Effective practice in the design of directed independent learning opportunities

Professor Liz Thomas, Dr Robert Jones and Dr James Ottaway

Contents

Acknowledgements

Executive summary

This study focuses on directed independent learning (DIL). It was commissioned by the Higher Education Academy (HEA) and the Quality Assurance Agency for Higher Education (QAA), and undertaken by Liz Thomas Associates between April 2014 and September 2014.

The aims of the study are two-fold:

1 To discover what stakeholders (including academic staff and students) have found to be the most effective practices in the inception, design, quality assurance and enhancement of directed independent learning.
2 To explore how best to communicate and promote effective directed independent learning to different stakeholders in the higher education sector, including students, potential students, and parents; teaching and professional staff, curriculum designers and educational developers; senior managers, professional bodies employers and other stakeholders.

In this study 'directed independent learning' has been 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. However, the evidence collected by this research suggests a broader understanding of the notion of, as well as preconditions essential for effective practice in, 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.

The study was designed to take account of different disciplinary and institutional contexts. It has utilised a mixed methods research design, comprising a quantitative literature review, the collection of examples of directed independent learning from across the sector and eight in-depth qualitative case studies, combining a case study methodology with the principles of appreciative inquiry. The *Compendium of effective practice in directed independent learning*, which complements this report, provides a rich resource about how directed independent learning is taking place across the UK HE sector and beyond.

The study identified diverse and inspirational examples – from across the UK higher education sector and beyond – of how staff have created directed independent learning activities to develop, engage and educate their students in inclusive ways. Effective independent learning involves a clear structure and ongoing support for students, especially as they make the transition from learning at level three to higher education learning. 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, particularly the value in relation to future career aspirations.

Many of the examples have been developed individually by staff out of commitment and enthusiasm, and without an approach to DIL that is shared at the institutional, departmental and/or programme level. There is a lack of consistency in understanding what is meant by independent learning, and how it operates in institutions. Independent learning is not explicit in many learning and teaching strategies, and where it is mentioned it may not be defined. Moreover, actual mention of the term directed independent learning is very rare at present – and it is, at heart, a rather nuanced term which may be regarded as potentially oxymoronic (i.e. learning is *either* independent *or* directed). Some staff have a very good pedagogical understanding of the concept, often through a disciplinary lens, while other staff do not. All staff would benefit from more opportunities for initial and continuing professional development in relation to DIL, and practical support to enable them to develop effective learning opportunities. The individualistic approach to DIL reduces the impact of independent learning and results in differentials in the quality of the student experience within programmes, departments and institutions. What is lacking is broader engagement: 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.

In reviewing these findings, and their implications, it is striking how much they reflect the *Principles of Good Practice for Undergraduate Education* developed by Chickering and Gamson (1987) and commended by Gibbs (2010).

The findings from this study have been used to develop an analytical model to help improve policy and practice in relation to directed independent learning across UK higher education, which will result in better student outcomes. This requires:

- clarity and leadership about 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; and
- development of student capacity and engagement.

The study makes the following recommendations to particular agencies:

Institutions:
- institutions ought to take an integrated approach to improving directed independent learning, drawing on the schematic approach presented in the analytical model;
- in particular, institutions should adopt a clear definition of directed independent learning, and foster understanding of this among staff, students and other stakeholders;
- this should be reflected in the institutional polices, processes and functions, such as institutional, learning and teaching strategy, internal quality assurance and review processes, staff development and support, work allocation model, marketing, recruitment, student induction and student services;
- consideration should be given to embedding directed independent learning into accredited initial postgraduate certificate programmes and continuing professional development opportunities;
- institutional communication with students, families and other stakeholders should provide clarity about what directed independent learning is and its benefits to ensure understanding of the importance of learning gain rather than focussing on contact hours;
- academic departments, programme teams and individual academics should ensure that they provide students with clarity and structure about directed independent learning activities and offer opportunities that are relevant and engaging for all students. Learning should be delivered flexibly and inclusively to ensure all students can engage fully, and formal and informal support needs to be available using a range media;
- student participation in and understanding of specific DIL activities needs to be monitored, and there should be procedures for appropriate follow-up;

- staff should not assume that students have all the necessary academic or practical skills to be effective independent learners, but rather that this is anticipated outcome of undergraduate higher education. Appropriate support and capacity building should be provided for students, which gradually decreases over time.

Quality Assurance Agency:
- the *UK Quality Code for Higher Education* (QAA 2012, Ch. B3) expects that institutions should enable every student to develop as an independent learner. This study suggests that internal quality assurance procedures do not sufficiently focus on directed independent learning. The QAA could consider how they can work with higher providers to build good practice for DIL into internal quality processes;
- the principles of effective practice identified in this study should be disseminated in enhancement materials made available for higher education providers.

Higher Education Academy:
- encourage and support higher education institutions to embed directed independent learning into accredited initial postgraduate certificate programmes;
- to offer further continuing professional development opportunities about directed independent learning for more experienced staff, drawing on this study and the *Compendium of effective practice in directed independent learning*;
- facilitate sharing of practice, particular in cognate discipline areas, but also more generally;
- work with institutions to facilitate a more institution-wide approach to directed independent learning to improve student outcomes based on the findings of this study.

Further research in the following areas:
- parents and families – their understanding of and contributions to independent learning, and effective ways of communicating with them and involving them in the process of independent learning;
- student perspectives – more about how to better inform them about, and prepare them for, independent learning;
- employers – more about their views on graduates and the role of independent learning; ways in which they do or could work in collaboration with HEIs, and effective ways of enhancing their understanding of independent learning;
- within academic disciplines – to explore how learning from this study about directed independent learning can be translated into specific disciplinary contexts, drawing on their norms, concepts and professional/applied opportunities to make DIL more relevant and engaging to staff, students, employers and professional bodies.

Background and aims of the study

This study was commissioned by the Higher Education Academy (HEA) and the Quality Assurance Agency for Higher Education (QAA). It was undertaken by Liz Thomas Associates between April and September 2014.

The changing higher education (HE) context – the massification of HE, the general international trend towards cost-sharing with students (Vossensteyn *et al.* 2013), and the introduction of significantly higher tuition fees in England in particular has contributed to increased awareness of the customer/service provider relationship in higher education. This has prompted concerns in some quarters about the quality and/or value for money of higher education, stemming, at least in part, from misperceptions about the purpose, requirements and anticipated outcomes of studying in HE. Quality can be measured by a number of proxies including the contact hours, class size and learning gain (see Gibbs 2010 and Soilemetzidis *et al.* 2014), outcomes in higher education and beyond (HEFCE 2013) or even the number of complaints received (BBC 2014), to name but a few.

Gibbs (2010) in his seminal work *Dimensions of Quality* is explicit in his conclusion that the number of class contact hours has very little to do with educational quality. Rather, the pedagogical model and the quantity and quality of *study* is what determines the value of the educational experience. This conclusion builds on research in the 1970s about 'surface' and 'deep' approaches to learning (e.g. Ramsden 1979). In European higher education, this has been interpreted as 'student effort', while in many other countries, including the UK, this has been understood as students' engagement in their learning (NUS 2012a; QAA 2012; Trowler 2010) and the associated educational benefits of active learning (Chickering and Gamson 1987). Action-learning, enquiry-based learning, problem-based learning, and peer learning are all approaches that aim to more directly involve students in the process of learning; in contrast with the more traditional knowledge transmission model of education. Indeed, Soilemetzidis *et al.* (2014) report that:

> students recognise that the quality of their experience is not only dependent on provision but also on their own effort and input. That means institutions have a vital responsibility to facilitate and ensure effort, engagement, interaction and active and deep learning. (Soilemetzidis *et al.* 2014 p. 10)

In line with this view, more recent thinking about student engagement in learning, teaching and assessment has shifted towards viewing students as partners in the educational experience (see Healey *et al.* 2014). Although 36% of students who felt that, at least in some ways, their higher education experience was worse than expected because they "hadn't put enough effort in" themselves, other reasons included fewer contact hours than expected (32%), lack of support in private study (28%), teaching was worse than expected (27%), poor feedback (26%), and insufficient interaction with staff (26%) (Soilemetzidis *et al.* 2014).

Directed independent learning

This study focuses on directed independent learning (DIL). There are a number of different ways of describing, defining and understanding this term (Meyer *et al.* 2008). "Without there being a shared understanding of how these different definitions and descriptions relate to one another" this makes it difficult "for policy-makers and practitioners to find clear guidance" (Meyer *et al.* 2008, p. 2). In this study 'directed independent learning' has been 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. They are supported in their independent learning by learning resources, including libraries, online materials and learning environments, and physical learning spaces; and by the

development of their academic capacity either through the core curriculum or through additional support services. Different definitions of directed independent learning have been explored through the literature review and empirical work undertaken as part of the study (discussed below). However, the evidence collected by this research suggests a broader understanding of the notion of, as well as preconditions essential for effective practice in, directed independent learning:

> DIL describes one of the processes by which 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.

Gibbs (2010) draws on the *Principles of Good Practice for Undergraduate Education*, developed in the US by Chickering and Gamson (1987), as central to a quality learning experience. These principles indicate that good practice:

1 encourages contact between students and faculty;
2 develops reciprocity and co-operation among students;
3 encourages active learning;
4 gives prompt feedback;
5 emphasizes time on task;
6 communicates high expectations;
7 respects diverse talents and ways of learning.

Indeed, these principles are embedded in the QAA guidance on quality learning and teaching (Ch. B3 of the *Quality Code*), reflecting the national consensus about quality in higher education learning. Institutions are encouraged to move away from providing instruction, to facilitating learning (Barr and Tagg 1995, p. 565), which is in-line with the approach to directed independent learning adopted in this study. This study further explores the relevance and applicability of these principles to directed independent learning.

Aims of the study

The aims of this study are two-fold:

1 to discover what stakeholders (including academic staff and students) have found to be the most effective practices in the inception, design, quality assurance, and enhancement of directed independent learning;
2 to explore how best to communicate and promote effective directed independent learning to different stakeholders in the higher education sector, including: students; potential students and parents; teaching and professional staff; curriculum designers and educational developers; senior managers; and professional bodies, employers and other stakeholders.

Research questions

More specifically, the study has sought to address the following research questions:

1 *Definitions and usage.* How is 'directed independent learning' defined, conceptualised and utilised across the HE sector and disciplines, taking into account institutional diversity and different modes of learning?

2   *Benefits.* What are the benefits of directed independent learning, and which are perceived to be the most important by students, teaching staff and other stakeholders?

3   *Quality assurance and enhancement.* How is the quality of directed independent learning measured, assured and enhanced?

4   *Curriculum design.* To what extent is directed independent learning designed into the curriculum programme?

5   *Capacity development.* How is students' capacity developed to undertake directed independent learning?

6   *Assessment and feedback.* What is the role and contribution of formative and summative assessment, and feedback, to directed independent learning?

7   *Student diversity.* What are the advantages and challenges of different approaches to directed independent learning on different student groups?

8   *Staff engagement and support.* How are staff engaged and supported to deliver effective directed independent learning?

9   *Communication.* How is the nature, role and contribution of directed independent learning communicated to potential students, existing students, parents, employers, professional bodies and other stakeholders?

10 *Disciplinary, institutional and study-mode differences.* To what extent do practices, preferences and views about directed independent learning differ across the disciplines, modes of study and/or institutional types?

Research design and methodology

The study has utilised a mixed methods research design, comprising a quantitative literature review, the collection of examples of directed independent learning from across the sector and eight in-depth qualitative case studies to address the research questions. Prior to the commencement of the research study ethical approval was secured using the Higher Education Academy's *Research Ethics Framework* and the study adheres to the ethical guidance of the British Educational Research Association.

A key aspect of this research study is the context in which DIL learning takes place, in particular the discipline and the institutional type. In terms of the discipline-type dimension, the study has utilised the Joint Academic Coding System version three (JACS3) and Belcher 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, illustrated in table one.

Table 1: Typology of disciplines			
Category	Description	Subject type	Examples
Hard/Pure	General laws governing areas of human understanding; clustered around limited number of small problems; quantitative focus.	Pure Sciences	Physics, Chemistry
Soft/Pure	Heterogeneous; personal and specific; study the particular rather than the general; qualitative bias.	Humanities	History, Anthropology
Hard/Applied	Derives underpinnings from hard pure subjects, but focused on products and techniques.	Technologies	Mechanical Engineering, Civil Engineering
Soft/Applied	Dependent on soft pure knowledge, but concerned to improve professional practice. Directed by non-academic interests and so must be relevant to practitioners or policy makers, focus on 'useful topics'.	Applied Social Sciences	Education, Law, Management

A second variant is institutional diversity, in particular the types of students who are enrolled in the institution. The study has therefore used the typology developed by Bowes *et al.* (2012), shown in table two.

Table 2: Typology of institutions	
Inclusive institutions	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.
Selective institutions	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.
Specialist or professional training institutes	Smaller 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 poorly prepared students.
Small institutions	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).

Literature review

The literature review uses a mixed-method approach, combining quantitative text-mining methods with a realist synthesis approach (Pawson 2002, 2004). The data for this review are bibliographic records, augmented, where possible with full texts of the articles they reference.

Given the UK-focus of the review, the British Education Index was used as the main source, and searches were tailored specifically for it. In all other databases, records were retrieved when they specifically referred to the UK or had UK in the author institutional address or publisher address; this filter was applied at a second-stage, following the initial retrieval of the raw data.

Search specification

The concept of directed independent learning involves two aspects:

* *independence* – also represented by many other terms, such as self-directed learning and self-regulated learning;
* *directedness* – the presence some structure or support in addition to the independent aspect.

A set of terms and filters were developed. These terms were translated to the query language for each database, applying them to full-text fields and subject categories where appropriate.
A total of 2,769 records were retrieved. After filtering for UK-relevance, duplicate removal, and other cleaning tasks, 841 records remained for the analysis.

The first step of the analysis was to extract significant key-terms from the collection. A term is a sequence of one or more words that satisfies some measure of 'interestingness', called termhood. For this extraction, the title, abstract and keyword fields of the records were used as full-text fields. The keyword-extraction algorithm used was the one described by Frantzi, Ananiadou *et al.* (2000), implemented in Common Lisp by the author. Table three shows some examples of the key-terms extracted using this method.

Table 3: Examples of key-terms extracted			
Term	N	Term	N
Learning environment	70	Autonomous learning	26
Medical students	64	Metacognitive strategies	25
Professional development	63	Learning outcomes	25
Case study	62	Action research	24
Language learning	54	Learning objectives	23
Medical education	50	Clinical skills	22
Student learning	48	Students' perceptions	21
Student experience	36	Learning plans	19
Learning experience	32	Small groups	19
Learner autonomy	31	Distance learning	17
Medical school	31	Reflective practice	17
Lifelong learning	29		

Some features of the collection can easily be seen by inspecting this list: there is a preponderance of topics related to medical education and professional development, for example, and some theoretical aspects appear to be especially salient, such as 'autonomy' and 'metacognition'.

Several approaches were explored to systematise the results of the extraction, including topic modelling and clustering based on a term-document matrix. However, none of these produced useful results, since they were unable to discriminate between documents on the critical directedness aspect. Therefore, a two-fold approach was adopted that combined a manual classification of key-terms with database queries to identify directedness. As well as standing in its own right, the manual classification was heuristically useful for generating precise and accurate queries, so it was completed first. This approach has yielded some useful initial results including a classification of documents according to discipline, and determining a range of terms related to directedness that appear to sit on a continuum from highly-directed terms related to structure to terms related to 'softer' forms of direction, such as guidance and support. Some further refinement to these results was required, mainly to integrate them with the empirical data, such as re-classifying the disciplines consistently using the 'hard/soft', 'pure/applied' dimensions used in the project, and extracting records related to each of the research questions.

Examples of effective practice from across the sector
The empirical work began with the collection and review of examples of practice from across the HE sector. The aim was to collect examples of effective practice of directed independent learning from different institutional types, modes of teaching and learning, and disciplines, and compile a *Compendium of effective practice in directed independent learning*. A sector-wide call was distributed, and submitted examples were peer reviewed and edited to produce the compendium. Sixty-nine expressions of interest were received from across the UK and abroad, and 44 examples are included in the publication.

Each of the examples was classified according to the Joint Academic Coding System version three (JACS3). A couple of examples were not connected to specific programmes of study and some examples covered more than one subject area. The JACS groupings have been used to classify the examples into disciplinary type using Becher and Trowler's (2002) taxonomy (see Table 4). Using the JACS categorisation at this level is not perfect, for example, many of the individual programmes in 'biological sciences' which is classified at 'hard–pure', would probably reflect the characteristics of applied fields.

This however serves as an heuristic device to demonstrate the spread of examples across the disciplines.

Table 4: Distribution of examples using the classification of disciplines from Becher and Trowler (2002) and JACS3			
Category	Description	Subject group	Number of examples
Hard/Pure	General laws governing areas of human understanding; clustered around limited number of small problems; quantitative focus.	Biological sciences Physical sciences Mathematical sciences	3
Soft/Pure	Heterogeneous; personal and specific; study the particular rather than the general; qualitative bias.	Social sciences Linguistics, classics and related studies European languages, literatures and related studies Eastern, Asiatic, African, American and Australasian languages, literature and related subjects Historical and Philosophical studies	11
Hard/Applied	Derives underpinnings from hard pure subjects, but focused on products and techniques.	Medicine and Dentistry Subjects allied to medicine Veterinary Sciences, agriculture and related subjects Engineering Computer Science Technologies Architecture, Building and Planning	10
Soft/Applied	Dependent on soft pure knowledge, but concerned to improve professional practice. Directed by non-academic interests and so must be relevant to practitioners or policy makers, focus on 'useful topics'.	Law Business and Administrative studies Mass Communication and Documentation Creative Arts and Design Education	17

In addition, three non-discipline specific examples were received.

The examples provide a rich source of data through which to explore the issue of DIL. Beyond the descriptive features summarised above they were analysed using the research questions to code up responses, and provide insight into understanding and practices of DIL across the sector.

Case studies

The examples of practice have been supplemented and extended through in-depth case studies. The main proposition is that both institutional and disciplinary type will have an important impact on how practitioners develop and deliver directed independent learning. A secondary proposition is that different modes of study may also have some bearing upon the use of directed independent learning. A

final consideration was the extent to which the different national contexts in the UK might impact on views and experiences of DIL. Drawing on the examples and wider engagement with the sector that has occurred through this research study, eight institutions were selected and invited to be case studies. The following case studies were selected and recruited:

- *Criminology and Criminal Justice, Glasgow Caledonian University and University of West Florida (GCU/UWF).* Full-time and part-time students, participating in a blended learning module;
- *Mathematics, Open University (OU).* Part-time students studying at a distance using e-learning;
- *Veterinary Medicine, Royal Veterinary College (RVC), University of London.* Full-time students, campus-based, studying face-to-face and through professional placements;
- *Southampton Solent University (SSU).* The whole institution, including creative industries, maritime and technology and business, sport and enterprise. Full-time and part-time students, using face-to-face and blended learning; each programme includes compulsory real-world learning modules;
- *English Literature and Language, University Centre Blackburn College (UCBC).* Full-time and part time students, face-to-face on campus, mostly local students, England.
- *Languages, University of Nottingham Ningbo China (UNN).* Full-time face-to-face teaching of Chinese students in China.
- *Health and social care, University of Salford (USa).* Programme areas included Diagnostic Radiography, Nursing and Social work. Full-time and part-time students, work placements and work-based students, blended and face-to-face learning;
- *Accounting and financial management, University of Sheffield (USh).* Full-time students, face-to-face teaching and blended learning.

Table 5: Case study sample categorised by discipline and institutional type					
Institution/ Discipline	Hard/Pure	Soft/Pure	Hard/Applied	Soft/Applied	Total
Inclusive	Open University, Maths	Glasgow Caledonian University, Criminology	Southampton Solent	Southampton Solent	3
Selective	N/A	University of Nottingham Ningbo, Languages	University of Salford, Health	University of Sheffield Management. University of Salford, Social work	3
Specialist	N/A	N/A	Royal Veterinary College, Veterinary medicine	N/A	1
Small	N/A	University Centre Blackburn College, English	N/A	N/A	1

The case study investigation combined a case study methodology with the principles of appreciative inquiry. Appreciative inquiry does not take a problem-based approach, but rather seeks to explore what is working well and why, and to work with practitioners creatively to propose further ways of enhancing practice through a dialogical process. A number of participatory activities were developed to engage staff and students and involve them in the process of reflecting on and exploring effective practice in DIL. With staff the following issues were explored in 90-minute sessions:

- effective practice in directed independent learning;
- definitions of directed independent learning;
- enabling factors;
- communication and engagement.

For students the following issues were explored in a 60-minute session:

- effective practice in directed independent learning;
- understanding and experience of directed independent learning;
- communication and engagement.

The case study tools were used flexibly to cope with the number of staff and students who participated and the amount of time available. Due to the diversity of the institutions selected, and the time of year, it was not been possible to visit all of the institutions. Instead, the research tools were adapted in a number of ways, including focus groups, online qualitative surveys, online focus groups and telephone interviews. After the case studies institutional documentation has been reviewed where appropriate and in the public domain.

The sessions were recorded with permission, and detailed notes were taken. In addition, several of the activities generated artefacts (flipchart papers, written responses to questions, and annotated definitions). All of the material has been used to inform the analysis of the case studies. Each case study has been analysed thematically against the research questions, and additional information and clarification has been sought where necessary from the institutional contact.

Findings

In this section of the report, the findings from the empirical work and the literature are used to address the research questions. The discussion is largely descriptive of the issues arising, and draws heavily on the practical examples to illustrate how these issues have been addressed. At the end of each section there is a short section that summarises the key conclusions and implications. For further examples and details, the reader should refer to the *Compendium of effective practice in directed independent learning.*

Definitions and usage of directed independent learning

The QAA's *UK Quality Code for Higher Education* requires that institutions provide a framework for independent learning:

> Higher education providers, working with their staff, students and other stakeholders, articulate and systematically review and enhance the provision of learning opportunities and teaching practices, so that every student is enabled to develop as an independent learner, study their chosen subject(s) in depth and enhance their capacity for analytical, critical and creative thinking. (QAA 2012, p. 6)

While not explicitly defining independent learning, this requirement implies several important features: capacity enhancement in learning and the provision of a structure to support and foster independent learning.

Going beyond this specification to examine the idea of independent learning itself, one finds that there are many definitions to be found, both in the literature (Meyer *et al.* 2008), and across the HE sector. Most understandings share a broad consensus about its central features, and vary more in their details and emphasis. There are also several other concepts that overlap with directed independent learning, such as 'problem-based learning' and 'enquiry-based learning'. Five 'vignettes' defining independent learning were generated: four extracted from the literature and one developed by the research team in the initial stages of the research design.

All of these definitions agree upon the fundamentally student-centred nature of independent learning. But DIL is not simply learning that happens when students go off to study on their own, but something related to their essential nature as enquirers or to their needs as learners. They differ most clearly in the nature of the agency they afford the student and the role that academic teaching staff are assumed to take. These definitions are summarised in the table below:

Table 6: Definitions and characteristics			
Author	Definition	Role of students	Role of staff
1 Candy (1991)	A student acquires knowledge by his or her own efforts and develops the ability for inquiry and critical evaluation; it includes freedom of choice in determining those objectives, within the limits of a given project or program and with the aid of an academic member of staff; it requires freedom of process to carry out the objectives; it places increased educational responsibility on the student for the achieving of objectives and for the value of the goals.	Own efforts Freedom of choice Increased responsibility	Assistance of staff
2 Research team	Students are guided by the curriculum contents, pedagogy and academic staff, but they play an active role in their learning experience either on their own, or in collaboration with peers. Students are supported in their independent learning by learning resources, including libraries, online materials and learning environments, and physical learning spaces; and by the development of their academic capacity either through the core curriculum or through additional support services.	Play active role	Guided by staff Supported Developing Academic capacity
3 Murad and Varkey (2008)	The educator is a facilitator, rather than a teacher, providing a framework for interaction and learning. Students play an active role in developing their learning needs, and these are used to develop learning objectives and learning outcomes for the activity. Students, together with academics, select appropriate learning resources. Students make commitment to the learning via a formal learning contract. Evaluation of learning process demonstrates that learning outcomes have been achieved.	Play active role Partner	Facilitator Framework Provider Partner
4 Meyer *et al.* (2008)	The student is actively involved in their learning because they: - set their own goals; - plan how to realise these goals; - monitor their progress as they follow this plan; - assess and reflect on what they have achieved. Thus students taking more responsibility for organising their own learning rather than relying upon the academic staff – who act more as facilitators rather than as traditional imparters of knowledge and skills.	Actively involved Setting goals, planning, monitoring, assessing increased responsibility	Facilitator more than imparter of knowledge
5 Linden and Edwards (2011)	An environment in which learning takes place through enquiry rather than simple knowledge transmission. This enables students to take increasing control of their own learning as they progress through their degree programmes. This is intended to foster deep engagement with complex problems, and incorporates structures and forms of support to help and encourage students to create and conduct their own enquiries for learning. The most important task of the teacher is to develop an atmosphere or an attitude in which students 'seek'.	Enabled to take control	Enabler to take control, fostering engagement, provider of structure and support

The first definition in the table (Candy 1991) most explicitly refers to the student's freedom to act: freedom of choice in determining objectives, and freedom of process to carry them out. The fourth definition (Meyer *et al.* 2008) carries some of this emphasis – the student sets their own goals and plans for them – but there is also a different role for the academic staff: in the first definition, the staff 'aid' the student; for Meyer *et al.* (2008), the staff are facilitators. Of the vignettes, the fifth definition (Linden and Edwards 2011) is the least student-centred. It emphasises what is done to the environment of learning to enable students, and students themselves only appear, linguistically speaking, as passive subjects: they

are enabled, fostered and encouraged. Rather than directly acting upon the student or expecting the student to act, here it is the task of the teacher to set the right conditions for independent learning to take place.

A second distinction carried across the definitions is that between independently learning a subject and learning about how to learn The weight of responsibility for the latter of these within the definitions is principally with staff: while students might have freedoms and responsibilities to learn, it is the task of the educators, in these definitions, to foster and guide learning about learning. It is important to remember that these vignettes provide only ideal-typical descriptions; they are designed to elicit information, rather than to represent fully the concept of independent learning.

The element of directedness within concepts of independent learning may be found within the differences described above. On some definitions – particularly the first and, to a lesser extent, the third and fourth – directedness is more concerned with facilitation and guidance to enable the student's freedom. Secondly, the definitions provide a good spectrum of kinds of directedness, from encouragement and fostering to structure, via facilitation and guidance.

Despite the relative scarcity of the term 'directed independent learning' in the literature compared to the term 'independent learning', degrees of directedness are clearly present within uses of the concept, and related concepts retrieved from the literature, such as 'student engagement', and 'student-producers'. Most definitions of independent learning follow, in their own ways. Carl Rogers' notion of taking students on a journey from dependency to autonomy with directed independent learning as a stage between dependency and autonomy. The definitions presented above are intended, therefore, as *ideal-types* each of which emphasises a different aspect of directedness in order to capture its range, rather than competing definitions.

The examples and case studies demonstrate a wide range of interpretations of DIL, however, in common with the literature, the approaches are all student-centred, and include differing degrees of direction – it is not simply something that happens when students go off to study on their own, but something related to their essential nature as enquirers, or to their needs as learners within their academic programme of study.

Academic staff in the case studies discussed the definitions presented above, but there was no agreement on a single definition – and some definitions were favoured by some colleagues and disliked by others within the same group. Areas of disagreement included the level of student responsibility and autonomy and the degree of responsibility held by the teaching staff and the institution. For example, the group of staff at UNN felt that undergraduate students are expected to become more autonomous, but autonomy cannot be assumed at the beginning of their studies. Therefore, academic staff should act as facilitators, providing strong guidance initially to enable students to set and plan their own goals, and monitor and assess their own achievements. Staff, therefore, need to provide a more structured approach initially, but may move towards giving students more autonomy towards the end of their undergraduate study, and as students become postgraduates and/or lifelong learners.

Interestingly, the fourth definition (Meyer *et al*. 2008) elicited different responses from different groups. For example, one group of students felt that this definition is clear and outlines the whole DIL process, although they also noted the value of support offered by staff and the environment as described in Thomas *et al*. and Linden and Edwards. One group of staff however felt uncomfortable with Meyer *et al*.'s definition, as it seemed to place too much responsibility on students.

Understanding and clarity
Many staff do not have a clear definition of directed independent learning. This comes across in terms of the purpose and practice of the DIL examples and through the institutional visits. For example:

> What is independent learning? Sitting on your own? … There must be guidance, not just sitting on your own … (SSU)

While the majority of staff do not appear to have a strong pedagogical understanding of DIL, some staff (the minority) have a very good pedagogical understanding of the concept, often understood through a disciplinary lens.

> The underlying pedagogy is action learning and work-based learning. This structure supports the independent learning in action learning sets for 7 or 8 learners … Action sets are controlled, but it is really about students talking to each other. Initially activities are given to them to get to know themselves. That is very important, to bring about change you have to know yourself, but it can be quite painful … We introduce theories as they are needed, and we encourage them to move away from superficial learning to deep, double loop learning. This is done through the use of reflective learning logs, which they must submit and this contributes to their formative assessment. (Health, USa).

More significantly, in the majority of case study institutions there is not a shared definition, or indeed clarity, about what DIL, or even independent learning, is. This is despite the fact that in a number of institutions independent learning is referred to in the institutional mission and policy. For example, at one institution independent learning is mentioned without clarification in the learning and teaching strategy in the context of information literacy, without further elaboration.

> All aspects of information literacy including intended learning outcomes should be integrated into the academic curriculum to ensure all students gain critical lifelong independent learning skills. (USa)

One member of staff at another institution said:

> Independent learning and self-directed study are bandied about a lot but no-one knows what it means. (SSU)

Furthermore, some staff feel that there is a lack of understanding from senior managers about how to translate policy statements about independent learning into pedagogical practice, and there is a lack of recognition of the time and support staff need to do this:

> We need time for development work, but the management have no idea of what goes on at the coal face. You have to allocate time to staff to develop independent learning resources. They rely too much on good will … One senior manager said "I don't do nitty gritty, that's someone else's job … It's not a partnership" (Anonymous)

This 'vagueness' found at the majority of institutions is in contrast to an institution with an explicit commitment and approach to 'directed' independent learning. The learning, teaching and assessment strategy is quite clear on this matter:

> Over the lifetime of this strategy we will continue to develop teaching practices in ways that promote independent learning and the skills required for life-long learning. The College has become increasingly concerned that the preparation which our students receive in secondary school has made them "dependent" learners and handicaps their ability to benefit from Higher Education. Students should spend more time learning and less time being taught. We will continue to adapt our curricula and teaching methods to create the space and the opportunities that will enable all students to develop the capacity to learn independently and at a distance, while maintaining an appropriate level of support and guidance that reduces as students move through their programmes. This involves:

i. continuing to move from the traditional reliance on didactic teaching to a problem-solving approach in which the learning process is student-centred rather than teacher-centred;

ii. a reduction in the numbers of lectures in all programmes, and increased use of small group, independent, peer assisted learning and e-learning;

iii. further expansion of induction programmes in generic skills, including study skills, and integration throughout the rest of the curriculum;

iv. investigation of methods of pre-course guidance, with the aim of introducing this in some form during the lifetime of this strategy;

v. reviewing feedback methods, with a view to ensuring that all staff give feedback effectively, and students make the most of all the different forms of feedback they receive. This is essential if they are to become effective life-long learners, which they must do if they are to be adaptable and enjoy continuing personal and professional success in a rapidly changing world. (RVC Learning, Teaching and Assessment Strategy 2008-13).

The strategy continues, describing a reduced role for the 'formal lecture', with greater emphasis on learning independently through small group learning, the library, online learning, placements, external experts and other resources, both on and off campus. The strategy also recognises the need for student skill development, appropriate assessment practices and a suitable learning environment, all of which are underpinned by a commitment to staff development and support.

Most students at most institutions were working with their own interpretation and understanding of the term 'independent learning'. Given the lack of clarity by staff, or the inconsistency between staff, it is not surprising that there was some confusion. One second year student said that she had 'worked out' what was going on:

> There is a pyramid of knowledge; lectures only give you the top of the pyramid. You then have to fill in the rest of the pyramid. Some lecturers give you the basic knowledge and independent learning deepens your understanding of the topic. Other lecturers give you the more complex issues, and if you don't understand you have to undertake independent learning to ensure you understand what was being said in the lecture. (UCBC)

Some of the confusion about what DIL is are likely to relate to the different purposes for and benefits of independent learning. The review of the examples identified that DIL can be used for a range of purposes and to benefit students in different ways. In summary the following purposes/benefits were identified. These are explored in more detail in the next section of the report:

- developing and extending subject knowledge;
- personal and professional development;
- skills and cognitive development;
- developing a community of learners to work together and provide peer support.

Irrespective of the different purposes or intended benefits of independent learning, there is also a wide range of approaches to independent learning being employed across the sector. Differences relate to:

- compulsory or voluntary;
- individual or collaborative;
- the use of technology;
- the role of assessment;
- the role of staff;
- the degree of autonomy, structure, guidance and support.

These different approaches are discussed in more detail in subsequent sections of this report.

Summary: there is not a single, preferred definition of directed independent learning, either in the literature or in the sector, irrespective of institutional type. Discussions with staff and students suggest that although there is broad understanding of the term, there is a lack of clarity, which can cause uncertainty and impact negatively on students' ability to be independent learners. At the institutional level there is not usually great clarity about these issues either, making it more difficult for staff to translate an institutional aspiration into meaningful practices with their students. This confusion is related, at least in part, to different views about the autonomy of students, the role of staff, the purpose and benefits of directed independent learning and the approach to be used. It is therefore suggested that institutions, departments and programme teams should engage in discussion about what they mean by 'directed independent learning'. These discussions could take the definition of DIL developed in this study, and/or the five definitions presented above as their starting point, and consider issues such as the level of responsibility to be borne by students, the role of staff, the purpose of the DIL and the approaches to be used.

Benefits

This section of the report considers the benefits of directed independent learning. However, in both the literature and the empirical evidence, benefits are often implicit rather than explicit. For example, the definitions discussed above all carry with them the assumption that passing some of the agency and responsibility from teacher to learner leads to the enhancement of learning, and that greater dependency in learning is not beneficial.

Through the case study activities and analysis of the examples a range of benefits of DIL can be identified. As in the literature these benefits are not always clearly articulated to students, or indeed colleagues and other stakeholders, to ensure wider understanding and engagement:

- extending subject knowledge, by covering more material than could be covered in face-to-face sessions only, moving beyond the basic/minimum level of understanding towards deeper learning, and understanding theory by relating it to practice;
- personal and academic development: enabling students to learn how to learn and become effective lifelong learners, and taking greater responsibility for managing their learning;
- developing students to feel like they belong to the academic community and the institution (or academic programme), and developing a network of support;
- engaging and motivating students by showing the relevance and value of their study in real world situations, and enabling them to become deeper learners;
- developing students' graduate capabilities, including developing professionalism in a particular field, developing employability skills, internationalising the curriculum experience and familiarising students with modern technology;
- providing a way of monitoring students' engagement and learning progress;
- practical benefits for students about flexibility, place and pace.

The majority of the examples are used to develop or extend subject knowledge to some extent. In some cases this is studying individually, and in others it is working with peers; sometimes this is after taught sessions and sometimes it is in preparation for them. For example:

> To facilitate coverage of the main religious traditions and manage time efficiently, students are invited to create a group of six. This ensures that the six principal religious traditions represented in the UK are covered. To conduct their independent task, each group choses a religious tradition or secular philosophy. Thereafter, each student selects a topic within the chosen tradition that becomes the focus of their research. A maximum word count is set to 1,000 words and minimum at 500 (references are required). In a second session, students work collaboratively. As a group of six, each shares their work with their group for about 20 minutes, then responds to queries. All of the students are then required to draw implications for teaching the topic in a primary school … Students are then encouraged to

submit their independent task onto the VLE. This creates a depository for the whole class, so that everyone can access all the work and not only that produced by their group. These are accessible for the duration of their course. (Education, Birmingham City University)

The 'pot-casting' model is effective because it gives students time to experiment and explore digital surrogates of real artefacts prior to working with genuine artefacts in the handling sessions. This enriches the learning experience in the practical session because discussion is more informed and tests students' individual understanding of the identification criteria against genuine artefacts. Their independent learning means that they acquire basic identification skills prior to encountering the artefacts and, therefore, engage with them in a critical manner. Consequently, the majority of the session is taken up by informed discussion, not basic skills acquisition. Students are also made to realise the limitations of fixed identification criteria when they are presented with problem pieces and in subsequent discussions with demonstrators and their peers (who may have formed different understandings from their own independent learning). (Archaeology, University of Liverpool)

Students work in self-selecting groups on an area of interest within the field of exercise science and health. They are asked to locate a systematic review and become expert 'as a group' as opposed to an individual. (Health and exercise, Swansea)

The 'Making Digital History project'… involves getting students to produce online resources that teach others about the work they have been doing in the curriculum. It has been assessed across all levels of the curriculum and in different types of module and through collaborative and individual work too. The key aim is to shift students from consumers to active producers/communicators of historical knowledge to audiences beyond academia. (History, University of Lincoln)

In addition to subject knowledge DIL is often held to foster "soft" skills, such as critical thinking and emotional intelligence (e.g. Boyce *et al.* 2001; Nikolou-Walker 2007), and more general personal benefits such as enhanced self-efficacy and confidence, an increased sense of personal involvement in both learning and the learning process, and a more positive view of the subject, and reduced stress. (Leggett *et al.* 2012; Sun *et al.* 2012; Hommes and Molen 2012; Harvey and Slaughter 2007; Grant and Field 2012; McMullen *et al.* 2011; Kell 2006; Davison and Thomas 2008; Lyall 2010). In addition, there are benefits concerned with metacognition: learning about learning (Yusri *et al.* 2013; Bullock 2013; Zhao 2013; Kert and Kurt 2012; Vrieling *et al.* 2012; Abd El Fattah 2011; Turan *et al.* 2009; Cotterall and Murray 2009; Sperling *et al.* 2004). This may take the form of more explicitly developing academic capacity, or converting learning about the subject into broader learning about how to learn in other contexts.

Another advantage of this type of learning environment is *learning how to learn*; the students observed the way the lecturer, acting as student, engaged in learning activities such as compiling notes, asking questions, seeking clarification, recognising new concepts, addressing problems and reinforcing learning. (Electronic Engineering, ITT Dublin)

Working independently was a common theme, with many students commenting that they thought they had a deeper understanding of neuroscience as a consequence – rather than passively listening to lectures, they actively sought the information themselves. One of the tenets of PBL [problem bases learning] is that students start from their existing knowledge base, and from there they identify gaps in their knowledge and skills. One student commented: "I have gained more confidence and learnt processes of approaching problems e.g. brainstorming … and starting from what we already know". (Psychology, Manchester Metropolitan University)

> The basic cognitive competences that the students (future pharmacists) should successfully demonstrate were described in Bloom's (1956) taxonomy - namely knowledge, comprehension, application, analysis, synthesis and evaluation. In tandem with these cognitive skills, students should be able to reflect on their own learning experience... It is important for students, particularly student healthcare professionals such as pharmacists, to develop ownership of their learning as this is a life-long process. By providing the conditions for students to learn, their learning is deep rather than mere regurgitation. (Pharmacy, Robert Gordon University)

Some interventions designed to bring people together into a learning community to generate a sense of belonging and help students to access peer support, while for other interventions this is an added benefit:

> Within this peer-learning environment … students showed a sense of belonging, as evidenced by the statements: "the whole class came together to solve this computer programming issue" and "everyone brought their idea and we were together finding solution to a problem". (Electronic Engineering, ITT Dublin)

> Interestingly, we have found that feedback from mentors is also positive, citing improved confidence, increased engagement with their own studies and enhanced student experience as being some of the many benefits of being in the role. Two-day residential training encourages a sense of community. Mentors engage in role-play and analyse case studies to create a collaborative approach to running a mentoring session. (Student mentors, Nottingham Trent University)

A number of the examples are designed to promote student engagement and motivation, often this involves translating their learning into the real world, or engaging with real-world issues:

> The case study is selected each year from a small sample offered to the tutor by a regional insolvency practitioner. The cases are of real companies in discrete industries (typically medium-sized enterprises) from the Midlands area. The apparent simplicity of the company and its business model often belies the complexity of the problems that led to its demise into insolvency and the variety of potential solutions. Often the fact of the failure is known but the fate of the company assets still hangs in the balance – so there is no 'real life' solution to follow. (Management/Finance/Accounting, Loughborough University)

> The affective element in experiential leaning means that students can begin to see the relevance of theory to practice and how learning emerges from activity. (Social Work, University of Salford)

> Self-managed learning helps to build confidence and interest in learning in a variety of contexts. If some students have appreciated this point and its importance then the module will have been more than worthwhile. It may even be life changing. (Management, University of Southampton)

In addition to making the learning more relevant, DIL is also used to develop the professionalism and employability of students:

> The skills learnt are key to any future career in law or business and provide a practical side to the course that is otherwise absent from the standard LLB course with its more academic focus. (Law, University of Swansea)

> The big pay-off for the groups is that they pitch to creative industry experts who make their living from pitching. The students take responsibility for their own work in a way that

> empowers them and focuses their attention on the constructive use of their time outside the lecture room. (Film, Radio and Television Studies, Canterbury Christ Church University)

Using technology also provides a way of monitoring students' engagement and progress in the learning process. This can be used to identify students who are having difficulties and may be at risk of withdrawing:

> The increasing use of website analytics and monitoring of student interactions allows us to identify patterns of behaviour and intervene when students are perceived to be at risk of failing or withdrawing. (Open University)

> Independent learning is really quite controlled. We hover, but students rarely see this. We check on students who have been quiet, we check and see if they are logging on. If they are not logging one we send them a friendly email, and if they don't reply we phone them … Usually it's a problem that can be easily solved, like they can't log on, or they've been busy with work and haven't been given any study leave. (Enhancing Professional Health Care Practice, University of Salford)

Students in one case study were very clear about the practical benefits of independent learning, particularly the flexibility afforded to them to fit learning around their lives, including childcare and employment:

> I work in a bar job in the evenings and when I come home I'm sometimes awake and I need to wind down, so I can go on the Wiki and add my comments … It's good for mature students as they don't need to get childcare to participate … If you are sick you can still contribute … (GCU/UWF)

In line with the literature, staff generally view it as important that students take responsibility for their own learning, and become more motivated, engaged and deeper learners, developing skills to support them in higher education and beyond. Students in the focus group at UNN discussed how some of the DIL activities encourage them to take responsibility for their learning – both processes and its outcomes. However they also admitted that sometime they report (through their learning log) what they think the staff want to see. This is not, however, as negative as it sounds, rather they feel guilty and this might push them to eventually do what they have not done.

Throughout the case studies students were quite instrumental in their approach to learning, perhaps not appreciating the wider benefits of DIL. In one focus group staff expressed frustration that students do not see the benefits of independent learning (UCBC). For example, they will question the value or purpose of wider reading and not participate in extra-curricular activities, or only attend timetabled sessions. Students at the same institution identified benefits of DIL that were largely instrumental, for example the value of sharing resources, helping them with their assignment (including widening knowledge and providing padding) and catching up. They also identified more educational benefits, such as, "Broadens horizons/wider understanding/wider range of viewpoints and self-discovery of what interests me; the development of skills such as self-reliance, research, time management and better organisation." One student in this group identified the value of "working at my own speed". At USa, students viewed the benefits of DIL in instrumental ways, as equipping them with skills for employment and for contributing to their degree – which is seen as a ticket to employment in the health and social care sectors.

In general, students tended not identify wider benefits such as interest and ability to follow up on things of particular relevance to themselves. Nor did they discuss the learning benefits of discussing and using concepts or the social benefits of making friends and gaining support for their study. In one of the case

study institutions they were critical of independent learning and viewed it as being short-changed and not getting proper teaching.

Summary: the benefits of directed independent learning are multiple and sometimes taken for granted by staff. But they are not always explicit to students, who seem to be increasingly instrumental and want to see the value of their learning activities. It is therefore necessary to articulate clearly the expected benefits from DIL and how they will be achieved. This list of benefits could be used to help staff and students think about the expected and actual benefits from a particular DIL activity.

Quality assurance and enhancement

The majority of examples submitted to this study have been developed by innovative and enthusiastic individuals, often in their own time, rather than as a result of an institutional strategy or quality assurance mechanism. Likewise, in the literature reviewed, the term 'quality assurance' appears only infrequently, and never as the distinct topic of a publication. Furthermore, it is striking that a number of staff interviewed as part of the case studies found that – in the past at least – the institutional quality assurance processes were constraining in relation to the development of their innovative DIL practice, rather than encouraging or enabling. Both however state that independent learning is now more visible in the quality assurance mechanism of their institutions:

> Our approach did not fit the process of approval. It was horrendous, we had terrible problems getting the modules approved … Things have improved now, there is more of an overarching philosophy about the student experience and the student journey … Independent learning is visible in the quality process now. (Health, USa)

> When the module was developed and validated in 2007-8 there was no help available from the institution. Since then things have changed a lot … GCU has appointed development officer with responsibility for developing and embedding independent learning. (Criminology/Criminal Justice, GCU/UWF)

Concern was expressed by staff at one institution that quality is a tick box exercise that has no impact on the quality of provision, rather the emphasis is on passing as many students as possible. Consequently, one lecturer believes that "independent learning is withering away", as students believe that as they are paying for their degree they do not really need to attend. This has been accompanied by an increase in the number of complaints; indeed the staff at this institution feel that the management is encouraging a "culture of complaint". In the exam board "exceptional units" are identified: these are units with a high failure rate. One solution is to remove the independent learning and guide students through the learning process, as the institution wants more passes.

More positively, however, a number of institutions have pointed to the way in which the quality process has encouraged them to innovate and develop engaging and effective learning modules or approaches – certainly it was this that prompted widespread change at RVC, and more local developments in the School of Management at the University of Sheffield:

> The module was developed to fill a gap identified by the course team as part of their internal annual review. There are specific guidance within the module specification terms about teaching, directed and self-directed study hours. (Management, University of Sheffield)

At RVC the quality review identified the need to develop the learning and teaching experience, and this was driven by a senior manager. Departments at other institutions had a similar experience:

> A review of the curriculum and revalidation of the undergraduate programme provided an opportunity to embrace alternative and contemporary methods of assessment. As a result, a reflective case study and portfolio assessment diet was introduced which permitted students

> to record their personal reflections and competency development with regards to the practical skills taught on the module. (Business Studies, University of Westminster)

The majority of staff were not aware of whether the quality assurance mechanisms at their institution specifically address issues related to independent learning. Most were aware of the number of hours a student should study to achieve a certain number of credits[1], but it was less clear whether other aspects of independent learning are specifically reviewed. These examples demonstrate a positive role for quality assurance processes, which is perhaps under-developed, and could be more specifically directed towards directed independent learning.

Although quality procedures include enhancement as well as assurance there are few examples available of how staff are supported and enabled to become expert in DIL. At one case study institution, new staff had found that the postgraduate certificate provided a useful space to reflect on their teaching practice and to innovate; and, when prompted, staff at other institutions made similar comments. Beyond this, however, staff in the case studies were unable to identify opportunities for continuing professional development that was specifically focused on DIL or independent learning more generally. The exception was RVC in which the need for staff development and enhancement is recognised in the learning and teaching strategy. At USh, staff reported little staff development related to learning and teaching in general, or independent learning in particular, but training related to software and IT support both contributed to enabling the programme leader to develop an effective module utilising a range of information communication technologies.

Staff in all institutions talked about the time consuming nature of developing good directed independent learning opportunities and supporting students effectively.

> It is easier to deliver a module without embedded independent learning … this takes a huge amount of time. This module required more upfront planning, and more delivery time. (USh)

Some institutions recognise the time involved for development through the work allocation framework, while in others this does not appear to be the case. Although the time allocated is not always sufficient, it is certainly appreciated.

Summary: staff generally have good awareness of the number of hours students are required to study per credit, but among staff involved in the case studies there was little other knowledge about how the quality assurance systems at their institution support or inform independent learning. This suggests that the quality of DIL is not being measured in many HEIs. In addition, no specific examples of staff development activities focusing on DIL or independent learning were offered. A number of staff identified that the HEA-accredited postgraduate certificate offered a space to reflect on learning, and in some instances this included a specific session on independent learning. The need for continuing professional development with respect to DIL was recognised at just one institution, while another case study pointed to a range of training and support that enabled staff to gain practical skills to develop DIL utilising technology. Staff in all the case study institutions reported that developing effective DIL modules is very time consuming, and most reported that supporting students on these courses is time consuming too. This overview points to the need for consideration of the extent to which national and institutional quality assurance mechanisms could and should seek to measure and improve specific features of directed independent learning. This needs to be underpinned by more initial and ongoing staff enhancement activities, including the consideration of many issues identified in this report, sharing good practice, and the provision of space and time to develop more innovative approaches.

---

[1] The Quality Assurance Agency for Higher Education (QAA 2013) provides guidance that students should expect to study for ten hours per 'credit'. Most degrees are 360 credits over three years, which equates to 1,200 hours over a typical 30 teaching-week year or 40 hours per week.

Curriculum design

This section considers the extent to which directed independent learning is designed into the curriculum programme, and what factors support this process.

Directed independent learning encompasses a range of related and complementary approaches to learning and teaching. Across the examples and case studies different learning and teaching approaches, such as problem-based learning, enquiry-based learning and peer-learning are used to deliver DIL. For example:

Problem-based learning enables students to work together to develop and apply their knowledge to a real-world situation:

> The students on our psychology degree programme are introduced to the idea of practitioner psychology scenarios at level five, where they complete a portfolio as part of their assessment of a module. The PBL at level six in the module 'Neuroscience' takes this a step further. Students become more independent in their learning, experience being an important member of a multi-disciplinary team and address a real-life dilemma. They learn the importance of working within the dynamics in a team, and how to respect different opinions and experiences. Most students remained in their original team, but changed their role, throughout the learning experience. Teams generally worked very well together, drawing on each other's strengths to reach a solution to the scenario.
>
> The intended learning outcomes of the PBL pilot include a demonstration of an in-depth knowledge of neuroscience, together with a critical application of such knowledge in a real-life situation. These outcomes were assessed both formally and informally. The feedback session in week three of each scenario indicated the depth of knowledge that had been attained, and the level of understanding of how this knowledge can be applied to the problem. Formally, the outcomes were assessed by the summative seen paper comprising all six scenarios. Students were required to address two. (Neuroscience, Manchester Metropolitan University)

Enquiry-based learning positions the students as producers rather than consumers of knowledge:

> The Making Digital History project … involves getting students to produce online resources that teach others about the work they have been doing in the curriculum. It has been assessed across all levels of the curriculum and in different types of module and through collaborative and individual work too. The key aim is to shift students from consumers to active producers/communicators of historical knowledge to audiences beyond academia. (History, University of Lincoln)

Peer learning is integrated into both problem-based and enquiry-based learning, and can be used with a larger group of students:

> It was agreed that the students would collectively pool their understanding and learning, and collaboratively work through problems … Once the first student volunteered to become the 'tutor' and took control of the computer and overhead projector, many other students, over time, also became willing contributors. The lecturer (acting as student) listened to the 'tutors', compiled notes on the white board and questioned the 'tutors'. After some time, all students seemed to have assumed a role of either student or teacher, seeking clarification or assisting clarification. (Electronic Engineering, ITT Dublin)

Some of the examples explicitly talk about flipping the classroom, away from lectures delivered at the front, to an emphasis on students working and learning together:

> A switch to an independent learning mode of delivery, supported by appropriate resources, assessments and tutorials, changed student perceptions and learning from poor to very good. The fundamental approach is akin to 'lecture flipping', that is classes take place in a computer laboratory where students can work together, or alone, on problems supported by a number of online videos, exemplar files and other resources. Face-to-face lectures occur about once every three weeks and are more of a question and answer format, thus student led. (Systems Engineering, University of Sheffield)

Some of the examples were compulsory core courses, others were optional modules, and a few were voluntary 'extra-curricular' participation.

> 'Personal Development for the Sports Industry' is a core, year-long, module for all Sports Management students (approximately 80); it defines and explores the components of employability in an engaging manner to allow the students the opportunity to 'individualise' their own learning … Independent learning is embedded throughout this module, with the task of them addressing their own 'personal development' for the sports industry; this has to be an individualized experience and learning experience. (Sports Management, Bucks New University)

The 'self-study hour' at the University of Nottingham Ningbo China is compulsory. The students appreciate that this independent learning activity is an integral part of the module, and that it is directly related to the intended learning outcomes, although not to the final mark of the programme. They feel that similar directed independent learning activities should be compulsory and widely introduced across university modules, because at the moment the students have the feeling that only those studying a language are formally developing independent learning skills. Similarly, teaching staff wish that DIL activities were also included in other academic modules in order to give to the majority of students the opportunity to develop independent learning skills.

The 'Business Management and Strategy' example from Leeds Metropolitan is unusual in that the DIL is optional, and intended to extend and develop knowledge. In the field of art and performance there were also examples of optional extra-curricular activities.

> The strength is that it is an open invitation to explore in depth the content of the module via a non-formal co-creative process. Aiming to expand the conceptual domain of the students and perfect their dialogical process within the rigour of the discipline. The main weakness is that by design not all students will engage and receive the benefit of this exercise, and from the staff perspective time constrains impede an intensive engagement and monitoring of the individual performance of the students through this co-creative process. (Business Management and Strategy, Leeds Metropolitan University)

Many staff feel that students need some core knowledge in order to undertake effective DIL. Thus, some modules combine lectures with other forms of directed independent learning, while others feel that DIL is more feasible in higher levels once students have gained a reasonable amount of subject-specific knowledge, and the skills and confidence study with less direct input and guidance. For example, in the 'Financial Markets and Risk' module at the University of Sheffield the taught sessions take the form of a two-hour weekly lecture which focuses on teaching core knowledge and ensuring students are well placed to undertake the more advanced practical tutorial activities. Then there are six one-hour tutorials throughout the semester, which are delivered in a PC suite with class sizes of 17 students. Conversely, the 'Criminology/Criminal Justice' module at GCU and UWF is offered to final year students, as they need to have a subject grounding – they need to be confident in the subject to know where and how to find the information they require.

Experienced staff argue that DIL needs to be well structured. This includes defining the learning outcomes and designing the DIL activities to meet the objectives and aligning it with other elements of the programme of study, including skills development and assessment – both of which are discussed in subsequent sections below.

> A number of learning outcomes were identified, including problem solving, use of statistical methods, understanding the nature of teams and team dynamics, and, in particular, an appreciation of the integrated nature of the key functions and activities within a business. (Business Management, Teesside)

> Online learning is creatively aligned with module content, so that lectures on chronology, decorative styles, and the uses of pottery, run parallel to students' independent learning and formative assessment. At the end of the module, students produce write-ups of the handling session worksheets and demonstrate the skills that they have developed independently. (Archaeology, University of Liverpool)

In some instances the DIL is timetabled as part of the module, providing further structure:

> The students undertake three days of RiTe (Research-informed teaching experience) within the clinical skills lab, using X-ray equipment and phantoms, and are required to undertake a self-directed literature search on the first day. The last two days are spent in allocated rooms or learning spaces, in order to analyse the results from their research and draw conclusions. At the end of the week there is a plenary session where students give a PPT presentation of their research and findings, followed by student-to-student and academic staff-to-student discussions. (Radiography, University of Salford)

The Open University does not timetable the majority of its sessions, but students have explicit information about the number of hours they should study each week, and the topics and activities that should be covered. This is intended to provide the requisite structure within a flexible model of delivery.

Irrespective of whether the DIL is timetabled or not, students value clarity about what is to be done. A number of the examples and case studies provide excellent examples of how DIL can be structured – or directed – to help students make the transition from dependent to independent learners.

> They are given a guide structure, which outlines learning approaches in a step-by-step process. They are also required to problem solve within the group and communicate through their group chair. Most groups also set up their own self-help Facebook page. (Health and Exercise, University of Swansea)

> The initial activity and the methods of operation are quite closely defined by a combination of the software and the detailed documentation provided by the tutors. Although this might initially appear contrary to some of the concepts of independent learning, it is this structure that provides clearly understood boundaries within which the team can run their 'business' in any way that they choose - to strive to achieve their own targets, agreed as a group. (Accounting and Finance, Teesside University)

> The study guide helps students to organise their work and manage their time by taking them through the module and the readings systematically, supporting the students' broadening interests and engagement with the wider debates and literature. As students work their way through the study guide, they are directed to read chapters from books or articles. These are normally available through the University's online library … or are freely available via the Internet. The readings are selected to offer a different (and sometimes intentionally

Effective practice includes a structured approach, combined with a range of inputs. Examples from a range of disciplines illustrate how the structure is used to provide guidance on the process.

'Corporate Social Responsibility and Sustainable Business' is a third year optional Management module at the University of Southampton. The lecturer has developed a facilitated process to enable students to work together and learn independently.

The key features of the process are as follows:

- two 45-minute lecture sessions per week;
- one class per week. In week one, class members self-select learning set members. Set size is on average five to six students;
- sets agree criteria upon which they will assess the work of their fellow set members. The course handbook includes criteria which I will use to assess their submitted course-work, a 2,000 word 'learning log' (40% of coursework). They can use these criteria as a starting point for the development of their own;
- each student is asked to prepare and agree an individual learning programme (ILP). This explains:
    - the broad topic they wish to inquire into;
    - the questions they have about the topic;
    - the tasks they will undertake during the module to both answer their questions and how they plan contribute to the learning of their fellow set members;
    - that the set has agreed the ILP against the agreed criteria.
- set meetings occur during class time and are largely self-governed. The lecturer acts as a resource by offering support and challenge. Students provide feedback to one another about the work they are sharing. For students who are unable to attend set meetings they communicate and provide feedback using Blackboard (VLE) or via student enabled social media groups;
- at the end of each class, the lecturer offers the group a set of reflective questions. Summarised responses will form a small section at the conclusion of the learning log;
- the learning log is intended to evidence individual and shared learning that has developed during the module drawing upon the ILP, which forms the basis for it, and the set process;
- a set presentation on a topic of their choosing will count for the remaining 10% of coursework.

Another lecturer in English and Critical Theory has used reading diaries to create a structure to help students become more effective in their independent reading:

This approach has been helpful in encouraging students to take more risk in their discussion, and has improved the quality of assessed work. The lecturer supports this process through face-to-face taught sessions:

I model the kinds of cognitive process that go into creating such a diary. I also offer sample diary entries, which students analyse in class; students work alone on their own diaries, but collaborate in class in analysing sample diaries during the training session. In class discussion, we examine the reflective component of this example, noticing how the hypothetical student highlights her uncertainty and takes the reader with her through her thought processes as she engages with the text. During these discussions, students regularly notice and comment on the way that the student in the example deliberately focuses her attention on a passage she does not understand, counter to usual strategies many students feel pressured to adopt when writing assessments. In the interests of scoring well, in traditional assignments some students understandably feel it is safer to stay with familiar theory with which they are already confident, rather than to explicitly seek out other work that puzzles them. This form of reading diary asks students to deliberately invert that trend, asking students to seek out areas of confusions and to dwell with those passages, and rewarding the risk involved in doing so. (English and Critical Theory, Edinburgh Napier University)

In some discipline areas – particularly the performing arts – such structure may be seen as inappropriate however:

Learners are given creative musical assignments which, because there can be no specific outcome, require open paths of individuated thought … The whole point of artistic training is to equip people with context, processes and tools for working and then to let them put these to use – not to specify the detailed content, which inhibits the very decision-making that is intrinsic to creativity. (Music Composition, Queen's University Belfast)

Similarly in music at the University of Chichester opportunities are provided through the 'Ensembles' modules offered for all undergraduate year groups in the music department. In these modules students undertake the following activities:

- participate in one of the six orchestras, eight choirs or weekly rock/jazz workshops directed by a team of tutors;
- attend and (by rotation) administrate and stage manage professional concerts in a variety of styles (including classical, jazz, folk, rock, music theatre) from the on-campus series;
- organise their own student-led initiatives on the back on these experiences.

The students must organise their own rehearsal sessions and master the art of interpersonal communication, diplomacy and musical effectiveness between themselves. Although there are opportunities for students to receive tuition through staff tutorial slots, masterclasses, and drop-in sessions (supervised by the Head of Chamber Music) ultimately the onus is on the students to be enterprising enough to take advantage of these opportunities as there is no formal weekly lecture. The fact that so many of them do take advantage (we have 88 flourishing student groups, many of whom play professionally) is testament to the success of this formula…The students are assessed on all aspects of the process by attendance, a formative performance halfway through the academic year in which students receive written feedback to assist them in preparation for the summative assessment, and the final summative performances. (Music, University of Chichester)

Providing a structure but moving away from the direct transmission of knowledge involves both risk and trust on the part of staff and students.

A weakness, if it can be called that, is the amount of trust that is needed between students and between the class and the module leader who no longer 'controls' the learning agenda but helps create spaces in which students can take charge of it for themselves. (Management, University of Southampton)

Staff at RVC talked about the risks involved in letting students select their own materials to inform their problem-based learning:

> A challenge is to control the sources of information that students use … it needs to be respected sources, but students are not good at critically evaluating evidence. (RVC)

Staff at Blackburn College discussed concerns about 'metaignorance' among students working together and collectively re-enforcing incorrect information or approaches to studying:

> Students are working collaboratively on assignments, but, in this way, I don't think they are giving each other useful feedback – perhaps either they don't know what is good or bad – and then there is a risk of meta-ignorance – or they are too polite to say how it could be better. (UCBC)

Staff, therefore, need to provide sufficient structure, guidance and checking mechanisms to guard against these risks, and to allow both staff and students to develop trust in each other. As the next section of the report discusses, students also want reassurance that they are on the right track.

Summary: DIL seems to be more effective when it is fully integrated into the programme of study, is clear in its purpose and is structured to provide students with clarity about what is required. This may be achieved by combining different approaches to learning. In some discipline areas however, especially the performing arts, there appears to be more reluctance to be prescriptive and thus structure is provided in different ways. Moving from a more teacher-led to student-led curriculum poses challenges as staff have to let go and take risks about the learning that students will engage with. It is a difficult balance between providing structure – clarity and guidance about what is required – and letting go and taking risk. This points to the need for mechanisms for both guiding students independent learning and checking it at key points.

Capacity development

Students need to have the capacity to undertake learning, especially directed independent learning. This section focuses on how students' capacity to undertake directed independent learning is developed. An NUS survey (2012a) found that the majority of students do not feel adequately supported with their independent learning. Students were not clear what was expected of them, and they developed their ability to study independently over time and by making use of other forms of support, often peers. Students recognised the significant contribution of some teaching staff in helping them to get the most out of DIL, and felt that additional spending should be invested in resources to support independent learning as well as more contact time. The empirical work found that it is widely agreed by staff – and students – first, that it is necessary to develop the capacity of students to be independent learners, and second, that developing the capacity to be independent learners is best when it comes from within their course – rather than reliance on students having the skills already, or developing through a central service. Staff in one discussion group (UNN) noted the 'pedagogical dilemma' involved in directed independent learning, between offering guidance through a facilitated process and thus limiting students' freedom to be autonomous.

Meyer *et al.* (2008) found that the factors that facilitate independent learning can be categorised into internal and external to learners (p21). The external elements are the development of a strong relationship between teachers and students, and the establishment of an 'enabling environment'. The internal elements are the additional learning skills (including time management, team working, critical review, etc.) that students have to acquire. The strong relationship between teaching staff and students involves trust and a mutual responsibility for learning, which is based on explicit messages about learning, and providing learning opportunities that are relevant to students' interests. The 'enabling environment' includes the physical environment and material resources, including library resources

(NUS 2012a) and online learning resources. Importantly, it also includes social interaction and support from teachers and peers. Meyer *et al.* (2008) conclude that the successful promotion of independent learning will require careful attention to the learning environment, focusing both on the relationship between teachers and students, and the wider physical environment and resources within it, including ICT.

Throughout the case studies and in some of the examples staff talked about the challenges of transition from level three to higher education learning. Students need reassurance through guidance and feedback that they are doing the right thing. Staff experience that students are too dependent in their learning. This is attributed to their prior educational experiences: the way school-level qualifications are only taught towards the assessment: students are 'spoon fed' the information required for the assessment, and given specific guidance about what to do and they are given feedback on drafts for their continual assessment. Staff feel that some students lack the skills to synthesise ideas; are insufficiently motivated by the subject; lack time to undertake the DIL; and do not see the point of it (if it is not assessed). These challenges exist across discipline areas and institutional types, and the comments are remarkably similar. Independent learning is:

> … a major change to the culture they have experienced for 13 years in school, especially during the high stakes assessment of GCSE/GCE which were very much teacher led and more about knowing the right answer. Hence this issue is dealt with first. (Systems Engineering, University of Sheffield)

> Challenges are often found in the beginning of the first year, when students sometimes struggle to make the transition from a school-based education, which appears to produce learners who are only focussed on the learning outcomes that are immediately tangible and are afraid of being 'wrong'. Students feel especially afraid to tackle creative tasks such as choreography individually, and over the first few months of the course the main priority is developing their confidence while slowly withdrawing frequent low-level instructions, facilitating a more independent approach to their studies. (Dance Theatre, The Arden School of Theatre)

Staff in one discussion felt that students who have studied the 'Access to HE' course (instead of A-levels) are more capable of independent learning – which may be a consequence of the qualification, or because they are mature students. Mature students however did not feel better prepared than school leavers, although they were often more motivated.

Staff in the more inclusive institutions where case studies were conducted attributed the challenges to the type of institution they are and the type of students they have (who may not have achieved the top academic grades at level three):

> We are not a Russell Group university. These students need handholding, and this is time consuming … The management has no idea of what goes on at the coal face. (SSU)

A member of staff who has undertaken research into the experiences of students from widening participation (WP) groups made similar comments:

> We expect them to do independent reading, we expect them to find stuff in the library or online. Some do well at this, but most don't. Lots of our students come from low participation backgrounds … they don't know what an academic journal is, and they don't want to ask and look stupid. Schools don't prepare them for independent learning, and staff expect students to do things. (SSU)

However staff in the selective institutions where case studies were conducted presented a similar picture. For example, staff at the RVC explained that the challenge was just as great there.

> We have students who have been highly successful in this system (A-levels). They have to learn how to learn differently, rather than just studying harder they have to study differently, and unfortunately some don't learn that until they fail. It's hard lesson to learn. (RVC)

The challenge of students moving from being dependent learners to autonomous learners is widely recognised, in the empirical work and in the literature. In the literature, this appears as two kinds of transitions: the transition to higher education (e.g. Keane 2011; Murtagh 2010; Taylor 1986), and also the transition within higher education to independent learning (e.g. Hoad-Reddick and Theaker 2003). A number of approaches can be identified from across the examples and case studies of ways in which students can be supported to make an effective transition.

Some staff discussed the importance of creating a safe space in which students can develop as independent learners. This can be done face-to-face or virtually:

> A core pedagogic ethos of the course is the formation of a close-knit, interactive and supportive learning environment, with strategies for community building embedded throughout the programme design. The asynchronous discussion forums are very much seen as a 'safe' environment where students can engage in debate centred on the study guide activities, make mistakes and identify areas of challenge or weakness, without fear of being judged. Frequently, students will support their peers, perhaps by suggesting additional reading which may provide clarification on a particular point, highlighting a topical news item or drawing on their own professional experience. Both the face-to-face workshops and webinars also provide invaluable opportunities to engage and collaborate with the rest of the group and build on students' own independent learning; the workshops, in particular, allow students to gain additional insights through industry lectures, debates and discussions, often delivered by guest speakers from the financial services industry. (Banking and Finance, IFS University College)

A similar approach is taken in English Literature at Sheffield Hallam University. Feedback from students and the external examiner, and improved student attainment endorse the benefits of this approach. The students said:

> Discussing with everyone else online means I am challenged and challenge myself to think about how I use my time and how what I do when the tutor isn't there counts.

> I was scared I'd look stupid, but everyone supports each other and we all learn so much.

> I have got so much better at reflecting on what I write, because others respond to my posts. This has definitely improved my approach to assignments.

> I tend to think about my grades, but I got so stuck into this task I didn't think about them too much.

> The quick feedback from tutors was brilliant – really useful because you've not forgotten what've you said when you get your feedback!

> (English Literature, Sheffield Hallam University)

External examiners have praised the commitment and dedication of students in their participation in the online learning community, and for the effectiveness of the task in engaging students in self-reflection.

This is reflected in student attainment: the average grade for this module has been at the upper second class (2.1) level, in comparison with a programme average of a high lower second class (2.2).

As the discussions above has illustrated, many students are unsure about either what independent learning is, or how to go about it. They appreciate clarity in to inform their understanding, and a clear structure (see above). They also value support from staff, being able to check that they are doing the right thing and not getting it all wrong. Support can be offered informally – for example, staff are available for students who want to seek them out, more formally through tutorials, via online solutions, or through formative feedback (discussed below).

> Being available to students as they grappled with self-managed learning has been vital. Sometimes a word of reassurance is all that is needed. At other times, helping them reflect on their experience and handling the dynamics within learning sets is required. Offering reflective questions at the end of each class (summary responses will be included in submitted learning logs) alongside experimenting with class venues to challenge habitual ways of behaving in class have both contributed to a different experience. On one occasion, a meeting was held in an art gallery and on another in the University Senate - the objective is to reflect on how environment impacts on the learning process. (Management, Southampton University)

> Learner support for this independent working rests in part on the formative critical response that is given through the process, but the main support for individual creative work is inbuilt, by means of preliminary activities – exercises, studies on smaller scale, study of contextual works – that feed into and set up the individual tasks. (Music composition, Queens University Belfast)

> The staff role in this module is more aligned with coaching as opposed to the more traditional lecturing role. All of the teaching team have extensive industry experience and therefore are able to support the students through this exploration stage, acting as a guide and facilitating this journey which the student must lead as opposed to being led. In order for this coaching to be effective personal relationships are key and the assessment regime is set up to help strengthen these relationships further and enable the feedback and feed forwards to be personalised … tutors very much engage in an ongoing dialogue with the individual students throughout the year via email and in person. (Sports Management, Bucks New University)

> Frequent repetition and reinforcement of the message is used to help students adjust to the expectation that they must be effective independent learners. All staff include aspects of independent learning into their modules so the message is being covered in six parallel modules at the same time. Moreover, a schedule of activities for the personal tutors includes discussion of this and related issues on a regular basis. (Systems Engineering, University of Sheffield)

The Open University has developed 'self-assessment questions' (SAQs) across its portfolio as a way of learners to check whether they are on track and access further support if required.

> Giving students the opportunity to engage with the SAQs as they work through their module materials allows them to assess their own progress and attainment of the learning outcomes. The student is then able to identify areas of weakness where they need to review or undertake further study. Some students also use the SAQs at the start of a new topic to test how much they know before they begin.

On some modules, associate lecturers have access to data showing which students have attempted which questions, and their achievement. This allows associate lecturers to keep an eye on student activity to ensure they are making progress through the material, and identify where they are having any difficulties. Where a student has had several attempts at questions relating to a particular learning outcome, associate lecturers will be able to see that they are struggling and intervene to offer additional support. (Open University)

The tutor for the 'Financial Markets and Risk' module at the University of Sheffield recognises that it is a challenging module for both staff and students, especially in the first few weeks. Students need support both to use the software, and to work independently. The programme leader spends a lot of time with the students, and provides formal and informal feedback. Audio feedback is provided in the form of podcasts, and Google Hangout is used, and all students dial in to talk at some time, and send emails. The lecturer is careful to provide guidance and support to 'push them on their way' without telling them the answer. Students are encouraged to share their spreadsheets as these have a huge amount of data and are complicated; they are accessible to the tutor, and can be shared with peers, who will have similar issues but different data.

In addition to support from staff the capacity and confidence of students is often developed through formal or informal peer support. For example:

Student Mentors undergo the NTU recruitment and selection process, are trained in mentoring to facilitate and enable independent learning, and use questioning techniques to encourage independent thought. The vision for this model is one in which highly skilled students are recruited and trained to work with lower year students to facilitate discussion and promote familiarity with the conventions of writing in that school. According to feedback, the majority of students access a student mentor when encountering difficulties with their academic work - and a high percentage of students cite increased understanding and confidence as being one of the main outcomes of a session. (Student Mentors, Nottingham Trent University)

Peer working and peer support can be facilitated by teaching students about group working.

They gain experience in effective group work; not just how to work within a group but how the dynamics of groups operate. This is underpinned by work we do in the first term using critical thinking tools such as de Bono's *Six Thinking Hats*, The Stanford Institutes' 'needs, approach, benefits, competition/alternatives' (NABC) and 'strengths, weaknesses, opportunities, threats' (SWOT) analysis. Richard Sennett's *Together: The Rituals, Pleasures and Politics of Co-operation* (2012) also helps to underpin the development of the learning and teaching model for the module. (Film, Radio and Television Studies, Canterbury Christ Church University)

Many of the examples, both quoted above, and in the *Compendium of effective practice in directed independent learning*, make use of reflection to help students develop their capacity to be effective learners. This is supported by providing structure and guidance about how to be reflective and to better understand the learning process.

As part of an electronic portfolio of their work, language students at York St John University are required to complete a reflective log of their independent work. As the modules have very little timetabled contact time, students undertake a considerable amount of independent work either on their own or in collaboration with other students (for example in creating video dialogues), but each must produce their own portfolio. (Languages, York St John University)

… students were encouraged to reflect on the work undertaken by keeping a record of the intervention, developing plans and timelines and recording the learning that informed the activity as it progressed … The staff role as mentors was to guide, listen and ask questions to prompt reflection on higher critical levels … It was therefore recognised that students would benefit from sharing their experience so that learning became embedded and something that students could draw upon and relate to future learning and activities. (Social Work, University of Salford)

In addition to providing reading diaries, one lecturer has provided guidance to help students use the diaries more effectively:

If there are certain passages that bewilder you in the reading, use the diary to analyse that sentence piece by piece, trying to get it into your own words. Use the diary to try out your ideas. It is a safe place, where we don't need to see perfection – what we want is to see the thought processes that you personally go through when you face that particular passage. We strongly recommend that you keep a reading diary for all your reading on this module. (Module Handbook, English and Critical Theory, Edinburgh Napier University)

In some cases specific technical skills are required by students in order to undertake effective DIL. This needs to be provided to students as part of the teaching process, and/or access technical support within the institution. For example, the programme leader of the Financial Markets and Risk module at the University of Sheffield provides guidance on how to use the software, as well as information about financial markets. Whereas technical support for language students at York St John University is provided by the Technology Enhanced Learning team:

A great deal of support is available to all students so that they can all produce an electronic portfolio whatever their IT skill level. The Technology Enhanced Learning team are very supportive of the aims and the Academic Technologies Trainer is available for tutorials. Illustrated guides have been created as well as the reflective log guidelines mentioned above. Lecturers provide feedback on the portfolio twice during the semester. (Languages, York St John University)

A group of mature students at one of the case study institutions felt the core technical skills for independent study – and becoming professionals in their area – were not taught. This made them critical of the institution, and more likely to want to be taught, rather than learn independently. As mature students, they felt they were drawing on learning skills developed previously, either through employment or other programmes of study. Within the university they were too often left on their own to develop the skills they needed (especially things like advanced IT skills for design courses), and they were particularly aggrieved about being asked to use Youtube, etc. for skills development. One student had failed the IT related module, and another had suspended their studies to get up to speed (Creative Industries, SSU). Students at another institution felt that it was easier coming directly from school or college than from work, if they had time out they felt 'rusty'. One student attended a summer school prior to entry that was organised by the institution, and taught academic writing skills which were useful. One non-native speaking student identified challenges with being 'foreign', both in terms of English language skills and understanding the expectations of higher education.

These experiences point to the need for DIL to be underpinned by monitoring, to identify students who are struggling and need additional support.

Monitoring student engagement is considered vital to the module and we take this very seriously. By using the Blackboard VLE, students who struggle, or who are not engaging can be identified at an early stage and the appropriate support can be offered immediately. For

> success, close monitoring should usually take place with independent learning, although this should not be visible to students. (Health, Salford University)

The examples and case studies are from across all levels of undergraduate study, and from all disciplines and types of institution. Students need to move from being dependent learners to being effective independent learners. Radiography students at USa explained how they are supported over the three years to become more autonomous independent learners – initially working in groups with a 'trigger', developing critical skills that are subsequently applying their independent learning skills in the final year through a research project. Similarly, staff at SSU suggested a gradual release model ("I do it. We do it together. You do it.") They went on to argue that you have to learn to do independent learning by doing:

> It is like riding a bike. When you are a kid, your Dad teaches you to ride a bike. But no matter how many times it is explained to you, you can't do it. You can't do it until you actually try and you pedal and you can do it. (SSU)

The idea of supporting students and gradually developing their autonomy, through directed independent learning, so that by the end of their undergraduate studies they are effective independent learners is summed up below:

> I would like to say that having taught in both the US and UK, that the honours dissertation is one of the best aspects of higher education in this country. The US has many prestigious institutions, but only the very best require their students to do undergraduate research. It is normally reserved for a few of the best students. The way in which it tends to be a universal requirement across a majority of institutions in many disciplines is both laudable and something worth defending in an age of cost cutting and rationalisation … This academic culture means that there is much less of a division in the quality of educational experiences across disciplines and institutions as there might be without common expectations … how to best prepare and get students engaged in undergraduate research … my own view is that programmes need to explicitly prepare students for this activity if it really is the pinnacle of their degree. They need training in design, scope, and methods in order to adequately carry out a high level of independent work. Many places leave out much of this training, and this lack of preparation short changes students, particularly the less able ones. (Politics, International Relations and Philosophy, Selective Institution)

Summary: it is agreed by staff, students and the wider literature that the transition into higher education in general, and independent learning in particular, is challenging for students. Staff perceive the problem to be related to young people and their teaching experience at level three, however students of all ages identified challenges. Staff from all discipline areas and institutional types commented on the need to support and prepare students for independent learning in higher education. Effective approaches include providing – a clear structure of what to do and explicit guidance about what is required; a safe space for learning to learn; support from staff and the opportunity for students to check that they are on the right lines, which can be enabled through technology as well as face-to-face; peer support; guidance on how to be reflective and better understand the learning process; and support with specific skills required (e.g. ICT). Independent learning needs to be underpinned by monitoring to identify students who are struggling and in need of support. Finally, it is widely agreed that a staged or scaffolded process is needed to enable students to move from being dependent learners to be autonomous by the end of their undergraduate education.

Assessment and feedback

Assessment is integral to effective learning, and effective DIL. Assessment can generate motivation for students to engage, provide a useful mechanism for interaction between students and academic staff, and offer students with feedback to improve their study processes and outcomes in the future. For example, the coaching and mentoring module at University of Westminster uses its assessment process to engage students, motivate them, and improve their learning:

> Fundamentally, the assessment diet plays an important role as it is designed so as to engage students, motivate them to learn and enable the learner to demonstrate a broad range of skills as per the learning outcomes, and to encourage student development through independent reflection on their experience. (Business Studies, University of Westminster)

This section considers the role and contribution of formative and summative assessment and feedback to directed independent learning. In the examples and case studies we find that colleagues make use of both formative and summative assessment to improve DIL, and they use a range of approaches including individual, group, peer and online assessment.

Black and Wiliam (1998) summarised evidence from 250 sources about learning at all levels from primary school to higher education and across subject areas and countries – they find that formative assessment is at the heart of effective learning, and improving formative assessment improves learning (1998, p. 140). Cross (1996) argues that one of the basic principles of learning is that learners receive feedback; they need to know what they are trying to accomplish, and then they need to know how close they are coming to the goal (p. 4). Ramaprasad (1983) defines feedback as information about the gap between the actual level and the reference level of a system parameter which is used to alter the gap in some way (Ramaprasad 1983, p. 4). A number of the examples demonstrate how feedback and formative assessment are used to improve students understanding of the learning process, and future assessed outcomes. Some of the examples and case studies utilise informal feedback, for example, delivered during a facilitated session. The tutorials for the 'Financial Markets and Risk' module at the University of Sheffield were based around students undertaking tasks in the tutorial and completing afterwards; this enabled the lecturer to spend time with each student/small group of students to look over their work – which they had done in and out of class – and provide detailed feedback and guidance. This is supplemented by online support:

> To add further support to the independent learning process, students were introduced to sharing files on Google Drive … they shared their Excel file with me for checking and comment. I reviewed their work and any errors were corrected by the student before the next tutorial (to ensure they were up to speed)… The assumption was that this service would not be used much. However, it was extremely popular and proved a good source of formative feedback and support. It probably had around 80% take-up from the cohort. This service supported the independent learning process and ensured students were able to gain recognition for their work outside of class. Other interactive communication tools such as Google Hangout and Skype meant the tutor could aid and support students remotely in their quest for self-directed learning. This also was beneficial for students who were away during Easter (and were studying) or who missed classes and were keen to catch up. (USh)

A number of examples point to the value of technology to support the process of formative feedback. The Open University makes use of online quizzes across its portfolio to test students' knowledge and allow them to see how they are doing. A similar approach is used in archaeology at the University of Liverpool: "At intervals throughout the module, formative online quizzes test their ability to identify these styles."

Students at the University of Nottingham Ningbo China report that the informal individual feedback based on their logs, which they receive during the self-study hour, is very useful, and helps them develop independent learning skills. But they would also welcome more formal formative assessment.

For learning to take place the learner has to receive the feedback, and actively use this information to understand and address this 'gap' in the future. Sadler (1989) explains that formative assessment is concerned with how judgements about the quality of student responses (performance, pieces, or works) can be used to shape and improve the students' competence by short-circuiting the randomness and inefficiency of trial-and-error learning (Sadler1989, p. 120). He identifies three conditions for effective feedback: transparent standards; the opportunity to compare these standards to one's own work; and taking action to close any gap. Staff however identified a problem that students do not always either collect their feedback, or engage with it. A number of suggestions were made through the case study discussion, including not releasing marks until students collect their feedback, or asking them to include a commentary on how they have engaged with previous feedback in the next assignment. Other approaches include formative feedback with contributes to work that is summatively assessed:

> Students are expected to produce a video and a piece of written work. Both of these constitute the formative and summative assessments, since although they form part of their final assessment, they receive feedback on both pieces, which informs the remaining videos and written pieces they are required to produce. (Languages, York St John University)

> After their first essay, each student is required to meet with the lecturer to review the essay in detail and agree three points to be addressed in their final essay. This 'contract' makes feedback more meaningful and holds students responsible for executing the advice they have been given. (English and Education, St Mary's University College, Belfast)

> All coursework is summative, but the tasks that are conducted in seminars on a weekly basis provide the opportunity for more formative feedback, two of the tasks of coursework are pass/fail pieces of work, therefore feedback is provided in a number of ways, not only written but in great detail in person too, during these group and individual meetings and in subsequent dialogue with the students. The assignment regime is progressive and coursework is spread across the duration of the year so feedback is essential to ensure that students stay on course to achieve whatever they have set for themselves to achieve by the end of the module. The students are setting their own goals and we are assessing them not only in relation to set criteria but also in terms of how they have progressed as individuals over the course of the year and how proactive they have been in terms of addressing their personal, career and academic development. (Sports Management, Bucks New University)

Other examples make use of formative feedback from peers:

> They receive feedback from their peers on the quality of information they have gathered and collect ideas from their group for teaching their topic. Their own teaching idea is critically evaluated by their peers. The tutor checks their usage of technical vocabulary, pronunciation, and spellings and offers guidance on sensitive matters concerning their topic where applicable. (Education, Birmingham City University)

> There has been an increase in the amount of formative feedback which students receive, helping them to move in the right direction with confidence and increasing their ability to undertake a wider range of independent reading. Reading quizzes have proved popular as students receive a steady stream of feedback on their critical reading abilities in relation to key texts. They also learn the discipline of keeping up with readings before classes meet. (English and Education, St Mary's University College, Belfast)

Quite a number of examples within this study utilise elements of group learning, but the students said that they do not like group assessment. Staff have therefore developed approaches that enable students to work together but to receive individual marks:

> Originally the students were allowed to form groups at an early stage and the overall assessment was based almost entirely on group performance, with marks being equally allocated across the group. The weaknesses of this approach were that some students did not engage with the initial software familiarisation, and hence made little contribution to the group activity, but gained equal marks, despite their limited learning on the module. The refined process currently adopted is that students undertake the software familiarisation as individuals and receive formative feedback on their performance. They then move into the group stage with greater knowledge of the software and concepts. This enables them to play a full part as a member of an independent 'Board of Directors'… In addition, the assessed output from each student is in two parts. Firstly, the students can freely use the common material that is produced during their group review and decision processes, for example, financial and statistical data, customer and supplier reports, and board meeting minutes. In addition students supply evidence of their own independent learning, with a detailed reflection on their role in running the company, the knowledge and understanding that they have gained, and their views on the impact of the process on their future job aspirations and employability. (Business, Teesside)

In the 'Criminology/Criminal Justice' module at GCU and UWF students are able to work together, but receive an individual mark, which they like, and it motivates students to play a full role in the online learning process. Part of their mark is based on what they have contributed, and the staff provide an indicative group mark, but the students get an individual mark to reflect their contribution.

> Because you are getting individually marked you step up and take responsibility, it motivates you to keep going and you become more self-directed. (GCU/UWF)

In fact, the students are assessed in three ways:

> (a) Team work peer assessment. Each week, students are required to assess the team-working skills of each member of their team (including themselves). They are provided with a standard assessment sheet containing ten team-working characteristics, onto which they indicate a score (zero to five). This helps them to produce a short reflection at the end of the project;
> (b) Final report. This is a learning-set group PowerPoint presentation. Students are marked on content as well as how professionally it is presented;
> (c) In-class presentation. Delivered in their home location. (GCU/UWF)

While this module utilises student assessment, some examples go further, with student-led assessment used to further motivate and engage students in their DIL:

> In this section of the module, students choose their own sub area of study, locate a systematic review in the area, allocate the reading and work across their group and subsequently write their own exam question including marking criteria. During these steps students receive regular tutorials where the tutor provides formative assessment and feedback to each group. Also during the semester there are strategically placed whole groups sessions involving student presentations to their peers and workshops. (Sport and Exercise Sciences, Swansea University)

This example meets Sadler's three conditions for effective assessment, including transparency, as the students develop their own marking criteria. A number of colleagues recognised the importance of transparency, and ensuring students understand what is required of them:

> The team also needed to very carefully explain marking criteria. In this adaptation of self-managed learning, students in learning sets are not required to agree marks. The module leader retains the role of marker for the main piece of work (the learning log) so clarity to ensure a connection between student-agreed criteria and module criteria is important. This has largely been achieved through routinely reminding students of module criteria. The module leader provides students with formative feedback on their learning programmes. This means they gain a clear sense of what standard is required of them by the University alongside the standards set by their peers. To assist in this, students are required to post their programmes on Blackboard (VLE). The module leader then offers both specific and generalised feedback. The process also enables students to share their learning programmes across the class as a whole. (Management, Southampton University)

> A key element of the support is the banded assessment criteria, in that these explicitly identify the qualities of a successful diary and differentiate it from a traditional essay. The crux of these criteria is the way they do not penalise misunderstanding the theory, but rather emphasise the value of detailed reflection, drawing links to other ideas/texts, and rewarding originality and ambition in the analysis – that is, explicitly rewarding risk. (English and Critical Theory, Edinburgh Napier University)

Another approach to assessment transparency is a seen exam paper:

> All students commented that working towards the seen paper exam gave them confidence and ensured they engaged with the scenarios. The exam results are very encouraging, with the scenarios addressed with much more depth and insight than would be expected in a traditional exam. Some answers are exceptional and the cohort results show a higher mean mark compared to the previous year's traditional exam mark (allowing for differences in format) and no failures. (Psychology, Manchester Metropolitan University)

Summary: assessment is integral to effective DIL. Assessment can generate motivation for students to engage, provide a useful mechanism for interaction between students and academic staff, and offer students with feedback to improve their study processes and outcomes in the future. A combination of formative and summative assessment in DIL appears to be particularly valuable. Some formative feedback is informal, while many examples have found more formal and structured ways of providing developmental feedback and integrating it into the learning process, including peer assessment and student-led assessment – both of which help to make the marking criteria both explicit to and understood by students. A key challenge, however, is to get students to engage with and use the feedback, and this is why many of the examples combine formative and summative assessment; however, students dislike group assessment, so individual marks can be awarded for group working to maximise the value of the activity and promote student engagement.

Student diversity

This study is interested in different approaches to DIL, and the extent to which these are 'inclusive' (May and Bridger 2010) and do not advantage or disadvantage specific groups of learners (e.g. disabled students, international learners, students with employment and family commitments, or who have to travel a long way to the campus). This section therefore considers how different approaches to independent learning enable or inhibit students from particular student groups to study as effective independent learners.

One approach is to develop a programme that takes into account the circumstances of the students in relation to timetabling, and which seeks to make the sessions relevant and valuable to students, as the Midwifery course at Sheffield Hallam University does:

> This programme aims to be fully inclusive. The course is made up of a number of mature students with family commitments and students commuting across Yorkshire. With this in mind, the initial sessions are scheduled around the first year timetable and we aim for available periods between lectures, or over lunch. This is done deliberately to involve all first year students in the scheme. While attendance is voluntary, in these first few weeks attendance is over 90%. In our experience attention paid to facilitating purposeful study in initial induction period promotes autonomous study groups forming later in the course. (Midwifery, Sheffield Hallam University)

In many institutions, timetabling pressures on rooms and staff mean that this approach is not possible; and it is also difficult to anticipate all the circumstances of a diverse student group. One team note how they have encouraged students to think about how they undertake their directed independent study to enable all students to fully participate:

> A key and unexpected element of learning that has arisen from this process has been the awakening of the understanding by students of the different ways in which modern business can be conducted. The students are encouraged not to sit together around a PC to make decisions, but to share all the required information and then meet on appropriate days and times (whether this is a physical meeting in the Business School or Library, or by Skype or other electronic mechanisms). This has encouraged students to take a wider view of independent work and learning, and of inclusivity, in terms of team members, perhaps with employment or family commitments, or travel issues. (Business Management, Teesside University)

In some instances timetabling sessions can be valuable, as it enables some students to engage. In one of the case studies the Muslim women 'invented' a Friday afternoon class so that she could attend and study with colleagues, and the tutor colluded in this process.

Many modern students are very comfortable with technology, and many of the examples presented to this study make extensive use of online learning technologies for delivery, support and engagement. When inclusivity was discussed during the case study visits there was a general feeling that DIL, especially using the virtual learning environment (VLE) is more inclusive than other forms of learning and teaching.

> Students less able to work in face-to-face study groups, due to family commitments, distances between university and home, or disability, are less likely to feel alienated from their peer group, or excluded from the opportunities to work with peers in their learning. The task aims to provide students with a sense of control over their own learning and increase motivation and confidence. (English literature, Sheffield Hallam University)

The 'Criminology/Criminal Justice' module developed by GCU and UWF was designed to offer students and programmes a more international feel, as it was noted that many of the students were not taking part in Erasmus and other international exchange programmes due to employment and domestic responsibilities. The students certainly valued the flexibility offered, as was noted above.

There are, however challenges associated with using technology to expand opportunities, as not all students have access to the appropriate hard and software, or feel comfortable and competent using them. The Open University made a commitment to increasing the use of technology in its 2009 Learning

and Teaching Strategy, and this is reiterated in the 2012 strategy. They aim to increase the use of technologies and decrease reliance on print, but the strategy states:

> The OU needs to ensure that its diverse population of students is given the support it needs to enable it to access our high quality learning materials in different formats. There can be a tension between increasing the use of technology and accessibility, but it is important that rather than providing alternatives to technology, we enable students to cross the digital divide to benefit from technology enhanced learning experiences… We recognise the tension between working in an increasing online world and utilising the range of Web 2.0 tools to support learning and teaching, and enabling access for all students. The OU educational experience will demonstrate leadership in addressing the challenges of ensuring all students have the opportunity to learn effectively in a digital world. (Open University Learning and Teaching Strategy, 2012, p2-3.)

There however concerns within the Open University about the 'digital divide', and the extent to which students from widening participation backgrounds are adversely affected by the increasing reliance on information and communication technology, as discussed by Hills and Rose-Adams (2014).

Staff are aware of the need to use technology in an inclusive way. For example, one of the respondents from the Open University notes that online group working can create challenges for some students which need to be anticipated and planned for:

> We are very aware that students who study with the Open University often do so to be able to study at their own pace and in their own time. Group work requires a degree of rigidity within this flexibility because, even working in an asynchronous way, students need to correspond, share and learn together. To support this, we require each student to only lead on one of the four Events taking place over the eight weeks of the Block. Further, we encourage team leadership, so that even in this format individual students can take a minor leadership role and still pass the module with a good mark. (Environmental management, Open University)

All OU websites are tested for accessibility and are designed to work with commonly used adaptive software in order to support students with disabilities. The pot-casting archaeology module at the University of Liverpool was deliberately developed to engage students' different learning styles while working independently online, utilising:

> …visual (photographs of pots in worksheets and podcasts, images to be identified in MCQs); auditory (podcast voiceovers); read/write (information sheets, work sheets); and kinaesthetic (interacting with the '.pov' files using the mouse) methods. When combined with the handling sessions in the museum and the opportunity to test, and discuss their learning with demonstrators and peers, the result is a very rich learning experience that gets extremely positive feedback and good results. (Archaeology, University of Liverpool)

In addition:

> Transcripts of the voiceovers to the podcasts are provided for students who experience a hearing disability, and online learning is generally a more inclusive method of learning for students that do not have English as their first language or who are balancing study with work, caring or family commitments. This is because it allows them to study at their own pace and in their own environment and they can spend long periods of time with digital surrogates of real archaeological artefacts. (Archaeology, University of Liverpool)

Such an inclusive approach, discussed in a number of the examples is beneficial not only to disabled students but to many others. One group of students for whom this approach is problematic is prisoners, as there is no Internet access available to them. Offender learners are therefore unable to take advantage of the online resources, including the interactive self-assessment questions (SAQs) so they are sent paper-based versions instead.

International students are sometimes identified as a group that may experience difficulties engaging in certain DIL activities, either due to language, educational and cultural differences (see e.g. Olaussen and Bråten 1999; Foster 1996). This may require supporting these students to initially 'catch up' with UK-educated students:

> The one group of students for whom additional provision is made are visiting international students. The assumptions about preparedness through a business education cannot always be made and so the tutor organises additional seminars for them throughout the semester so they can find the resources in a foreign University as easily as their UK peers.
> (Management, Finance, Accounting, Loughborough University)

Given the challenges that all students experience with the transition to learning in higher education discussed above, it may, however, be more appropriate to think about how induction and teaching in the first semester can be used to help all students to develop skills to be effective learners in UK higher education. Indeed, the case study at the University of Nottingham Ningbo China suggests that students appreciate and value many of the things that students discussed in other UK institutions. They want clarity about what directed independent learning is and what they need to do. They like the fact that the self-study hour is integral to the module, and designed into the curriculum and timetable. They believe it should be compulsory and indeed that such an approach should be widely introduced across the university. They are less comfortable with collaborative work, and they are keen to share learning materials and strategies, but not personal feelings about their learning experience.

Technology can also help to overcome some of these challenges, for example, sharing files is something the international students do in the 'Finance and Risk' module at the University of Sheffield, and the programme leader has found that while the international students are less likely to ask questions in face-to-face sessions, they will send an email and make use of the technology-based solutions, as this helps to overcome some of the limitations of their English language.

Summary: directed independent learning can offer more flexibility and thus be more inclusive than some other forms of learning and teaching. In particular, the extensive use of the technology and online learning that has been identified in this project has provided many opportunities to provide material in different formats, to meet different learning preferences and to offer flexibility about when and where students engage. The emphasis on group learning, however, can create challenges to enable all students to participate; one solution is to build this into the module design, both in terms of limiting the amount of time students need to be together, and encouraging them to find solutions to meet the needs and circumstances of their members.

Staff engagement and support

It is noted above that the majority of examples and case studies reviewed are initiated by committed individuals. This raises two important questions: how can more staff been engaged to deliver effective DIL opportunities, and how are staff supported to deliver effective DIL?

There is a widespread assumption that DIL is an integral aspect of learning in higher education, but this is often not clarified – to say what is expected of staff and students (as discussed above). Staff are more likely to innovate and develop new learning opportunities if they are able to align their work with institutional policies and strategies as this 'legitimises' them. For example:

'Flipping the classroom: on the road to independent, critical reading' is a project designed to help students navigate the transition from their A-level studies to the greater independence demanded of them while studying English at university. The project aligns particularly with three aims of the current Queen's University Education Strategy: "to deliver a high quality flexible learning environment that embeds intellectual curiosity"; "to redefine a framework for meaningful student-staff engagement which will … enable them to develop as independent learners"; and lastly, to promote employability through "critical thinking, adaptability, intellectual flexibility, enquiry, capacity to challenge and an ability to work in teams." (English and Education, St Mary's University College, Belfast)

Conversely, without this high level endorsement, pioneering staff can be put off: "When this collaborative module was first started other colleagues were critical. They criticised our 'pen pal experiments' as they saw it" (Criminology/Criminal Justice, GCU/UWF). Luckily this group of staff were not derailed by the implied criticism of their colleagues.

Getting the programme team to work together can be an important way of moving beyond a module being developed and delivered by an enthusiastic and enlightened individual. Staff at one institution felt that it would be useful to develop the first year team, to develop more consistency between the team members in terms of understanding and approach, and to share information about students' experience of the different modules. The importance of working as a staff team is explained well by other institutions. For example:

During this pilot, in the first half of 2014, the module delivery team has learned a great deal. The role of the module leader becomes much more of a facilitator of learning and a guardian of the process than a more conventional lecturer and class tutor. It was necessary to agree a structure for the material in which students could anchor their learning programmes. To do this, meta-themes were identified (context, theory, application, and management) for students so they always knew the territory they were expected to cover regardless of the industry/sector they selected to work on. (Management, University of Southampton)

The department ensures consistency of expectation by using so called 'year teams'. Any staff involved in the teaching of year one, and year two, students meet three times a year to discuss the teaching of that year group (pre-semester, post-semester, and at the end of the year). Meetings cover mundane details such as balance of workload (e.g. coursework deadlines and weightings), diversity of skills development (to ensure development is balanced) and student feedback/performance. However, more critically, these meetings allow staff to share views on how students are provided with a consistent and helpful learning experience; a key part of the meeting is that staff accept their role as negotiated contributors to the learning experience rather than 'masters' of their module who do what they want. This seems to work because the meetings are not top down but bottom up in any decisions that are taken. (Systems Engineering, University of Sheffield)

Teaching staff at the University of Nottingham Ningbo China were concerned about consistency issues in relation to the self-study hour (SSH), and that this would unsettle students. This is why the tutors:

collaboratively designed a five-step guideline that includes the following points: how tutors should inform students about the SSH; how the log should be used; how to facilitate exchange of ideas and material between students; how to promote self-assessment, tutors and peer feedback; and a list of dos and don'ts for developing students independent learning strategies. (Languages, University of Nottingham Ningbo China)

In the case study discussions, the staff also agreed that meetings and workshops organised within the Language Centre professional development programme are good ways to promote a DIL culture among

teaching staff. They observe, nevertheless, that at this stage there is not yet a common understanding of what directed independent learning is. Consequently universities and/or schools should develop common policies to make DIL training more practical and effective. This is particularly important for newly appointed staff, and also because teaching staff come from different cultural backgrounds and may have different understandings of what directed independent learning should be.

In addition the staff at Ningbo recognised the need for staff development opportunities such as:

> hands-on workshops where staff are shown practical strategies and tools to conduct the self-study hour. Specific care to training should be devoted as "independent teaching is a response to independent learning". (Languages, University of Nottingham Ningbo China)

As was discussed above, this study has found only a few examples of how staff are supported and enabled to become expert in DIL. One possible approach is to draw on the experience and expertise of the colleagues who have contributed their examples to this project. Some institutions are using these experts as follows:

> I have also worked in a variety of ways to support other staff in other departments to 'flip' their classrooms and to develop online learning and feedback methodologies. (English and Education, St Mary's University College, Belfast)

> Technology and IT support is readily available and career development is supported. There is encouragement now, although not practical support. I have been made into a 'champion', and I now help others with limited knowledge. (GCU/UWF)

Individual enthusiasm to engage colleagues should not be underestimated:

> There are strong arguments to suggest that blended learning offers not only practical help to teachers and lecturers but also deep insights into one's own pedagogical strategies and objectives. Hence efforts to support students have been matched with equally enthusiastic efforts to encourage and support colleagues in updating their teaching methods … On the heels of that staff development session, unprecedented interest among staff has arisen in both blended learning and e-Assessment. Five staff members have come forward recently for further help pushing their teaching forward. One has now purchased a microphone, headphones and is preparing resources to go online: "It will be particularly helpful, as I teach languages," he said. "The need for repetition is greater than I can provide for my students in a live setting, so thanks very much for the help." (English and education, St Mary's University College, Belfast)

Not only do staff need pedagogical development, they also need support with the technology, because as is evident in this report (and the Meyer *et al.* 2008 report), extensive use is made of online and virtual learning environments across almost all disciplines.

> A key argument is that students will only acquire the requisite level of 'digital maturity' if we take the time to consider what they need from us and to relinquish control where necessary. At the level of the academy, universities need to cultivate their own digital maturity and provide the infrastructure to manage the digital diversity of students, manage the growth in demand from our students and ensure all staff are sufficiently skilled in their own understanding of learning technologies to enhance teaching. (GCU/UWF)

Summary: many of the examples are developed and delivered by enthusiastic and innovative individuals, but how can more staff be engaged and supported to deliver effective directed independent learning opportunities? There needs to be an institutional environment that encourages and legitimises staff

developing new DIL opportunities, and so institutional policies and strategies must draw attention to DIL. There is also a need for programme teams to work together to develop consistency and shared approaches to DIL – and this has the potential to draw other staff into the process. Engaging more staff needs to be reinforced by staff development for new and existing staff, including sharing practices. This can be facilitated by drawing on the enthusiastic champions and experts who have contributed to this study. In addition to pedagogical support, staff need practical support, especially in relation to the use of technology which is widespread in the examples.

Communication

This section of the report considers how the nature, role and contribution of directed independent learning is communicated to students (pre-entry and post-entry), parents, employers, professional bodies and other stakeholders. In the case studies and examples covered, only a limited number show how communication and promotion has been achieved beyond, for example, providing the information in the course handbook. The case study activities were used to ask people to think more creatively about positive ways of communicating the nature and role of DIL to students and other stakeholders.

It is widely agreed that students entering higher education are not well prepared generally, and are especially under-equipped for independent learning. It is therefore important not to make assumptions about the skills that students have on entry, and their capacity to undertake DIL in particular. Staff, therefore, feel they need to prepare students for DIL prior to and on entry:

> Before entry, it is necessary to work on the mind-set of students about the role of independent learning – learning is for life, not just for university, and independent learning is a transferable skill. (SSU)

There is a feeling that independent learning is not adequately promoted by higher education institutions to students and others. Perhaps instead the emphasis is on recruitment, rather than on the provision of effective information:

> Needs to focus on independent learning but this is not well-promoted and the emphasis from marketing and management is more money-oriented rather than on learning. (SSU)

There were a number of suggestions about how students could be informed pre-entry about independent learning, for example using open days to provide insight into independent learning, including using activities from DIL modules:

> From the earliest contacts with students and potential students at discovery days and open days, a stress is placed upon the importance of independent learning, both to emphasise the transition from school/college teaching approaches, and to highlight the further progression into the world of employment where independent learning and development are increasingly crucial. This forms a key element of presentations to potential students and parents, and is also raised in any one-to-one discussions that frequently follow the presentations. Also, the business simulation software is an important part of discovery days and creates very high levels of interest and engagement from potential students as young as fourteen. (Business, Teesside University)

> The programme team uses the 'Professional Perspectives' module as a case study in our visit and open day presentations to prospective students and their parents. (Film, Radio and Television Studies, Canterbury Christ Church University)

One of the focus groups suggested using existing students to promote understanding of DIL at open days, in addition to the other aspects of the higher education experience which are usually covered by student ambassadors or mentors. This approach is recommended in one of the examples:

> The students themselves have been the greatest advocates for PALs [Peer Assisted Learning] and have promoted the scheme during open days to new students as well as addressing senior staff at committee and conference to report on the scheme. They have also submitted to present the scheme at the midwifery student conference. (Midwifery, Sheffield Hallam University)

Other suggestions for developing early awareness include getting students engaged academically pre-entry by for example providing them with early access to the VLE, or providing them with other academic activities to undertake in preparation for their studies.

It is widely agreed that parents and other family members would benefit from understanding that higher education learning does not just take place in more traditional taught sessions in the classroom, but it involves working alone or with others in addition to timetabled sessions. For some families this has practical implications in terms of expectations about what else they can do, and having a suitable space in which to study. Given that parents, partners and other family members now widely attend open days with prospective students, they are clearly a useful vehicle for informing and setting expectations for families as well as students. It is seen to be very helpful to nurture a culture of support and expectation from parents of students about independent learning, and more closely to involve them in student achievement. It was suggested, however, that a website for families of students accepted on to courses would be useful. This could have a wider focus than independent learning, and enable family members to provide more effective support to students. It is instructive to recall that when students experience problems in higher education, the majority seek support and advice, at least initially, from friends and family (Thomas 2012).

Once students are on courses, they need to develop understanding about expectations and practices of independent learning – through DIL. Students in the discussion at UNN said that when they entered the University they did not have a clear idea of independent learning because in school there was not much emphasis on it. They also said that in general, they identify the teacher as the main source of knowledge about DIL and, therefore, suggest the University give some sort of written explanation (i.e. in leaflets and university brochures) about the role that DIL and independent learning play in the curriculum. At the beginning of their studies they were disappointed by the low number of teaching hours available, but only later they realised that this was because of the university's emphasis on DIL.

Staff are clear about the need to both set expectations and develop the appropriate skills. This can be done through induction and early teaching and learning in specific academic programmes (Thomas 2012). First it is necessary to stress the differences between previous learning in school and college, and learning in higher education:

> Perhaps a very important point is to challenge students' mind set as soon as they arrive and hence the department has developed the 'intro week' activities to involve a number of independent learning challenges and thus get students expecting university learning to be different from school even before lectures begin. (Systems Engineering, University of Sheffield)

The importance of independent learning and the need for individual responsibility can be explained and practised:

> From the first days of the induction process at the start of year one, the importance of independent learning approaches are emphasised to students. Students are encouraged to manage, as far as is possible, their own learning experiences and outcomes … this is achieved, perhaps paradoxically, by the creation of a more comprehensive overall support structure, including the use of a learning hub, which provides ready access to students for

materials and practical advice to support key areas of their studies. (Business, Teesside University)

This can include drawing personal experience and modelling effective practice:

I talk candidly about how even researchers specialising in critical theory (like the module staff and myself) must labour and dwell with difficulty when we work with these texts; I model the kinds of cognitive process and specific strategies that one can use to make sense of challenging extracts; and I drive home that this emotional and practical capacity to handle textual difficulty is a vital transferrable skill central to success on other undergraduate modules, as well as in postgraduate work and careers more generally. (English and Critical Theory, Edinburgh Napier University)

The links with attainment and employment outcomes can be emphasised too:

I present the module during module option talks and focus specifically on the scope for independent learning offered by the pitching exercise and portfolio in 'Assignment 2' which is worth 60% of the overall module mark. I maximise the students' engagement by outlining the opportunity to present to an Industry Advisory Panel who may, as has happened in the past, be able to offer them an employment, internship or placement opportunity. (Film, Radio, Television Studies, Canterbury Christ Church University)

Professional bodies can also be used to reinforce the importance of independent learning in higher education and beyond:

From the beginning of the BDS programme students are reminded that they must become lifelong learners if they are to be safe and successful clinicians. This framework is enforced by the professional regulator - General Dental Council (GDC) - who require that all registrants have a personal development plan and engage in continuing professional development … These activities demonstrate to the GDC that the School has prepared students to understand the need for and perform self-directed study to enable them to develop professionally. (Dentistry, University of Sheffield)

Many of the comments suggest that independent learning is explained to students by drawing on disciplinary narratives and professional norms, for example:

Experiential learning enables lecturers to become learners alongside students and service users. The students are exposed from the first year to the concept of experiential and reflective learning. (Health and Social Care, University of Salford)

The nature of the independent learning is communicated to the learning community in class at the outset of the pathway. Much of the first semester is given over to setting out these new values of independent thought and artistic responsibility that govern the wider artistic world, but are not acquired in the learning environment from which these students come. (Music Composition, The Queen's University of Belfast)

And also linking independent learning with lifelong learning and developing professional knowledge and skills:

From the outset of this module and in relation to employability we stress to students the need to be proactive in their personal, academic and career development and from the beginning of year one. This very much entails embracing independent learning, we also highlight the importance of life-long learning and how in order to compete and be successful

in whatever their chosen careers again they need to take responsibility for their own learning. (Sports Management, Bucks New University)

Another approach is to use other students to share their experiences with new entrants, and providing a safe place to learn:

During PALS sessions student leaders have repeatedly demonstrated their own understanding of the need for independent learning, gently prompting novice learners away from an anxious focus on 'the answer' to a discussion how they best manage this question themselves. It is difficult to overestimate the importance to the students of a peer-led learning space, and the effectiveness of the scheme's creation of "a safe place to get it wrong." (Midwifery, Sheffield Hallam University)

It was recognised in the focus group discussions, and is evidenced in the examples submitted, that independent learning is very high on employers' agendas, as they want graduates who can 'hit the ground running'. It was noted that every year the Employers Federation comments on the poor independent learning skills of graduates. Addressing this issue needs a partnership approach: higher education institutions need to disseminate more widely (e.g. at national level) what they are doing to develop independent learning skills – through directed independent learning, while employers and professional bodies need to be more closely involved with course design and accreditation and the provision of real-world opportunities to engage and develop students within and beyond higher education:

The Management School benefits from very strong alumni links, and many are in senior positions in their organisations now. They value independent learning and clearly see the value of this module for their organisations. For example, the Trading Room was set up with sponsorship and support from a corporate partner … it replicates the real world, and provides excellent experience for students wanting to enter corporate finance and investment, especially as additional accreditation is available … The University enjoys a preferential relationship with these companies that is beneficial in terms of graduate recruitment and employment.

Mutually beneficial arrangements have occurred, including the provision of the trading software for free, as this will enable the students to develop competency in using it; and the university provides access to its students for promotion and recruitment activities. The Management School is constantly looking at ways of developing relationships further through internships, prizes and further opportunities for sponsorship. (Management, University of Sheffield)

Involving employers in offering directed independent learning activities provides real-world examples and enables employers to gain insights into learning in higher education:

The administrator providing a fresh case each year is not only a provider of placement opportunities for students but also a graduate employer. Their insight into the learning on the module leads to positive impressions of how Loughborough students are prepared for the workplace. (Management/Finance/Accounting, Loughborough University)

Involving employers and professional bodies in the course design can be useful to ensure the programme is makes it more relevant to professional outcomes beyond higher education:

A wide range of employers and professional bodies in the North West were consulted when this degree programme was rewritten, and the altered course reflects their recommendations. (Dance Theatre, Arden School of Theatre)

Summary: students need to be informed better about independent learning – both before and after entry to higher education to develop the appropriate mind-set and understanding of DIL, and to develop the necessary skills. There is, however, very little in the literature about how independent learning, or DIL, should be promoted and communicated about. The empirical work finds that understanding and expectations about independent learning should be integrated into the marketing and recruitment materials and practices. For example, open days need to make independent learning more of a high priority – and thus inform both students and their families. Some institutions utilise level four module materials to start developing an insight into independent learning, while others involve existing students in sharing their experiences of the transition from learning in school and college to independent learning in higher education. Other pre-entry approaches include providing students with access to the VLE and early academic tasks to familiarise them with the idea of directed independent learning. It is widely agreed that parents and families need to be aware of the expectations regarding DIL and independent learning, especially as students often take HE-related problems to families and friends. Information should also cover practical issues such as time, a suitable workspace and Internet access to enable families to provide support in these ways too. Once in higher education, students need to understand about the expectations and practices of DIL and independent learning, and this comes primarily from academic staff, through the induction process and early teaching. There is a need to clarify the difference between higher education and previous learning in school and college; individual responsibility for learning needs to be explained and practised; and links between DIL and attainment, employment and professional bodies can be explored. Often the development of independent learners is situated within concepts, narrative and professional norms of specific disciplinary areas to increase the relevance to students. Employers and professional bodies want and value independent learners, and so can be encouraged to collaborate in various ways to develop engaging DIL opportunities which are beneficial to students and to other stakeholders.

Disciplinary, institutional and study-mode differences

Hativa and Marinkovich (1995) and Neumann *et al.* (2002) both demonstrate significant contrasts between teaching and learning in different disciplines. The NUS (2012b), however, report relatively similar findings about students' experiences of learning and teaching across the disciplines (STEM and non-STEM in particular). Furthermore, Trowler *et al.* (2012) recognise that what defines a discipline is contested, and there is debate about the extent to which traditional disciplines (mode one knowledge) and associated categories are still relevant, or whether mode two knowledge, which is trans-disciplinary (or at least inter-disciplinary), problem-oriented, and undertaken in partnership with industry and society, is predominant. They conclude that, "despite their temporal shifts of character and their institutional and national diversity, we may appropriately conceive of disciplines as having recognisable identities and particular cultural attributes." (Trowler *et al.* 2012, p. 44).

However, the discipline defines the disciplinary epistemology (i.e. the actual form and focus of knowledge) and the phenomenology of that knowledge (the ideas and understanding about this and other disciplines). The discipline also defines the academic cultures, the "sets of taken-for-granted values, attitudes and ways of behaving, which are articulated through and reinforced by recurrent practices among a group of people in a given context" (Becher and Trowler 2001, p.23). Belcher and Trowler (2001) and Trowler *et al.* (2012) argue that disciplines are tribal, and that their subcultures are apparent in both their language or discourse and their artefacts. Indeed disciplines, or the academics in them, employ a variety of devices to exclude others including the traditions, customs, practices, rules and norms, and the linguistic and symbolic forms of membership.

The empirical work here has identified fewer disciplinary differences that might be expected, and thus broadly we concur with the findings of the National Union of Students survey (2012b). However, it is instructive to refer back to table four, which categorises the examples submitted to this project using Becher and Trowler (2002) and JACS3. Here it can be seen that the lowest number of examples were received from subjects classified as 'hard–pure', while similar numbers were received for 'soft–pure' and

'hard–applied', and the greatest number of 'soft–applied'. It is important not to attach too much weight to these observations, as there are issues about the relative numbers of students, staff, departments and disciplines in each of these categories, and the extent to which the call for examples was promoted equally in each discipline community is unknown. This might suggest that 'soft–applied' subjects may make the greatest use of DIL and 'hard–pure' the least use, but this would need to be explored further.

In the discussions with staff and students, the relevance of DIL was stressed as being central to engage and motivate students. Much of this relevance is seen to come from vocational and professional applications, and a direct link from learning to employment outcomes. Clearly, vocational relevance is more easily developed in applied rather than pure disciplines.

Some of the examples drew on disciplinary concepts, contexts and norms to create relevant DIL opportunities. Performing arts subjects seem to be less inclined to be highly structured, preferring creativity instead. But other subjects in the Arts and Humanities, such as English and languages, have used prompts and other semi-structured text tools to encourage learners to develop a greater understanding of what is required of them in their independent learning. Subjects in fields related to Health, Medicine, Social Care and Applied Science demonstrate how they have made use of problem-based learning, but other disciplines, have also applied similar approaches through for example enquiry-based learning in History. Collaborative and peer learning are used across all discipline areas, and technology seems to be ubiquitous in its role to facilitate DIL across all discipline areas.

It is not, therefore, appropriate to identify specific models or approaches for different subject areas. Rather, the next section provides some prompts about issues to consider in developing institutional, departmental, programme, and individual approaches to DIL. This developmental process should also be informed with reference to the examples in the *Compendium of effective practice in directed independent learning*.

A final area of consideration is differences between institutional types. There is a received wisdom that some institutions are more attentive to learning and teaching and the student experience, while others pay greater attention to other institutional priorities and agendas. The examples submitted to this study were categorised by institutional type, and revealed 20 from selective institutions, 27 from inclusive institutions and three from 'other' which includes small specialist institutions, private institutions, and colleges providing higher education. It is therefore the 'other' category, particularly colleges providing higher education, which are particularly under-represented. Again, it is not possible to read too much into this, as it is not known the extent to which these institutions received information about the opportunity to submit examples to this study.

As discussed above, respondents from all types of institution felt that their students are under-prepared for independent learning. One interviewee felt that – at the selective institution at which he is working – there is a higher expectation by staff and students undertake more independent learning:

> At Sheffield the students know they have to do a lot more work outside of the class teaching … the calibre of the students influences how much you can push students. (USh)

This is in contrast with students at an inclusive institution where he previously taught, who did not grasp the opportunities available to them, although they were intellectually capable of doing so. The students at the selective institution seem to be more aware of the benefits of undertaking the additional work involved and gaining the industry-relevant experience. Despite these high expectations on both sides, the students are not perceived to arrive at the university any better prepared for independent learning than elsewhere:

> If you look at A-level preparation … they are used to very structured days, and that structure is taken away as soon as they walk through the door. We don't stand over them,

we do give them some direction, but the transition in the first year is horrific, especially for international students. (USh)

Summary: it is difficult to draw conclusions about disciplinary and institutional differences with certainty, but we have found more common ground than differences between disciplines and institutional types. It should be noted, however, that that fewer examples were received from 'hard–pure' subjects that the other discipline groups. Engaging students in DIL is important, and success has been achieved by making it relevant to vocational and professional practice, which is more easily achieved in applied subjects. Some of the examples are explicitly informed by disciplinary concepts, contexts and norms, and some feel uncomfortable with a highly structured and prescriptive approach – but they are the minority. Problem-based learning is used in both pure and soft applied fields, and enquiry-based learning is used in some 'soft–pure' subjects. Collaborative learning, peer learning, and the use of technology to facilitated DIL, are ubiquitous across all disciplines and institutional types.

Conclusions, implications and recommendations

Using an appreciative inquiry approach, this study has identified diverse and inspirational examples – from across the UK higher education sector and beyond – of how staff have developed directed independent learning activities to develop, engage and educate their students in inclusive ways. The analysis of these examples and more detailed case studies have resulted in a more in-depth understanding of the features that contribute to effective DIL. Effective DIL involves 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 DIL, by understanding the benefits of independent learning, particularly the value in relation to future career aspirations.

DIL initiatives, however, are often developed individually by staff out of commitment and enthusiasm, and without a shared approach by institution, department, or even programme team. There is a lack of consistency in understanding what is meant by DIL, particularly in an operational way in institutions. Independent learning in general is not explicit in many learning and teaching strategies, and where it is mentioned it may not be defined. Some staff have a very good pedagogical understanding of the DIL concept, often through a disciplinary lens, while other staff do not have a strong pedagogical understanding of DIL. All staff would appreciate more opportunities for initial and continuing professional development in relation to DIL, and practical support to enable them to develop effective DIL opportunities. The individualistic approach to DIL identified here in most of the examples reduces the impact of DIL and results in differences in the quality of the student experience within programmes, departments and institutions. What is lacking is broader engagement: the engagement of the institution, including senior managers, the wider staff body and professional services; and engagement of stakeholders such as families, sector-wide bodies, professional bodies, and employers.

Summary conclusions from the research questions are re-presented below together with a discussion about how these connect to wider notions of quality and excellence in higher education learning.

Summary conclusions
There is not a single, preferred definition of directed independent learning, either in the literature or in the sector. Discussions with staff and students suggest that although there is broad understanding of the term, there is a lack of clarity, which can cause uncertainty and impact negatively on students' ability to be independent learners. At the institutional level, there is not usually great clarity about these issues either, making it more difficult for staff to translate an institutional aspiration into meaningful practices with their students. This confusion is related, at least in part, to different views about the autonomy of students, the role of staff, the purpose and benefits of DIL and the approach to be used. It is therefore suggested that institutions, departments and programme teams should engage in discussion about what they mean by 'directed independent learning'. These discussions could take the definition developed in this study and/or the five definitions presented above as their starting point, and consider issues such as the level of responsibility to be borne by students, the role of staff, the purpose of the DIL and the approaches to be used.

The benefits of directed independent learning are multiple and sometimes taken for granted by staff. However they are not always explicit to students, particularly those who regard HE less as an end in itself, and more as a stepping to employment. It is therefore necessary to clearly articulate the expected benefits from independent learning and how they will be achieved. This list of benefits could be used to help staff and students think about the expected and actual benefits from a particular DIL activity.

Staff generally have good awareness of the number of hours students are required to study per credit, but among staff involved in the case studies there was little additional knowledge about how the quality assurance systems at their institution support or inform DIL. In addition, no specific examples of staff-development activities focusing on independent learning in general, or DIL in particular were offered. A number of staff identified that the HEA-recognised postgraduate certificate offered a space to reflect on learning, and in some instances this included a specific session on independent learning. The need for continuing professional development with respect to DIL was recognised at just one institution, while another case study pointed to a range of training and support that enabled staff to gain practical skills to develop DIL utilising technology. Staff in all the case study institutions reported that developing effective DIL modules is very time-consuming, and most reported that supporting students on these courses is time-consuming too. This overview points to the need for consideration of the extent to which national and institutional quality-assurance mechanisms could, and should, address specific features of DIL. This needs to be underpinned by more initial and ongoing staff enhancement activities, including the consideration of many issues identified in this report, sharing good practice, and space and time to develop more innovative approaches.

Directed independent learning seems to be more effective when it is fully integrated into the programme of study, is clear in its purpose, and is structured to provide students with clarity about what is required. This may be achieved by combining different approaches to learning. In some discipline areas however, especially the performing arts, there appears to be more reluctance to be prescriptive and thus structure is provided in different ways. Moving from a more teacher-led to student-led curriculum poses challenges as staff have to 'let go' and take risks about the learning that students will engage with. It is difficult to strike a balance between providing structure, clarity, and guidance about what is required, and letting go and taking risk. This points to the need for mechanisms for both guiding students' independent learning and checking it at key points.

It is agreed by staff, students and the wider literature that the transition into higher education in general, and independent learning in particular, is challenging for students. Staff perceive the problem to be related to young people and their teaching experience at level three, however, students of all ages identified challenges. Staff from all discipline areas and institutional types commented on the need to support and prepare students for independent learning in higher education. Effective approaches include providing: a clear structure of what to do and explicit guidance about what is required; a safe space for learning to learn; support from staff and the opportunity for students to check that they are on the right lines, which can be enabled through technology as well as face to face; peer support; guidance on how to be reflective and better understand the learning process; and support with specific skills required (e.g. ICT). DIL needs to be underpinned by monitoring to identify students who are struggling and in need of support. Finally, it is widely agreed that a staged or scaffolded process is needed to enable students to move from being dependent learners to be autonomous by the end of their undergraduate education – and this is the key role directed independent learning plays.

Assessment is integral to effective DIL. Assessment can generate motivation for students to engage, provide a useful mechanism for interaction between students and academic staff, and offer students feedback to improve their study processes and outcomes in the future. A combination of formative and summative assessment in DIL appears to be particularly valuable. Some formative feedback is informal, while many examples have found more formal and structured ways of providing developmental feedback and integrating it into the learning process, including peer assessment and student-led assessment – both of which help to make the marking criteria both explicit to and understood by students. A key challenge, however, is to get students to engage with and use the feedback, and this is why many of the examples combine formative and summative assessment; however, students dislike group assessment, so individual marks can be awarded for group working to maximise the value of the activity and promote student engagement.

DIL can offer more flexibility, and thus be more inclusive, than some other forms of learning and teaching. In particular the extensive use of the technology and online learning that has been identified in this project has provided many opportunities to provide material in different formats, to meet different learning preferences and to offer flexibility about when and where students engage. The emphasis on group learning, however, can create challenges in enabling all students to participate. One solution is to build this into the module design, both in terms of limiting the amount of time students need to be together, and encouraging them to find solutions to meet the needs and circumstances of their members.

Many of the examples are developed and delivered by enthusiastic and innovative individuals, but how can more staff be engaged and supported to deliver effective DIL opportunities? There needs to be an institutional environment that encourages and legitimises staff developing new DIL opportunities, and so institutional policies and strategies must draw attention to DIL. There is also a need for programme teams to work together to develop consistency and shared approaches to DIL – and this has the potential to draw other staff into the process. Engaging *more* staff needs to be reinforced by staff development for new and existing staff, including sharing practices. This can be facilitated by drawing on the enthusiastic champions and experts who have contributed to this study. In addition to pedagogical support, staff need practical support, especially in relation to the use of technology, which is widespread in the examples.

Students need to be informed better about independent learning and DIL – both before and after entry to higher education to develop the appropriate mind set and understanding of independent learning, and to develop the necessary skills. Understanding and expectations about independent learning should be integrated into the marketing and recruitment materials and practices. For example, open days need to make independent learning more of a high priority – and thus inform both students and their families. Some institutions utilise level four module DIL materials to start developing insight into DIL, while others involve existing students in sharing their experiences of the transition from learning in school and college to DIL in higher education. Other pre-entry approaches include providing students with access to the VLE and early academic tasks to familiarise them with the idea of DIL. It is widely agreed that parents and families need to be aware of the expectations regarding independent learning and DIL, especially as students often take HE-related problems to families and friends. Information should also cover practical issues such as time, a suitable workspace, and Internet access to enable families to provide support in these ways too. Once in higher education, students need to understand about the expectations and practices of DIL, and this comes primarily from academic staff, through the induction process and early teaching. There is a need to clarify the difference between higher education and previous learning in school and college; individual responsibility for learning needs to be explained and practised; and links between DIL, independent learning and attainment, employment and professional bodies can be explored. Often, the development of independent learners is situated within concepts, narrative and professional norms of specific disciplinary areas to increase the relevance to students. Employers and professional bodies want and value independent learners, and so can be encouraged to collaborate in various ways to develop engaging DIL opportunities which are beneficial to students, and other stakeholders, including employers.

It is difficult to conclude with certainty about disciplinary and institutional differences, but we have found more common ground than differences between disciplines and institutional types. It should be noted, however, that that fewer examples were received from hard pure subjects than the other discipline groups. Engaging students in DIL is important, and success has been achieved by making it relevant to vocational and professional practice, which is more easily achieved in applied subjects. Some of the examples are explicitly informed by disciplinary concepts, contexts and norms, and some feel uncomfortable with a highly structured and prescriptive approach – but they are the minority. Problem-based learning is used in both 'pure' and 'soft–applied' fields, and enquiry-based learning is used in some 'soft–pure' subjects. Collaborative learning and peer learning, and the use of technology, are ubiquitous across all disciplines and institutional types.

Directed independent learning and quality in higher education

In reviewing these findings, and the implications presented in the next section, it is striking how much they reflect the *Principles of Good Practice for Undergraduate Education* developed by Chickering and Gamson (1987) and commended by Gibbs (2010), as discussed below.

Encourages contact between students and faculty: the findings demonstrate that directed independent learning is not about sending students off to undertake unstructured and unsupported study. Rather it is about staff and students jointly engaging in purposeful learning activities within their programmes of study, with staff playing a different role to 'imparter of knowledge'. Staff work with and support students on their learning journey, and students value opportunities to get reassurance and guidance from staff. This, however, may require a change in pedagogical approach and staff to be more readily available. This could be supported by wider staff engagement and staff development and support. (See research questions 3, 4, 5 and 8.)

Develops reciprocity and co-operation among students: many of the examples collected and reviewed as part of this study are about students working together, learning from each other and developing understanding through collaboration. It should be noted that staff expressed concerns about meta-ignorance; and students expressed dislike for group assessment. These issues need to be taken into consideration in the design of effective DIL opportunities without compromising the advantages. In particular this points to the need for an approach that allows the academic to check up on student progress, and an assessment regime that values group learning, but avoids a simple summative group mark. (See research questions 4 and 6.)

Encourages active learning: the strength of DIL is that it moves away from didactic approaches towards more active involvement of students, often in real world activities. However, students do not always see the value of DIL, and so may be reluctant to engage in a more challenging learning experience. Opportunities, therefore, have to be relevant to students and be flexible and inclusive to enable them to all participate fully. Quality assurance and quality enhancement can be used to help ensure a stronger focus on active learning. (See research questions 2, 3, 5, and 7.)

Gives prompt feedback: student capacity development is central to effective DIL, which involves both formal and informal feedback, given at a time when it can be utilised to improve or even correct learning. Formative assessment, feedback, and feed forward are important elements to help students develop as effective independent learners. (See research questions 5 and 6.)

Emphasizes time on task: this point is not directly covered by the research findings, but it is essential that students are motivated and enabled to engage in the learning activities beyond contact hours. This involves appreciating the benefits of DIL and independent learning, having engaging opportunities and having the capacity to engage. Furthermore, attention should be paid to the factors that might inhibit some students from spending time on task, and steps taken to ensure it is as inclusive as possible. (See research questions 2, 4, 5 and 7.)

Communicates high expectations: one of the challenges identified in the research is that students do not have clear expectations about DIL because learning at level three does not seem to be preparing students well for the more independent learning required in HE. This includes understanding what independent learning is, how it benefits them and what is expected of them. This involves clarity about what DIL is and why it is being undertaken, and guidance for students about what they need to do. Communication about expectations needs to start early and involve families as well as students. (See research questions 1, 2, 4, 5 and 9.)

Respects diverse talents and ways of learning: it is important to avoid a 'one size fits all' approach to DIL, as students and disciplines are different. It is necessary to recognise that students learn in different ways,

and this should be integrated into DIL as well as other forms of learning in HE by offering choice and variety of approaches to learning and assessment. This study suggests that VLEs, and technology more generally, provide greater opportunities for engagement – although this may not be true for all students (Hills and Rose-Adams 2014). Many of the examples discussed emphasise group or collaborative learning to support DIL objectives. For some students this is challenging practically, while for other this may difficult for other reasons, such as preferred learning style, language skills. (See research questions 5, 7 and 10.)

This study found that internal quality assurance procedures often do not seem to explicitly focus on DIL. Institutional quality assurance mechanisms, and the QAA, could play a more active role in ensuring that these features of effective DIL are explicit in modules and programmes.

Implications: development of an analytical model

The findings and conclusions presented in this report are descriptive rather than evaluative or prescriptive. This is important given the diversity of institutions and disciplines across the UK HE system. However, drawing on the research findings it is possible to develop an analytical model that can be used to help improve policy and practice in relation to DIL across UK higher education, in particular within HEIs and disciplines. To support this process, 'Soft Systems Methodology' (SSM), based on Checkland and Poulter (2006), has been utilised. This is an analytical tool designed to explore the perspectives of different groups affected by an issue, and to develop action to improve the current situation. SSM is based on the idea that people act purposefully and with intent as a result of their experience of the world and the meanings they attribute to it – but people hold different 'worldviews' (or 'Weltanschauung[en]'). By taking into account these different views, and looking at how they can be accommodated, it is possible to take better or more insightful actions, actions that lead to improvements in DIL. This methodology builds on the appreciative-inquiry approach that has been adopted throughout this study, as it values alternative perspectives and builds on effective practice.

Drawing on the case studies, examples and literature it is possible to explore the worldviews of some key stakeholder groups – and the solutions that have been shared to address particular challenges. The aim of the analytical model is to build on these worldviews and solutions to create an integrated model, providing insight into how DIL can be made more effective. During the course of this study academic members of staff who have developed and delivered effective DIL have had the loudest voice; students have been represented to some extent (although this was less than intended due to the timing of the study); and institutional managers have not been consulted directly but perceptions of their views have been shared by academic members of staff and institutional policies have been reviewed as part of the case studies. There are other views that have only been partially explored through this study: parents, employers, professional bodies, and the Quality Assurance Agency for Higher Education; their worldviews will not be specified, but their possible contributions to improving DIL will be signalled. The worldviews of academic staff, students and institutional managers are summarised here are 'ideal types' to be used to inform the analytical model, rather than to exactly reflect the views of a specific individual.

Academic staff across disciplines and institutions agree that students entering HE are not well prepared for HE learning in general, and DIL in particular. They do not have appropriate expectations about undertaking DIL or independent learning, they do not fully understand what it is or how it will benefit them. They lack the necessary skills to be effective independent learners, having previously learnt in a different educational context which is perceived to driven by qualification rather than learning outcomes. Based on their experience most academic staff feel that students need to be motivated to engage in and supported to undertake DIL. Staff have found that developing and delivering effective DIL is time consuming, and involves an element of risk that has to be managed and minimised through structure, guidance and assessment. Staff find that some colleagues lack the inclination and/or skills to develop DIL opportunities, and all staff would benefit from pedagogical and practical support, including share experiences and reflecting on the issues.

Students generally enter higher education as successful learners, having achieved the requisite entry qualifications for their higher education programme, and they want to get a good degree and get a good job at the end of their higher education experience. Most students expect learning in higher education to be different to learning in school or college, but they mostly do not hold specific understanding of how it will differ. In many contexts students feel unsure about what independent learning is and what is expected of them. Students want clear guidance about the activities they need to undertake, and they value opportunities to confirm they are doing the right thing, with staff in particular, but peers can be valuable too. Students are reliant on the learning styles and methods they have used in school or college, as these have proven to be successful, and they are unsure about learning in new – and unproven – ways. They are particularly concerned about group assessment as they will not get credit for the work they have done, and may get dragged down by others.

Institutional managers seem to view DIL as integral to learning in higher education. Managers tend to think that students should expect to undertake independent learning in HE as a central element of the HE learning experience, and that other stakeholders such as families and employers will recognise the role of independent learning in higher education. While staff should facilitate and support independent learning through DIL, the onus of responsibility falls on students. For those students who do not have the requisite skills these can be developed through central student services that offer a range of academic development opportunities. Staff should be developing DIL opportunities as part of their role as teachers of higher education, and this should be embedded into the modules and programmes they develop and teach.

A number of 'purposeful activities' are suggested in findings from the empirical research, and these can be offered in response to each of these worldviews. From an academic staff perspective solutions include:

- not assuming students are prepared for independent learning or directed independent learning. Making the definitions, benefits, expectations and skills associated with independent learning explicit to students prior to entry and when they make the transition into HE;
- connecting DIL to student priorities such as attaining a 'good degree' and graduate progression, including engaging employers or alumni in the process;
- creating engaging and relevant DIL opportunities that are informed by discipline concepts, culture and norms;
- using assessment to provide students with feedback on their work, and to provide motivation for students to engage;
- supporting staff to develop effective DIL opportunities through facilitating the sharing of practice within the programme team and beyond, time to develop modules through the work allocation model and the provision of pedagogical and IT support.

From the student perspective solutions include:

- providing guidance about what DIL and independent learning are and how DIL needs to be done pre-entry and post-entry;
- developing the academic and practical skills required to undertake DIL through the core curriculum delivered by subject specialists, and offering a safe and supported space to allow experimentation with different approaches to learning;
- providing interesting and relevant DIL opportunities that contribute to degree outcome;
- ensuring that what is required is detailed and clear, and providing opportunities for checking this out and getting help from staff;
- allowing and facilitating work with peers, including sharing materials, but not using group assessment;
- offering flexibility to enable DIL to be combined with other commitments and priorities.

From an institutional management perspective solutions include:

- making DIL and its role in the higher education experience explicit in the institutional mission and values;
- using learning and teaching strategy to make the institutional principles of DIL, the benefits, and the suitable pedagogical approaches to DIL more explicit;
- using marketing and student recruitment activities to develop appropriate expectations about and understanding of independent learning and DIL;
- developing the quality assurance processes to ensure that suitable DIL opportunities are offered across all programme;
- using quality enhancement mechanisms to provide initial and continuing professional development opportunities to individual staff and programme teams;
- ensuring student services and IT teams provide support to staff and students.

Model for improving directed independent learning

By combining these 'ideal' worldviews and associated solutions an integrated model or system for improving DIL has been generated.

In the diagram on page 62, the following key should be used:

- Blue circles are outcomes
- Red circles are other stakeholder groups
- Rectangles (blue and red) are means of achieving the outcomes
- Blue indicates essential elements for effective directed independent learning.
- Red indicates desirable elements – policies, processes and groups that could contribute to more effective directed independent learning
- The arrows indicate the direction of impact; most are uni-directional, others are bi-directional. The dashed lines indicate potential links which have not been fully explored through this study.

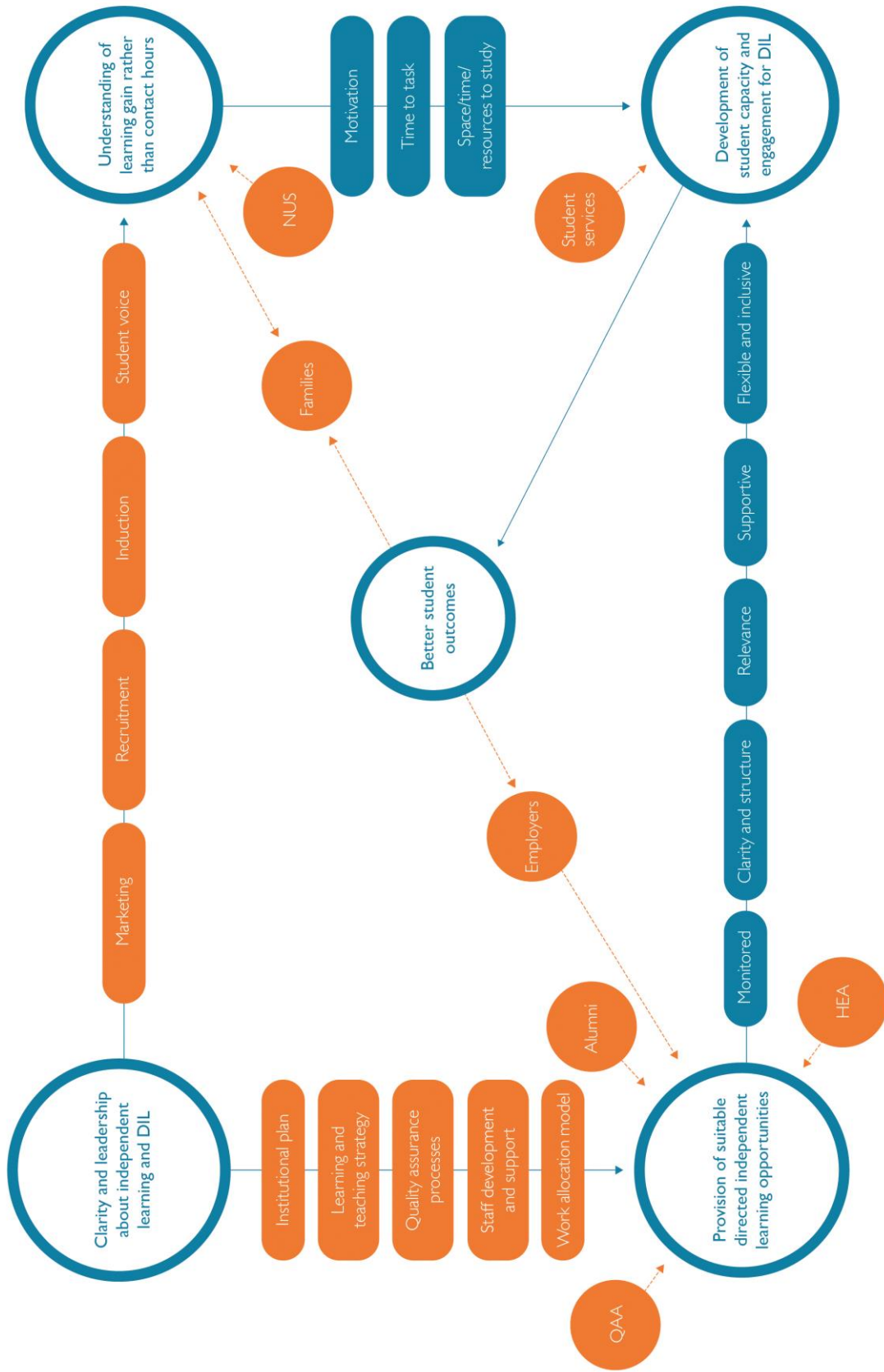# Effective Directed Independent Learning (DIL) System

Understanding of learning gain rather than contact hours

Motivation

Time to task

Space/time/resources to study

NUS

Student services

Development of student capacity and engagement for DIL

Student voice

Induction

Recruitment

Marketing

Families

Flexible and inclusive

Supportive

Better student outcomes

Relevance

Clarity and structure

Employers

Monitored

HEA

Clarity and leadership about independent learning and DIL

Institutional plan

Learning and teaching strategy

Quality assurance processes

Staff development and support

Work allocation model

Alumni

Provision of suitable directed independent learning opportunities

QAA

Figure 1: Factors associated with effective directed independent learning
Please refer to the key on page 61.

Clarity and leadership about directed independent learning (see research questions 1, 2, 3, 8, 10)

There is a need for institution-wide understanding of DIL. This could include an exploration of alternative definitions of DIL, and discussion about the autonomy of students, the role of staff, the purpose and benefits of independent learning and possible approaches to be used. While academic departments, discipline groupings, and programme teams should have freedom to develop and apply DIL within their own contexts (and informed by disciplinary norms and concepts) there should be high-level guidance or principles, and positive leadership, to inform and enhance DIL. For example, a commitment to DIL could be in the institutional mission statement. The learning and teaching strategy could provide further clarification about definitions, benefits, expectations and approaches. The strategy could then be enacted through the quality assurance processes (checking that effective DIL opportunities are in place), provision of staff development and support – both pedagogical and practical – and the work allocation model, allowing staff the time and expertise to develop and deliver effective DIL opportunities. The QAA and the HEA could play a role in enabling the institution to develop appropriate procedures for quality assurance and staff development to improve DIL.

Understanding of learning gain rather than contact hours (see research questions 1, 2, 9, 10)

Once there is greater clarity and leadership about DIL, this can be translated into students' (and their families') understanding about independent learning and DIL. In particular, students need to develop different expectations about learning in higher education, and this is intimately connected to an appreciation that the quality of the learning experience should be measured in terms of learning gains rather than contact hours, and that this will translate into positive outcomes for students, such as a good degree and graduate outcomes. The institution can make use of various existing processes, including marketing, recruitment, induction and the student voice. Families should be involved here too: higher education providers should engage in activities that communicate about independent learning with families to develop their understanding and expectations, to enable families to play roles around informing and supporting students to be effective in DIL, including recognising their need for independent study time, space and resources.

Provision of suitable directed independent learning opportunities (see research questions 4, 5, 6, 7, 10)

Within the context of institutional clarity and leadership around independent learning, staff can develop and deliver suitable and effective DIL opportunities, informed by their own disciplinary and professional context, values, norms and concepts. Effective DIL practice includes:

- *Clarity and structure* for students about what is required. This includes clear steps to be taken, guidance about when to take them, and examples of how to take them. Greater clarity and consistency will be achieved by the staff team working together to develop a shared understanding and approach to DIL.
- *Relevance* – making explicit to students why DIL is required, and linking this to personal benefits and aspirations. This may be achieved through summative assessment, but also through vocational and professional relevance and links with desired graduate outcomes. Connections to the real-world are popular with students, and thus engaging employers, professional bodies and alumni in curriculum development may result in more engaging opportunities and enhance graduate attributes.
- *Support* is necessary to ensure all students are able to undertake DIL tasks (it is crucial that students' capacity to undertake the learning is developed – see below). Students value formal and informal opportunities to check-in with academic staff and gain reassurance that that they are on the right track, or be corrected as necessary. Support can be provided face-to-face or online to individuals or groups, or through formative assessment and feedback, peer support, and online interactive activities.
- *Flexible and inclusive* – some students experience challenges in participating fully in aspects of their HE experience, and DIL can offer flexibility to with regard to what is studied, when and where, and preferred approaches to learning. It is therefore important to preserve this flexibility, and using the VLE and other technological solutions can support this. When designing DIL, care should be taken to think about which student groups may experience more difficulty in engaging than others, for

example by using a simple checklist against which the new module can be evaluated. This is a role that internal quality assurance processes could pick up and develop.

- *Student monitoring* is essential to check who is participating in DIL activities and to what degree, and to check understanding and performance. Monitoring can be more or less formal or informal, and it may utilise technology, for example, to record activity, or to provide self-assessments. To be of value, monitoring has to be followed up with action, and may involve staff in correction of misunderstandings and challenges to extend students further.

Development of student capacity and engagement (see research questions 2, 4, 5, 6, 9, 10)

Fundamental features of effective DIL include student capacity and engagement. The work with staff and students indicates that both of these elements should be integrated into the design and delivery of DIL opportunities, but it also suggests that these features are so important that need to be addressed as a separate element in the model. Students tend to think quite instrumentally about their learning, and want to ensure good outcomes as easily as possible. They do not fully appreciate the benefits of DIL or how to do it. Engagement appears to be derived from relevance – to getting a good degree and gaining graduate outcomes. This suggests that engagement can be enhanced through the use of assessment and real-world relevance – and, crucially, ensuring students know what to do. Capacity is necessary to ensure all students know how to undertake DIL tasks. And it is worth restating that this encompasses not only learning how to learn – but will probably involve the acquisition of practical and technical skills. It should not be assumed that students are independent learners, but that they should be by the end of their undergraduate studies, and thus scaffolding – or directed independent learning – to move students from dependent to independent learners should be provided. This needs to be supported by formal and informal opportunities for students to check-in with academic staff and gain reassurance that that they are on the right track, or be corrected as necessary. Capacity and support can be provided by formative assessment, peer and online interactive activities. Students want their development to be integrated into their learning, and to be relevant to their discipline, but embedded, discipline-specific skills development may be supplemented by services provided by central student services. It is noted above that engagement and performance in DIL need to be monitored and additional support may be required – and it can be that additional capacity development is required, either from subject specialists or from learning experts.

Better student outcomes (see research questions 2, 7, 9)

Improving DIL and making it more effective will generate better outcomes for all students, but also positive benefits for families, professional bodies and employers, and higher education institutions themselves. This model can therefore be perceived as a virtuous circle.

Recommendations

Institutions

- institutions ought to take an integrated approach to improving directed independent learning, drawing on the schematic approach presented in the analytical model;
- in particular, institutions should adopt a clear definition of directed independent learning, and foster understanding of this among staff, students and other stakeholders;
- this should be reflected in the institutional polices, processes and functions, such as institutional, learning and teaching strategy, internal quality assurance and review processes, staff development and support, work allocation model, marketing, recruitment, student induction and student services;
- consideration should be given to embedding directed independent learning into accredited initial postgraduate certificate programmes and continuing professional development opportunities;
- institutional communication with students, families and other stakeholders should provide clarity about what directed independent learning and its benefits are to ensure understanding of the importance of learning gain rather than focussing on contact hours;

- academic departments, programme teams and individual academics should ensure that they provide students with clarity and structure about directed independent learning activities and offer opportunities that are relevant and engaging for all students. Learning should be delivered flexibly and inclusively to ensure all students can engage fully, and formal and informal support needs to be available using a range media;
- student participation in and understanding of specific DIL activities needs to be monitored, and there should be procedures for appropriate follow-up;
- staff should not assume that students have all the necessary academic or practical skills to be effective independent learners, but rather that this is anticipated outcome of undergraduate higher education. Appropriate support and capacity building should be provided for students, which gradually decreases over time.

Quality Assurance Agency
- The UK Quality Code for Higher Education (QAA 2012, Ch. B3) expects that institutions should enable every student to develop as an independent learner. This study suggests that internal quality assurance procedures do not sufficiently focus on directed independent learning. The QAA could consider how they can work with higher education providers to build good practice for DIL into internal quality processes.
- The principles of effective practice identified in this study should be disseminated in enhancement materials made available for higher education providers.

Higher Education Academy
There is a lack of initial and continuing professional development explicitly relating to directed independent learning. The HEA could:

- encourage and support higher education institutions to embed directed independent learning into accredited initial postgraduate certificate programmes;
- to offer further continuing professional development opportunities about directed independent learning for more experienced staff, drawing on this study and the *Compendium of effective practice in directed independent learning*;
- facilitate sharing of practice, particularly in cognate discipline areas, but also more generally;
- work with institutions to facilitate a more institution-wide approach to directed independent learning to improve student outcomes based on the findings of this study.

Further research
This study has prioritised the voices of academic staff, has involved students in limited ways, and the views, and contributions of other stakeholders have only been collected indirectly. Similarities and differences between disciplines have been noted, but not explored in depth. The following further research is therefore recommended:

- parents and families – their understanding of, and contributions to, independent learning; effective ways of communicating with them and involving them in the process of independent learning;
- student perspectives – more exploration of how to better inform students about, and prepare them for, directed independent learning;
- employers – more investigation of employers' views on graduates and the role of independent learning; ways in which they do or could work in collaboration with HEIs, and effective ways of enhancing their understanding of independent learning;
- within academic disciplines – explore how learning from this study about directed independent learning can be translated into specific disciplinary contexts, drawing on their norms, concepts and professional/applied opportunities to make DIL more relevant and engaging to staff, students, employers and professional bodies.

References

Abd-El-Fattah, S. M. (2011) The Effect of Test Expectations on Study Strategies and Test Performance: a Metacognitive Perspective. *Educational Psychology*. 31(4), 497–511.

Barr, R. B. and Tagg, J. (1995) From Teaching to Learning: A New Paradigm for Undergraduate Education. *Change*. 27, (6), 12–25.

BBC (2014) File on 4. *Radio 4*. Reported online 3 June 2014.

Becher, T., and Trowler, P. R. (2001). Academic Tribes and Territories (2nd Ed.) Buckingham: Open University Press.

Biglan, A. (1973) The Characteristics of Subject Matter in Academic Areas. *Journal of Applied Psychology*. 57, (3), 195–203.

Black, P. and Wiliam, D. (1998) Inside the Black Box: Raising Standards through Classroom Assessment. *Phi Delta Kappan*. 80, (2), 139–44.

Bowes, L., Jones, S., Thomas, L., Moreton, R., Birkin, G. and Nathwani, T. (2012) *The Uses and Impact of HEFCE Funding for Widening Participation*. Bristol: HEFCE.

Bullock, S. M. (2013). Using Digital Technologies to Support Self-Directed Learning for Preservice Teacher Education. *Curriculum*. 24 (1), 103–20.

Candy, P. (1991) Self-Direction for Lifelong Learning: a Comprehensive Guide to Theory and Practice. San Francisco: Jossey Bass.

Checkland, P. B. and Poulter, J. (2006) *Learning for Action: A Short Definitive Account of Soft Systems Methodology and its Use, for Practitioners, Teachers and Students*. Chichester: John Wiley and Sons Ltd.

Chickering, A. W. and Gamson, Z. F. (1987a) *Seven Principles for Good Practice in Undergraduate Education*. Racine, WI: The Johnson Foundation Inc.

Cross, K. P. (1996) Improving Teaching and Learning through Classroom Assessment and Classroom Research. In: Gibbs, G. (ed.) *Improving Student Learning: Using Research to Improve Student Learning*. Oxford: Oxford Centre for Staff Development, pp. 3–10.

Davidson, I. and Thomas, H. (2008). Lessons from the Higher Professional Education Scheme for General Practice Training. *Education for Primary Care*. 19 (6), 605–14.

Foster, E. (1996). *Comparable but Different: Work-based Learning for a Learning Society*. Learning Project Final Report. Leeds: University of Leeds.

Frantzi, K., Ananiadou, S. and Mima, H. (2000) Automatic Recognition of Multi-Word Terms. *International Journal of Digital Libraries*. 3 (2), 117–32.

Grant, A., Kinnersley, P. and Field, M. (2012). *Learning Contexts at Two UK medical schools: A Comparative Study Using Mixed Methods*. BMC research notes. 5 (1), 153.

Green, A. (2008) Straddling the Gap: How Second Year Peers Empower First Year Students to Participate in a Community of Independent Learning by Means of the Educative. *Research in Post-Compulsory Education*. 13 (3), 241–49.

Gibbs, G. (2010) *Dimensions of Quality*. York: Higher Education Academy

Hativa, N and Marinkovich (1995) Disciplinary Differences in Teaching and Learning: Implications for Practice. San Francisco, CA: Jossey-Bass.

Harvey, M. and Slaughter, T. (2007) Evaluation of an Access Route to Higher Education through a Work-Based Assessment Strategy. *Assessment and Evaluation in Higher Education*. 32 (1), 3543.

Hills, L. and Rose-Adams, J. (2014) Open to All? The Impact of Curriculum and Technological Change on the Experience of Widening Participation Students Studying science at the Open University. Widening participation through curriculum, 30 April – 1 May 2014, Milton Keynes

Hoad Reddick, G. and Theaker, E. (2003). Providing support for problem based learning in dentistry: the Manchester experience. *European Journal of Dental Education*, 7(1), 3-12.

Hommes, M. A. and Van der Molen, H. T. (2012). Effects of a Self-Instruction Communication Skills Training on Skills, Self-Efficacy, Motivation and Transfer. *European Journal of Open, Distance and e-Learning*.

Keane, E. (2011) Dependence-Deconstruction: Widening Participation and Traditional-Entry Students Transitioning from School to Higher Education in Ireland. *Teaching in Higher Education*. 16 (6), 707–18.

Kell, C. (2006) Undergraduates' Learning Profile Development: What is Happening to the Men? *Medical Teacher*. 28 (1), e16–e24.

Kert, S. B. and Kurt, A. A. (2012). The Effect of Electronic Performance Support Systems on Self-Regulated Learning Skills. *Interactive Learning Environments*. 20 (6), 485–500.

Klein, S. P., Kuh, G., Chun, M., Hamilton, L. and Shavelson, R. (2005) An Approach to Measuring Cognitive Outcomes Across Higher Education Institutions. *Research in Higher Education*. 46 (3), 251–76.

Kuh, G. D. (2001) Assessing What Really Matters to Student Learning: Inside the National Survey of Student Engagement. *Change*. 33 (3), 10–17.

Kuh, G. D., Pace, C. R. and Vesper, N. (1997) The Development of Process Indicators to Estimate Student Gains Associated with Good Practice in Undergraduate Education. *Research in Higher Education*. 38 (4), 435–54.

Leggett, H., Sandars, J. and Burns, P. (2012). Helping Students to Improve their Academic Performance: a Pilot Study of a Workbook with Self-Monitoring Exercises. *Medical Teacher*. 34 (9), 751–53.

Lyall, R. J. (2010). Practical Work in Chemistry: Chemistry Students' Perceptions of Working Independently in a Less Organised Environment. *Chemistry Education Research and Practice*. 11 (4), 302–7.

May, H. and Bridger, K. (2010) Developing and Embedding Inclusive Policy and Practice in Higher Education. York: Higher Education Academy.

McMullan, M., Jones, R. and Lea, S. (2011). The Effect of an Interactive e-Drug Calculations Package on Nursing Students' Drug Calculation Ability and Self-Efficacy. *International Journal of Medical Informatics*. 80 (6), 421–30.

Murtagh, L. (2010). They Give us Homework! Transition to Higher Education: the Case of Initial Teacher Training. *Journal of Further and Higher Education*. 34 (3), 405–18.

Meyer, B., Haywood, N., Sachdev, D. and Faraday, S. (2008) *Independent Learning Literature Review*. London: DCSF (RR051)

Meyer, B. (2010) Independent Learning: a Literature Review and a New Project [Internet]. In: *British Educational Research Association Annual Conference*, September 2010. Available from: http://www.leeds.ac.uk/educol/documents/193305.pdf [Accessed 26 February 2014].

Murad, M. H., Coto-Yglesias, F., Varkey, P., Prokop, L. J., and Murad, A. L. (2010). The Effectiveness of Self-Directed Learning in Health Professions Education: a Systematic Review. *Medical education*. 44 (11), 1057–68.

Neumann, R. Parry, S. and Becher, T. (2002) Teaching and Learning in Their Disciplinary Contexts: a Conceptual Analysis. *Studies in Higher Education*. 27 (4), 405–17.

NUS (2012a) Student Experience Research 2012 Part 2: Independent Learning and Contact Hours. London: National Union of Students.

NUS (2012b) Student Experience Research 2012 Part 3: Subject Differences. London: National Union of Students.

Pawson, R. (2002) Evidence-Based Policy: the Promise of 'Realist Synthesis'. *Evaluation*. 8, 340–58.

Pawson, R., Greenhalgh, T., Harvey, G. and Walshe, K. (2004). Realist Synthesis: an Introduction. *ESRC Research Methods Programme paper*. Manchester: University of Manchester.

Pascarella, E. T. (2001) Using Student Self-Reported Gains to Estimate Collegiate Impact: A Cautionary Tale. *Journal of College Student Development*. 42 (5), 488–92.

QAA (2012) *UK Quality Code for Higher Education Chapter B3: Learning and Teaching*. London: Quality Assurance Agency for Higher Education.

QAA (2013) Explaining Student Workload: Guidance about Providing Information for Students Available from:
http://www.qaa.ac.uk/publications/information-and-guidance/publication?PubID=84 [Accessed 21 January 2015]

Ramsden, P. (1979) Student Learning and Perceptions of the Academic Environment. *Higher Education*. 8 (4), 411–27.

Ramaprasad, A. (1983) On the Definition of Feedback. *Behavioural Science*. 28, 4–13.

Sadler, D. R. (1989) Formative Assessment and the Design of Instructional Systems. *Instructional Science*. 18, 145–165.

Schuller, T., Bynner, J., Green, A., Blackwell, L., Hammond, C., Preston, J. and Gough, M. (2001) Modelling and Measuring the Wider Benefits of Learning: A Synthesis. *The Wider Benefits of Learning Papers*. London: Institute of Education.

Sperling, R. A., Howard, B. C., Staley, R. and DuBois, N. (2004) Metacognition and Self-Regulated Learning Constructs. *Educational Research and Evaluation*. 10 (2), 117–39.

Sun, J. C. Y. and Rueda, R. (2012). Situational Interest, Computer Self-Efficacy and Self-Regulation: their Impact on Student Engagement in Distance Education. *British Journal of Educational Technology*. 43 (2), 191–204.

Taras, M (2002) Using Assessment for Learning and Learning from Assessment. *Assessment and Evaluation in Higher Education*. 27 (6), 501–10.

Taylor, M. (1986). Learning for Self-Direction in the Classroom: the Pattern of a Transition Process. *Studies in Higher Education*. 11 (1), 55–72.

Thomas, E. (Ed.) (2015) *Compendium of effective practice in directed independent learning*. York: Higher Education Academy. Available from: https://www.heacademy.ac.uk/node/10476 [Accessed 12 February 2015]

Turan, S., Demirel, Ö. and Sayek, I. (2009) Metacognitive Awareness and Self-Regulated Learning Skills of Medical Students in Different Medical Curricula. *Medical Teacher*. 31 (10), e477–e483.

Trowler, P., Saunders, M. and Bamber, V. (eds.) (2012) Tribes and Territories in the 21st Century: Rethinking the Significance of Disciplines in Higher Education. London: Routledge.

Trowler, V. (2010) *Student Engagement Literature Review*. York: Higher Education Academy

Vossensteyn, H., Cremonini, L., Epping, E., Laudel, G., Leisyte, L. (2013) *International Experiences with Student Financing. Tuition Fees and Student Financial Support in Perspective. Final Report.* Twente: Centre for Higher Education Policy Studies.

Vrieling, E. M., Bastiaens, T. J. and Stijnen, S. (2012). Effects of Increased Self-Regulated Learning Opportunities on Student Teachers' Metacognitive and Motivational Development. *International Journal of Educational Research*. 53, 251–63.

Wenger, E. (1998) *Communities of Practice: Learning, Meaning and Identity*. Cambridge: Cambridge University Press.
Yin, R. K. (2009) *Case Study Research: Design and Methods*. 4th Ed. London: Sage.

Yoshii, A., Plaut, D. A., McGraw, K. A., Anderson, M. J. and Wellik, K. E. (2009) Analysis of the Reporting of Search Strategies in Cochrane Systematic Reviews. *Journal of the Medical Library Association*. 97 (1), 21.

Yusri, G., Rahimi, N. M., Shah, P. M. and Wah, W. H. (2013). Cognitive and Metacognitive Learning Strategies among Arabic Language Students. *Interactive Learning Environments*. 21 (3), 290–300.

Zhao, B. (2013) Study on the Measurement of Improving Ability of Independent Learning of Engineering College Student Based on Metacognitive Strategy. *International Journal of Continuing Engineering Education and Life Long Learning*. 23 (3), 376–86.

Contact us

The 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.

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

To request copies of this report in large print or in a different format, please contact the communications office at the Higher Education Academy: 01904 717500 or pressoffice@heacademy.ac.uk