparation and drafting of an essay or dissertation. One interviewee described the assessment-specific kinds of independent learning that had proved most effective for them:

For exams, I print off everything we’ve learnt on Moodle... and I write, I just keep writing it out and repeating myself all the different aspects that we’ve done in the module, throughout the year but with assignments, I usually do it over a long period of time whereas with exams, I cram it all and I find that’s really helpful... It’s weird because sometimes I’ve got a photographic memory, like, if we have an exam question and I’ve written out, sorry, an essay question, and I’ve written out what I want to say in the essay question, I can just remember it word for word. (124, Year 2, Education and Media)

But as they proceeded to note, with some candour, “test me a week later and it’s all gone.” Such are the limitations of “cramming” (see e.g. Sommer 1990). For others, effective exam revision techniques involved translating relevant information into forms that proved more memorable than mere text, for example, colour-coding material, which rendered it more visible, more prominent, and enhanced its conspicuity:

From my previous three years at university, drawing up colourful posters is the best way for me to revise – I have to recall the information to write the poster and then test myself twice a day for about three weeks leading up to the exam. I would generally have about six or seven A3 posters per module. I’ve always made revision posters and they were everywhere, huge posters all in bright colours, colour-coded... I think for some modules I did say ten posters and they were huge, especially for the last year, we had to remember references and examples of animal behaviour. (125, Year 4, Zoology)

Flashcards and mind maps provided additional ways to reformat material that rendered it easier to absorb and memorise. Regarding the former, one student explained how this method had helped in a linguistics course:

They taught us phonetics and I knew that long term I didn't feel I’d remember these terms so I did a bit of study on them so I knew the basic words... and the night before I did flash study. I aced the exam so I must have done something right. (21, Year 1, English and Modern Languages)

The aim for these visually orientated learners was to transform academic material and make it more visually appealing. They sought to create eye-catching media that would bear repeated consumption. Moreover, this repetition lent learning a ludic quality – that is, the chance to make memorising into something resembling a game:

because I’m more of a visual learner... when I read stuff like when I’m doing my independent research and it’s just a wall of text, I try to change it in my head so it’s just like pictures (and) it’s... easier to understand... After you read a while, it gets slightly boring. I also use flashcards and pretend it’s a game. (30, Year 2, Pharmacy)

A second visualisation/organisation technique used was that of mind maps. Put simply, this is a way of transposing information to a diagrammatic form that usually involves placing a key concept or term at the centre of the page, and then surrounding it with related keywords, perhaps joined with lines or arrows, etc. For one student the attraction of mind-mapped information was that it took on a more free-form, messier (and thus more accessible) appearance than the dreaded ‘wall of text’:
I’ll take a lecture from a module and I’ll give myself an A3 piece of paper. I’ve got to put everything important from that lecture ... on one side of my desk and I’ve got to condense all that into a mind map. Then you draw all the connections and the lines. I find that really helpful... It’s just how I work... it doesn’t have to be ordered is the nice thing about a mind map. I always feel notes have to be really structured and ordered. A mind map can be a little bit crazier and then you can draw big arrows connecting things. It helps me visualise all that. It makes you realise what you think are the really important bits and what are the supplementary bits. (45, Year 2, Geology)

**Developing deep learning skills**

Students struggled to answer questions about effective practice. They were often not clear about what worked for them, and found it difficult to articulate specific practices or techniques:

I don’t really know what’s helped me the most, I guess I’ve always just got on and done it, maybe the times that I have been encouraged to do certain things, like doing research before a lecture so I’ve got a better understanding. I think when I’ve actually done it and then I’ve seen for myself how useful it is because I’ve actually understood that lecture much faster than anyone else around me. I’ve been able to ask questions which, if I hadn’t done the research I wouldn’t have been able to think about until way after the lecture, when I wouldn’t have contact time with the lecturer to ask those questions. So I think it’s been useful when I’ve been encouraged to go away and do certain things. (118, Year 3, Zoology)

There were few if any references to receiving formalised guidance on, for example, essay writing, revising, net searching, etc. Consequently, students’ often developed rather tentative, piecemeal, approaches, which proved somewhat fallible when used in HE:

Learning about learning and meta-learning. I think it comes down to trial and error, because you can Google methods for learning and you’d get a million different responses. I remember in first year, I once spent about 35 hours in the library on an assignment, spread over a few days, which is something I would never do now because actually, the time I spent staring at my laptop didn’t actually help me. I read quite a few books, as well, about how to study effectively, but I don’t think it’s something you can read about, looking at it. (15, Year 3, Psychology and Forensic Science)

More specifically, and regardless of discipline areas, students often did not seem to have acquired an obviously ‘higher’ (i.e. deeper) form of learning skills and were sometimes too reliant on the kinds of independent learning approaches used at school and college. That said, if the form of assessment warranted it, the question arose as to why such approaches to learning and studying were inappropriate for the task at hand. After all, if students had acquired effective ways of revising for exams prior to entering HE they were understandably (and justifiably) reluctant to abandon its use when working towards their degree. For these and related reasons, assessment type should be taken into account when gauging and, or, discussing the potential effectiveness of a given approach to learning independently; be it surface or deep. In short, strategic learning is not necessarily ineffectual learning.

**Issues for consideration regarding students’ examples of effective practice**

The following considerations were identified:

> students would benefit from being supported to develop their independent learning skills, and to appreciate that there are different skills that can be used for the same task (e.g. revision skills) and for different tasks;

> in particular, staff could consider how they develop students’ capacity for deep learning, and how best to undertake independent learning tasks specific to higher education;

> developing students’ capacity could be undertaken in partnership with professional service staff.

**Strategies for developing effective independent learning skills**

When asked what would help them become more effective independent learners, some respondents tended to focus on how their tasks could be made easier. Because they were rarely driven by curiosity, nor able to express an appreciation of study as something to be pursued for its own sake, their relatively narrow,
instrumentalist attitudes could lead to frustration, anxiety and a preoccupation with how to complete work quickly. Several respondents did, however, offer thoughtful suggestions that could help prepare and support students to learn independently.

**Pre-entry preparation in schools and colleges**

Students did not always appear to understand why it was neither appropriate, nor possible, for independent learning in HE to be more like school (e.g. more explicitly structured and/or focused on summative assessment):

- If they set more homework then we would have to do it so I would probably... do more. (57, Year 1, Engineering and Chemistry)
- More information from the teaching staff... they could be more precise... about what we’re reading. Like, “Read this exactly. We’re going to talk about this topic today.” (75, Year 2, Politics)
- Having... a more structured way of doing it, focusing on this... one week and this [the] next week and having the assignment deadlines which would allow me to do that. (118, Year 3, Zoology)

The implicit difficulty here is how to provide more support without creating increased dependency. The provision (and gradual removal) of the appropriate learning-to-learn ‘scaffolding’ requires careful timing, focusing inevitably on year one activity, and is something that many lecturers have sought to address but which has its roots in environments over which they can exercise little influence – namely schools and colleges. Until the internalising of overtly instrumentalist approaches to learning are addressed in those environments they will prove difficult to tackle further up the chain.

**Informal peer learning and peer support**

Respondents cited other students as important sources of support and guidance in relation to independent learning, and also pointed to the role of friends and family (through face-to-face contact and via online networks):

- If I was a bit unsure... I would go on Facebook and talk to other people. (73, Year 1, Psychology and Counselling)

Informal, non-assessed peer-to-peer learning was identified as a particularly important source of support, and one respondent commented that older students on his course provided some highly effective guidance:

- Speaking to people who’d actually done it before... a lot of them were students around my age, a year or two older, because it was quite current and they’d done it themselves and you knew that what they were telling you was genuinely how they’d felt. (83, Year 3, Management)

Finding and approaching these students was not easy, however, and one student wondered whether staff could facilitate contact:

- I think that they could arrange meetings with people who have been through it. Get the fourth years in and say, “what did you do in second year?” or, “How did you cope with this?” I think someone who’s been there... and done well, their advice would be invaluable... I won’t go up to them myself and say, “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. (152, Year 3, Mechanical Engineering)

**Mentoring by higher year students**

In response to the finding that students learnt about independent learning from their peers, participants at the student workshops made two key proposals:

- > mentor/advisor roles for higher year students;
- > peer study groups (in and outside class).

Such schemes could furnish students with valuable information on how to learn independently. It should also be noted that peer learning has an established literature base (see e.g. Keenan 2014), and that, to ensure all students benefit, activity should take place in timetabled periods, with staff providing co-ordination where appropriate (Kutnick, Blatchford, and Baines 2002). Assessment of activity is not recommended as it may hinder the creation of supportive group dynamics.
Workshop participants also felt that the transition from pre-entry 'high dependency' learning to HE independent learning could be eased for level one students. They proposed information days (to be held, ideally, at schools and colleges) in which ‘student ambassadors’ could meet directly with potential entrants and address the issue of independent learning at the higher level.

The Compendium of Effective Practice in Directed Independent Learning (Jones 2015) contains a wide range of examples of ways in which to embed peer learning and peer mentoring into programmes and modules. See Matthewman and Nowlan’s use of ‘reciprocal peer coaching’ in Business Studies (pp. 26–9; also Ashgar 2010); Goold’s use of ‘peer learning’ in Electrical Engineering (pp. 133–7); Watt’s use of ‘student-led teaching’ in Psychology (pp. 97–9); and Johnson’s example of a cross-year, same-discipline peer mentoring scheme led by central services to develop academic writing, maths and study skills (pp. 100–101).

Issues to consider when developing effective practice

There are issues throughout this study that could be addressed to improve independent learning. Students, however, tended to focus on the value of learning from peers. It is therefore worth considering the question – how can learning about independent learning from peers be increased, both pre-entry and post-entry?
Discussion, implications and recommendations

At present, literature relating to independent learning tends to focus on academic perspectives and practices and the student context remains comparatively neglected. This study has sought to address the latter by conducting research that puts students centre stage.

The findings from this study identify widely shared feelings of uncertainty on the part of respondents. These link to various aspects of independent learning, and suggest a requirement for greater guidance and support and this in turn points to the importance of “directed independent learning” explored in Thomas et al. 2015.

Discussion

At the outset the research team decided to employ a primarily empirical, ‘grounded’ style of inquiry. The study’s design was structured around questions contained in the invitation to tender. Once completed diaries were returned, and as the content of interview transcripts came to light, the potential relevance of the distinction between surface and deep learning (see e.g. Marton and Saljo 1976) grew. At the risk of over simplification, it could be argued that the primary difference between the two relates to what the learner perceives the main purpose of learning to be. Those whose main aim is to pass the test (‘make the grade’) can be said to be surface learners, whereas those who sought underlying meanings, and the potential for wider applicability, learn more deeply.

As noted above, the current study asked students to explain how they had approached their independent learning each week. Sometimes they focused on memorizing and consolidating information in order to tackle pending assessment. They were also concerned with managing workloads and spoke of the need for clear instructions and transparent marking schemes. When undertaking activity to extend their knowledge they emphasised the need for guidance on how to identify and appraise relevant material. It was not always easy to classify respondents’ activities using the surface/deep dichotomy, and consensus among the research team was not always reached. Nevertheless, the dominant view was that such activity fitted most snugly into surface approaches to learning.

At other times, responses were indicative of students’ keenly held interest in their chosen field, which sustained them and was not restricted to passing assessments. Also, in those cases where respondents were studying for a professional qualification, there was evidence of motivation that went beyond career aims.

It is also important to note that students were not always consistent and displayed surface and deep approaches at different times, and were motivated by different goals. Assessment type was a key factor here because some tasks such as learning a language, a piece of music, or mathematical formulae may be better suited to comparatively shallow, ‘surface’ activity. Conversely there were times when the task, such as an open-ended project, or a dissertation, required (and received) high-level cognitive skills (e.g. analysis, synthesis, critical thinking, reflection, decision making, etc.) more in keeping with deep learning. However, students may encounter problems when tasks and techniques are mismatched.

It is only with experience and support that such errors can be avoided and, as research on the transition to higher education has shown, entrants can experience an ‘academic culture shock’ (Quinn et al. 2005) if they underestimate the difference between previous learning activity and the work they will undertake as undergraduates. This will entail shouldering more responsibility for organising and structuring learning time (UCAS 2002; Forsyth and Furlong 2003; Quinn et al. 2005; Teesside Retention Team 2005), not to mention the honing of academic writing skills, etc. (Bingham and O’Hara 2007 Murphy; Fleming 2000). It is true that in the absence of appropriate induction students may fail to become effective learners, but support and guidance should be ongoing. Some students can all too easily experience independent learning as isolated learning – particularly if they are first generation entrants with no familial tradition or experience of higher education.

Implications and recommendations

The findings in this study have immediate practical implications for programme teams, pre-entry institutions, students and student organisations. The findings should also inform academic development and quality enhancement at institutional and sector levels.
Students and students’ unions

Throughout this study, students expressed their views and experiences of independent learning openly and candidly. Some even wrote in their diaries that the research study had caused them to reflect on their approaches and that they had become ‘better’ independent learners as a result. Although students struggled to understand what was meant by learning independently and how much of it they should be doing, such challenges may constitute an important aspect of achieving greater autonomy. This is the potential irony of providing support for independent learning. Nor should the centrality of motivation be understated. A degree programme is a lengthy undertaking and if embarked upon without careful reflection, serious difficulties can arise. Sometimes interest in a chosen field, and, or, genuine curiosity, may be the sole source of motivation. Students should find out as much as possible about independent learning in their discipline from academics, professional staff, students and relevant websites and course materials, etc. This should include developing an understanding of how independent learning is different in higher education compared to school, why it is undertaken, and how to acquire appropriate skills and strategies. Once in higher education students should take advantage of the opportunities to develop expertise in becoming an independent learner, and experiment with different approaches.

While students recognized they had to take this necessary step, some would rather the steps were made easier and that they were not alone when taking them. In spite of, and perhaps because of this challenge, students also realized the power of other students in learning how to be an independent learner. In particular, students expressed a desire to find out about independent learning in their disciplines from their peers – or those who had recently completed modules and programmes they were studying. The implications for students’ unions, in particular therefore, is to harness this powerful resource and channel it into schemes, developments, and resources to help fellow students take these steps towards effective independent learning early in their university lives. Student organisations should work in partnership with academic staff and professional staff to help demystify and clarify independent learning. Student organisations can also promote learning from students in other levels of study.

Programme/discipline teams

The study revealed that students were not always aware of how many hours of independent learning were required – and, more importantly, how this time should be spent. Without this information, students may fill their time and be busy, yet still fail to become effective independent learners. Academic departments and programme teams should, therefore, consider how cohorts of students are inducted into a shared understanding of independent learning in their academic field, how students are supported and enabled to develop the appropriate skills, and how their individual development is facilitated and managed. Students revealed how they feel that much of the early information regarding independent learning from staff is ineffective, and they have shown a preference to learning from peers studying at a higher level. Building this type of peer support into academic programmes within the context of the discipline and related professional practice/bodies would mean that all students could benefit. Furthermore, if this type of support were developed with students’ unions and the student voice system, it would be more likely to meet students’ needs and increase satisfaction and participation.

This study has also highlighted the need for clear task briefs and criteria, academically challenging, relevant and stimulating opportunities, and some form of scaffolding to enable students to develop the skills necessary for higher level complex tasks. This has implications for formative and summative assessment and independent learning activities across programmes and modules.

Overall, academic departments and programme teams need to ensure they have a shared view of independent learning in their field. This may require discussion and debate about how independent learning in their area differs from school, why it is undertaken, what academic skills are necessary and learning tools or techniques that may be helpful. Once developed this should be communicated widely, and inform curriculum design, pedagogy and student support.

More specifically, programme teams need to review the range of tasks they set to ensure that they are at an appropriate level of complexity, that they are sufficiently varied, and that they are stimulating, relevant, evenly spaced and well scaffolded. Scaffolding might include in-class and online opportunities for students to discuss what the task requires them to do, identifying questions and concerns, and thinking about the skills, techniques and knowledge that might be required and where they can get support with these things. For example, Cousin and Cureton (2012) provide a framework for accessible and comprehensible assignment.
briefs. Student involvement in such a review would enhance the likelihood of effectiveness, as would partnership working with professional services.

A checklist of questions such a review might include:

> **Pre-entry**: How is understanding about independent learning communicated to students prior to entry? Who are the best ambassadors to promote the key messages about what independent learning involves and why it is undertaken?

> **Induction**: Are there clear and consistent messages about independent learning communicated to students across the programme of study or academic department? Do students recognise the difference between learning in HE and school/college?

> **Academic skills development**: What are the academic skills required and what additional learning tools or techniques may be helpful to students in your academic field and programme of study? How are students encouraged to experiment with alternative learning tools and approaches? How do you monitor the development of independent learning among individuals and the cohort?

> **Assessment**: How does the current assessment strategy across the academic programme affect students’ motivation, study priorities and types of independent learning task undertaken? How can the assessment strategy across the programme be altered to promote the desired kinds of independent learning? Are there opportunities for students to discuss and understand assignment briefs? Are deadlines adequate spaced?

> **Task design**: Are independent learning tasks well designed to provide clarity of what is required? Do they assist students to use appropriate learning tools? Are opportunities for clarification and support built into the task design? Are tasks relevant and engaging?

> **Support**: What support is available to students prior to starting independent learning tasks, during the task and afterwards? Is support provided to all students through the curriculum? Are students directed towards appropriate online and peer support? Are students encouraged to experiment with different learning approaches?

> **Transition between levels**: To what extent does independent learning change over time? Is there consistency between teaching staff across different levels or parts of the programme? Is there an ongoing process of induction to support students’ transition between different levels of study? Does your programme develop students into effective independent learners?

> **Management and consistency**: Is the development of students as confident and effective independent learners planned and managed? Is their progress monitored? Is there consistency across the programme?

**Pre-entry institutions**

In this study, students compared their experience of independent learning at school and college with that of their first year experience in HE. The overall view was that their pre-entry experience did not adequately prepare them for being independent (making their own decisions, planning their workload), nor for deep learning. The emphasis had been on getting the best grades possible. Unfortunately that meant that students were more accustomed to surface approaches to learning than deep approaches. They had also become accustomed to frequent and personal support and feedback which they missed when in HE. While they were aware that HE would be different, they still felt under-prepared for what was expected of them. As mentioned above, this was partly due to the ways in which information at induction, etc. had been presented. However, it also implies that more could be done in the final years of school and college. Suggestions included greater use of open-ended projects such as mini dissertations in which pre-entry students could experience the sort of independent learning required in HE. Ideally, schools and colleges should play a key role in preparing students for independent learning in higher education. However, this may be in tension with their priority of helping students to maximise their assessment outcomes.

Recommendations include:

> **HE student ambassadors running or participating in awareness-raising sessions in pre-entry institution recruitment and information sessions.** This might include debating and providing clarity about how independent learning in higher education differs from school, why it is undertaken, what academic skills are necessary and learning tools or techniques that may be helpful.

> **Pre-entry and post-entry liaison meetings to promote the development of understanding about independent learning pre-entry and post-entry through partnerships between outreach and recruitment staff professional service staff academic departments and student organisations.**
Institutions and HE-sector organisations

Independent learning is an integral aspect of UK higher education, but it is poorly understood by the majority of students and staff. The Higher Education Academy should explore ways of supporting academic staff and programme teams to help students better understand independent learning in their disciplines, design curriculum – and assessment strategies in particular – that develop the autonomy of students’ learning, encourage student engagement and foster the type of learning activities intended. The HEA could consider various mechanisms, such as:

- CPD focusing on independent learning;
- HEA reward and recognition schemes, for example, NTFS, HEA Fellowship, and the use of the UK Professional Standards Framework (UKPSF);
- A change programme focusing on independent learning.

This study may also have implication for the Quality Assurance Agency for HE (QAA) in terms of its role in setting and monitoring expectations that higher education providers are required to meet to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them (QAA 2012).

These expectations include programme design, development, learning and teaching and enabling student development and achievement, all of which may include the ways in which students are prepared and supported to become independent learners.

Summary

This study used a qualitative, student-centred and participatory approach to explore students’ perceptions and experiences of independent learning. It discovered remarkable similarities and challenges in the experiences of students from all discipline areas. Students lacked a clear understanding of what independent learning in higher education was or how to do it. They expected that learning in HE would be different to learning in school or college, but they had little understanding of how it would differ, beyond spending more hours working on their own, which they largely expected to be directed and monitored.

Many higher education students continued to utilise learning skills from school, and largely developed their learning skills through ‘trial and improvement’, although some students found this risky and didn’t change their approach. Thus, once in HE, students’ constructed an individual understanding of and approach to independent learning, rather than being inducted into a shared understanding from the disciplinary community, and their development was not overseen or managed.

Many students expressed an instrumental understanding of why independent learning occurs in higher education: to cover additional curriculum contents as there are insufficient contact hours, and to prepare them for the world of work, and they take a surface approach to learning. Thus, many students saw independent learning as undertaking tasks set by teaching staff in their own time, and they focused on time management issues. They spent around 13 hours on independent learning, often on ‘lower order tasks’. Students frequently lacked motivation, and they struggled with the volume of work, and sometimes the contents, especially where there was less certainty with regards to the ‘correct answers’ etc. Assessment was the biggest motivator for study: it informed what they prioritised spending study time on, and shaped their study techniques; they struggled when the task is not clearly directed.

Ideally students wanted independent learning in higher education to be more like school, or at least students more direction, help and feedback from staff, but they also valued peer support. They felt peers were a more reliable source of information and guidance about what it is really like to study in higher education and what are effective techniques to employ. This points to the importance of ‘directed independent learning’ which was explored in Thomas et al 2015, and the better preparation and support for students about what independent learning is, why it is undertaken and how to do it. This is reflected in the recommendations above.
References


Dale, C. and McCarthy, P. (2005) Students, studies and styles: an analysis of the learning styles of leisure, tourism and hospitality students studying generic modules, learning and teaching projects. Wolverhampton: Centre for Learning and Teaching (CeLT), University of Wolverhampton.


Appendices

Appendix 1: Descriptive statistics of diary participants

<table>
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<tr>
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<td>69</td>
</tr>
<tr>
<td>Male</td>
<td>39</td>
<td>31</td>
</tr>
<tr>
<td>Age at course start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
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<td></td>
</tr>
<tr>
<td>Median</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Range</td>
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<td></td>
</tr>
<tr>
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<td>74</td>
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<td>&gt; = 21 (mature student)</td>
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<td>Nationality</td>
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<td></td>
</tr>
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<td>UK</td>
<td>97</td>
<td>77</td>
</tr>
<tr>
<td>EU (not UK)</td>
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<td>6</td>
</tr>
<tr>
<td>Not EU (international)</td>
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<td>16</td>
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<td>Ethnicity</td>
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<td></td>
</tr>
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<td>75</td>
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<tr>
<td>Asian (Chinese)</td>
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<td>9</td>
</tr>
<tr>
<td>Asian (Indian Pakistani, Bangladeshi, other)</td>
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<td>7</td>
</tr>
<tr>
<td>Black</td>
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<td>2</td>
</tr>
<tr>
<td>Other/none specified</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Disability</td>
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<td></td>
</tr>
<tr>
<td>Disability declared to institution</td>
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<td>6</td>
</tr>
<tr>
<td>Physical impairment (e.g. mobility, wheelchair)</td>
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<td></td>
</tr>
<tr>
<td>Blind or partially sighted</td>
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<td></td>
</tr>
<tr>
<td>Deaf or hard of hearing</td>
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<td></td>
</tr>
<tr>
<td>Mental health difficulties</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Learning difficulty (such as dyslexia, dyspraxia)</td>
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<td>4</td>
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<tr>
<td>Profound or multiple learning difficulties</td>
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<tr>
<td>Autistic Spectrum Disorder</td>
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<tr>
<td>Unseen health condition (e.g. diabetes, epilepsy, asthma, HIV)</td>
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<td>4</td>
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<td>Study-related variables</td>
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<td></td>
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<td>-------------------------</td>
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<td>---</td>
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<tr>
<td></td>
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<td>Part-time</td>
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<td></td>
<td>n</td>
<td>%</td>
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<tr>
<td>University of Sheffield</td>
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<td>19</td>
</tr>
<tr>
<td>Robert Gordon University</td>
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<td>10</td>
</tr>
<tr>
<td>Cornwall College/Plymouth University</td>
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<td>9</td>
</tr>
<tr>
<td>York St Johns</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Blackburn College University Centre</td>
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<td>6</td>
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<tr>
<td>University of Liverpool</td>
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<td>6</td>
</tr>
<tr>
<td>University of Teesside</td>
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<td>6</td>
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<tr>
<td>University of Southampton</td>
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<td>University of Stirling</td>
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<tr>
<td>Sheffield Hallam University</td>
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<td>University of Manchester</td>
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<td>Northumbria University</td>
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<tr>
<td>University of Chichester</td>
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<td>4</td>
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<tr>
<td>University of Warwick</td>
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<td>South Wales University</td>
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Disciplines

<table>
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<th>Applied</th>
<th>Pure</th>
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<td><strong>Hard</strong></td>
<td><strong>21 (17%)</strong></td>
</tr>
<tr>
<td><strong>Soft</strong></td>
<td><strong>48 (38%)</strong></td>
</tr>
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</table>

Classified according to the hard–soft/pure–applied schema, the largest category is pure–soft (e.g. Humanities), the smallest is hard–pure (e.g. Physics).

Classified using JACS(3), the largest single disciplinary category is Engineering (n = 20, 16%):

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<th>JACS category</th>
<th>Classification</th>
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<th>%</th>
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<td>Medicine and Dentistry (A)</td>
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<td>0</td>
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<tr>
<td>Subjects allied to Medicine (B)</td>
<td>hard</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Biological Sciences (C)</td>
<td>hard</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Veterinary Sciences, Agriculture and Related (D)</td>
<td>hard</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Physical Sciences (F)</td>
<td>hard</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Mathematical Sciences (G)</td>
<td>hard</td>
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<td>1</td>
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<tr>
<td>Engineering (H)</td>
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<td>20</td>
<td>16</td>
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<tr>
<td>Computer Sciences (I)</td>
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<td>1</td>
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<tr>
<td>Technologies (J)</td>
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<td>0</td>
</tr>
<tr>
<td>Architecture, Building and Planning (K)</td>
<td>hard</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Social Studies (L)</td>
<td>soft</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>Law (M)</td>
<td>soft</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Business and Administrative Studies (N)</td>
<td>soft</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>Mass Communication and Documentation (P)</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Linguistics, Classics and Related (Q)</td>
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<td>10</td>
</tr>
<tr>
<td>European Languages, Literature and Related (R)</td>
<td>soft</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Eastern, Asiatic, African, American and Australasian Studies (T)</td>
<td>soft</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Historical and Philosophical Studies (V)</td>
<td>soft</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Creative Arts and Design (W)</td>
<td>soft</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Education (X)</td>
<td>soft</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>
Appendix 2: Information sheet and consent form

Independent learning: student perceptions and experiences

Information sheet and consent form

Principle Investigator: Professor Liz Thomas, Liz Thomas Associates, liz@lizthomasassociates.co.uk

Contract Manager: Dr Debbie McVitty, National Union of Students, debbie.mcvitty@nus.org.uk

Overview of the research study

The Higher Education Academy has commissioned the National Union of Students (NUS) and Liz Thomas Associates (LTA) to undertake research about independent learning, between February and June 2015.

Independent learning is any course-related study that you undertake when not being taught by lecturers or other academic staff.

The aims of the research are two-fold:

1. To explore students’ conceptions and experiences of directed independent learning, including how they were made aware of its role in higher education, how they were prepared for it within the context of their discipline, and how they have approached it.
2. To disseminate the findings in order to assist disciplines in developing or reinforcing effective practice.

The study is a mixed-method, in-depth qualitative study, which involves students as partners at each stage of the research (design, implementation and analysis). The primary research methods are student diaries and interviews conducted by trained and supported student-peer researchers.

The study will produce a number of outputs for the HEA and the higher education sector in general:

- research report;
- summary report;
- participatory workshops, two for students and four for academic staff;
- student case studies that can be used for development activities.

For further information about the project please see: http://www.lizthomasassociates.co.uk/ind_learning2.html

Ethical guidelines for student diarists and interviewees

Should you agree to participate in this study we commit to the following:

1. Your participation in the project is entirely voluntary.
2. You can withdraw at any time without giving reasons and will not be penalised for withdrawing nor will you be questioned on why you have withdrawn.
3. You will be paid for the work completed as follows: £10 on signing up for the project, including the provision of contact details, study information and optional demographic information; additional £20 on completion of the diary and participation in the interview. A maximum of £30 will be received by each participating student.
4. Interviews will be conducted by a trained student-peer researcher. They will adhere to the confidentiality information as set out in this document. The student-peer researchers will not have access to your diary submissions; this will be read by the research team only. Themes emerging from the diaries will be used to inform the semi-structured interview schedule used by the student-peer researchers.
5. You may be asked to participate in a follow-up interview by a member of the research team (usually conducted by phone, at a time convenient to you). You are under no obligation to participate in this additional interview; no payment will be received for participating in this interview.
6. Interviews will be digitally recorded and transcribed to inform the research analysis.
7. Your contribution to the social media activities associated with this study is entirely voluntary, and it is your responsibility to decide how much information you share in this public domain; you are advised to check your privacy settings when using social media. You will not receive additional payment for contributing through social media.
8. You will not be named, nor will your higher education institution, in any publications or dissemination associated with this study, or in any informal feedback to your HEI.

9. If you have any preliminary questions or need further clarification please contact liz@litzthomasassociates.co.uk

10. If you would like to make a complaint about the research please contact debbie.mcvitty@nus.org.uk in the first instance. If your concern or complaint has not been adequately responded to within two weeks, please contact the Higher Education Academy Research team research@heacademy.ac.uk.

You should keep a copy of this document for your own records.

Appendix 3: Research tools

Diary: introductory email

Dear Diarist

To complete your diary this week, please answer the questions below, keeping the following definition of 'independent learning' in mind:

Independent learning is any course-related study that you undertake when not being taught by lecturers or other academic staff.

Please email your diary to us before the end of the week. You can also share your diary entries or related thoughts on the Facebook Group.

You can view an example of a completed diary by clicking this link: [website link to mock up below]

Thank you.

Best wishes,

Tobin

Diary questions

1. What independent learning have you undertaken this week?

Please list the different kinds of independent learning you have done this week. Please indicate why you did it and how long you spent doing each activity.

2. Please describe and evaluate one of these independent learning activities in depth.

What did you do? With whom? Where and when?

What was good/bad about the activity? What did you learn from it?

3. How did you feel about doing the independent learning activity described in question 2?

How did you feel about starting the activity? How did you feel while you were doing the activity? How did you feel at the end?

4. What kinds of independent learning did you find most useful this week, and why?

5. What did you find most difficult about learning independently this week, and why?

What was difficult? Why was it difficult? How did you overcome these difficulties? What else would have helped?

6. If you have any other thoughts regarding your independent learning this week, please use the space below to tell us about them.

Additional diary questions (week 3)

1. What other activities have you undertaken this week? Approximately how many hours have you spent on each activity?

E.g. taught sessions, socialising, employment, caring responsibilities, relaxing, community work or volunteering or similar...
Is this a typical week? If not how has it differed?

2. **Having completed your diary, what makes some independent learning activities more effective than others? What has helped you to become a more effective independent learner?**

*Interview schedule*

**Overview of the research study**

Thank you for participating in this UK-wide research study on independent learning. The primary aim is to explore your perceptions and experiences of independent learning, including how you were made aware of its role in higher education, how you were prepared for it within your discipline, and how you have approached it. For further information about the project please see: http://www.lizthomasassociates.co.uk/ind_learning2.html.

**Ethical information and consent**

You should have received information about the study, including confidentiality, anonymity and your rights to withdraw from the study, together with details of the payment you will receive, etc. Remember that your participation in the project is entirely voluntary, and you can withdraw at any time. We would like to record the interview, and it will be transcribed to inform the research analysis. You will not be named, nor will your higher education institution, in any publications or dissemination associated with this study, or in any informal feedback to your HEI.

_Are you happy to continue with the interview?_

If you would like to make a complaint about the research please contact debbie.mcvitty@nus.org.uk in the first instance. If your concern or complaint has not been adequately responded to within two weeks, please contact the Higher Education Academy Research team research@heacademy.ac.uk.

**About the interview**

The interview will last approximately 45 minutes. (Check how long the interviewee has available).

**Interview questions**

At the start of the recording please state interviewee’s name, subject studied, year of study and institution, followed by your name. Please include the student ID for this research study when you save the voice file and upload it to Dropbox.

1. **I would like to begin by asking a little about yourself and your studying, as background information (5 mins):**
   - What did you do before you came to higher education? (e.g. subjects studied, type of qualification, previous HE study, employment, year out?)
   - Did you need good qualifications/grades to get onto this course?
   - Is this your local university/college or did you move here to study?
   - Do you have other responsibilities, such as children, caring commitment or employment?
   - Are you a member of clubs, societies or sports teams?
   - Are you studying full-time or part-time?
   - Did you go to a school that sends lots of students to HE?
   - Would you describe yourself as a good student when you were at school/college? Did you get good grades?

2. **What does independent learning mean to you? (5 mins):**
   - What do you think independent learning involves?
   - What do you think teaching staff in higher education do differently compared to school or college?
   - Why do you think independent learning is undertaken at university/college?
   - What do you think are the benefits of independent learning? (e.g. more interesting, better degree outcome, skills for future employment, etc.).
3. **What were your expectations of independent learning before starting here, and how did they match with your experiences? (10 mins):**

- How did you think independent learning and studying in higher education would differ from that undertaken in school or college?
- How long did you expect to study outside of taught sessions?
- How were your expectations about independent learning in higher education formed (or informed)? (e.g. open day, website, prospectus, family, friends, teachers ... )
- What was your prior knowledge of studying independently in this discipline? Had you studied this subject before? What was it like?
- How did your experiences of independent learning in higher education compare with your expectations? What was the biggest difference?
- Did you know what the university (or college) expected of you in terms of independent learning? How were you informed? How well did you meet these expectations?
- Is your experience of independent learning better or worse than expected?

4. **How were you prepared and supported to learn independently? (10 mins):**

- How well prepared were you for independent learning in higher education? Could you have been better prepared? If so, why and how?
- What has helped you the most to learn to be an independent learner?
- Have you felt supported in your independent learning? What type of support or tools are available? Have you used them? Were they useful?
- What role have teaching staff played in helping you to learn more independently?

5. **Since entering university (or college), do you think you have become a more effective independent learner, and if so how? If not, why not? (5 mins):**

- How did you learn to be an independent learner?
- What methods of independent do you use? Which are most effective and why?
- Have your strategies changed over time? Have you noticed any changes in your personal study? If so how and why?
- What motivates you to undertake independent learning?

6. **What is unique or special about independent learning in your discipline? (10 mins):**

- What is your preferred way of learning independently? To what extent is this shaped by your discipline of study?
- How does assessment influence your independent learning?
- In your discipline does your approach to independent learning vary to peers, and if so how?
- Compared to people you know studying other subjects, how does your independent learning compare?
- What do you find most difficult about learning independently in your discipline?
- What would help you become a more effective independent learner in your discipline?

7. **Would you like to add anything else about independent learning?**

Thank you for your time.
Higher Education Academy (HEA) is the national body for learning and teaching in higher education. We work with universities and other higher education providers to bring about change in learning and teaching. We do this to improve the experience that students have while they are studying, and to support and develop those who teach them. Our activities focus on rewarding and recognising excellence in teaching, bringing together people and resources to research and share best practice, and by helping to influence, shape and implement policy - locally, nationally, and internationally.

HEA has knowledge, experience and expertise in higher education. Our service and product range is broader than any other competitor.

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