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Self-directed learning: a toolkit for practitioners in a changing higher education context

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Abstract

Although self-directed learning (SDL) first emerged as a pedagogic model over forty years ago, recently it has been all but mandated as a fundamental principle of higher education. This paper examines recent literature from the Quality Assurance Agency and Higher Education Academy, published research and research projects by the author. These sources inform discussion about implications for teachers of SDL in contemporary practice, with particular reference to changes in the student profile in higher education: where might it be most appropriate, how might it be facilitated, and what cautions might need to be exercised? The paper concludes with a basic toolkit of principles and ideas for practitioners who may be interested in implementing SDL in their own teaching.

The concepts presented in this paper were initially given in presentations delivered at the Liverpool John Moores University 2014 Learning and Teaching Conference (16-17 June), and the Higher Education Academy 10th Annual Conference (2-3 July 2014), Aston University, UK.

Keywords

Self-directed learning; autonomous learning; widening participation; student engagement; learning gain

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Introduction

In the late 1960s and early 1970s self-directed learning (SDL) first appeared as a distinct form of study in adult education, and it became a major theme of research in adult pedagogy (Merriam, 2001). Over the following four decades research identified different goals for SDL, such as: the development of the learner's capacity to be self-directed; the fostering of transformational learning; and the promotion of emancipatory learning and social action. This led to the development of a number educational models (ibid.). Knowles (1975: 18) describes SDL as "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes." Garrison (1997: 18) defines SDL as "an approach where learners are motivated to assume personal responsibility and collaborative control of the cognitive (self-monitoring) and contextual (self-management) processes in constructing and confirming meaningful and worthwhile learning outcomes."

In his seminal *The Idea of a University*, Newman (cited in Collini, 2012: 46) argues that, "A university training ... is the education which gives a man a clear conscious view of his own opinions and judgements, a truth in developing them, an eloquence in expressing them, and a force in urging them." When asking 'what universities are for', Collini (2012) observes that, in educating someone to pursue the open-ended search for deeper understanding, universities are a form of preparation for autonomy. In other words undergraduates should develop more than a mastery of a body of information, but a capacity to challenge and extend the received understanding of a particular topic.

Nowadays SDL has become a cornerstone of higher education. According to Ramsden (2003), good teaching fosters the sense of student control over learning, and teaching that permits such control leads to better and more enjoyable learning. Biggs (2003) goes as far as to proclaim that SDL is the *raison d'être* of a university. He argues that it no longer makes sense to teach students *what* they need to know when basic bodies of knowledge quickly change; better that students be taught *how* to learn and reflect (ibid.). Ramsden goes on to cite Bruner's statement that "instruction is a provisional state that has as its object to make the learner ... self-sufficient" (Bruner, 1966: 53 in Ramsden, 2003: 97).

This principle of nurturing SDL has now been all but mandated as a fundamental objective in higher education in the United Kingdom by bodies such as the Quality Assurance Agency (QAA) and the Higher Education Academy (HEA); it has become a key academic indicator. HEA research argues that directed independent learning plays a central role in the experience of higher education (Thomas et al., 2015), whilst in their *Quality Code for Higher Education*, the QAA (2015a) state that a key characteristic of higher education is the emphasis placed on students to engage in independent learning.

Whilst it might seem foolhardy to question an established principle such as SDL there is good reason, once in a while, to put one's head above the parapet, and take a good look at how the land really lies. This is because the landscape of higher education is continually evolving, so there is an onus to reflect on the ways in which learning is facilitated to ensure that they align with the contemporary context of higher education. Put another way, what seemed so well-suited yesterday may not be as pertinent today, and possibly even less so tomorrow. The paper explores where SDL might be most appropriate in a curriculum and the strategies through which to facilitate it. It

also asks what cautions might need to be exercised, with particular reference to the increasingly diverse backgrounds of the contemporary student body.

Four key stages to SDL have been identified (Center for Teaching Excellence, nd): being ready to learn; setting learning goals; engaging in the learning process; and evaluating learning. The ten-point toolkit of principles for SDL that concludes this paper cover all four of these stages, whilst the case study and other SDL strategies discussed in the main body of the paper give more detailed descriptions of methods for the latter stages.

Learning outcomes associated with SDL

Research indicates that there are numerous positive outcomes associated with SDL, such as: developing analytical skills; fostering independent thinking; understanding what constitutes good work; developing collaborative skills; increasing confidence and empathy; encouraging a more responsible view of individual achievements; and evolving skills demanded in the workplace (such as problem solving and self-critical analysis) (Boud et al., 1999; Dochy et al., 1999; Garrison, 1997; Ramsden, 2003). McClean and Hourigan (2013) propose that student confidence levels inhibit many from taking the step to potentially distance themselves from a teacher's position, a significant quality of thinking autonomously. It could be argued that SDL is a process that would nurture the autonomy and confidence to achieve such independence, which has significant potential for creative programmes in particular.

Proactive learning methods, which are likely to result in higher cognitive levels of engagement, (Ramsden, 2003) and time on task are both good practice in education. Garrison (1997) argues that providing students with control and choice from the outset can strengthen their motivational

state, which influences the depth to which they engage in their learning. Knowles (1975) suggests that advantages of SDL include students entering into learning with more purpose and motivation; retaining and making use of what they learn better and for longer.

Whilst there is strong support for SDL, and it is considered to have many pedagogic benefits, research has shown that students can be under-prepared to learn independently (Thomas et al., 2015). Consequently teachers need to carefully consider how independent learning is introduced and constructed within the higher education environment.

The changing context of HE

Teachers may have overheard a colleague say something like “*students aren't what they were in my day.*” Recent evidence would appear to support this statement. The Universities and Colleges Admissions Services (UCAS) (2015) has highlighted that applications to undergraduate courses through BTEC qualifications have risen by 18 per cent from 2014 to 2015, and by 50 per cent since 2011. In their study of changing patterns in vocational entry to higher education Shields and Masardo (2015) found that, all else being equal, students with a vocational entry route are less likely to achieve a first or upper-second degree, despite being capable, confident and imbued with a sense of agency. Notably, when discussing the issue of students' increasing workload, although it was an issue for all students, Shields and Masardo found it tended to affect the BTEC students more. Their report goes on to highlight that the workload issue was directly linked to challenges in independent learning. Consequently universities should do more to better support their BTEC qualified students' learning.

Transition can be equally challenging for those students entering higher education via

the traditional A-Level route. Wingate (2007), for example, considers that secondary school students are ill-equipped with self-learning skills, which is supported in Shields and Masardo's (2015) study. Therefore, although the landscape of higher education is undoubtedly changing, it would be overly simplistic to assume that it is students from particular backgrounds that need additional support.

Increasing student mobility and national policies to recruit international students has led to the UK being the most popular destination for international students (Ryan and Pomorina, 2010). However, the HEA (2014) has highlighted that international students may find the transition to independent learning more difficult, and they may be unused to the degree of self-direction that is commonplace in UK universities. The QAA (2015b) recommend that universities have in place ways to enable students who come from different learning and teaching cultures, to cope with the demands of their programme, including supporting the development of their academic skills and their development as active and independent learners.

Many practitioners would be unlikely to dispute that they have greater demands placed on them, from both students and their institution. These might include increasing teaching and administration commitments, growing cohorts, assessment turnaround benchmarks and juggling teaching and research; probably all of the above and more. It could be argued that increasing the emphasis on SDL methods poses additional challenges for teachers, as they become more involved with managing students' transition to higher education.

In SDL the emphasis of learning changes, from teaching *content* to teaching *process*. As argued later, learning becomes less about *what* and more about *how*. This distinction is identified by Kember (1997: 260) in two broad categories of teaching in higher education: "teacher centred – content orientated" and "student centred – learning

orientated". Put another way, it is the nature of the teacher's role that changes and not necessarily the workload.

Arnstein (1969) highlights that broader participation without redistribution of power is an empty and frustrating process for the powerless. To embed SDL deeper within their teaching, practitioners have to relinquish a substantial proportion of control, and adopt the role of facilitator as opposed to that of a teacher in the conventional sense. This might be a novel experience – challenging, even. SDL can, therefore, place demands upon both teachers as well as students.

Evidence suggests that student transition and retention are becoming increasingly hot topics. A key feature of the recent Green Paper on higher education (Department of Business, Innovation and Skills [BIS], 2015) is to welcome students from a range of backgrounds and support them to remain on their courses, recognising that such students are often at a higher risk of dropping out. Interestingly, Wingate (2007) highlights that being taught how to learn might reduce student drop-out rates. This paper argues that if introduced through a supportive and well-communicated forum, SDL can be an effective process through which to facilitate students' transition into higher education. The next sections review some methods for engaging students in SDL.

SDL in practice: a case study of peer review

A research project in LJMU's Architecture programme examined students' perceptions of peer review, to establish if it might provide an alternative to traditional 'crit' reviews; a full description of the project, including detailed discussion about the methodology, outcomes and potential application of peer review, can be found in Smith (2013). In design modules formative feedback is usually delivered in crits, during which students present their work to a panel

of tutors who then provide comments verbally on strengths, weaknesses and areas for development. The study involved a sample of eight Level 6 students, who were working on their final project, a 20-week Design module. A series of formative peer review sessions were organised in the design studio with each student presenting their work to the other students who then provided verbal feedback, thus mimicking the traditional review format but with the absence of any tutor input. A teacher was present to facilitate the reviews, but sat at the back and did not contribute to the discussion. The students were very forthcoming with their feedback, and the facilitator only ever had to step in to draw each review to a close so that they did not overrun. Evaluation of the reviews was conducted through a student questionnaire, administered just after the final session.

Students can be reticent to contribute in crit reviews with tutors present (Webster, 2006), but the participants noted how freely the feedback dialogue flowed between themselves. Two students stated they were initially cautious about giving critical feedback, but this diminished for both as the first session progressed. The participants highlighted that their peers had more empathy than tutors, and that the more informal atmosphere of the peer reviews generated greater interaction. This is reinforced by Dochy et al. (1999), who highlight that students' evaluation of their work helps remove the student-tutor barrier and develops enterprising competencies in students.

The participants all identified additional learning from the session, including: decision making, thoughtfulness, creative inspiration and debating skills. Ramsden (2003) suggests that structured use of peer review encourages a more responsible and self-critical view of student's work. Six of the eight students made direct reference to later applying deepened critical thinking to their own work, thus broadening their learning to include skills demanded in the

professional workplace. One participant commented:

After the peer reviews when working on my design I thought about each aspect ... with a critical mind asking, "What does this contribute to my project, is it positive or negative?"

The participants respected and valued the feedback from their peers, and were unanimous in commenting that it had a positive contribution to their project. However, half the participants identified that the greater depth of tutors' knowledge gives deeper insight than a more basic comment from a peer, and felt that there were probably issues that were not raised in the peer reviews that would have been during a tutor-led one. They were unanimous in supporting peer review as a method for generating formative feedback on their work, validating peer review as a valuable form of SDL. It is a method that can be utilised in many disciplinary areas, particularly creative programmes where crit reviews are commonplace.

The project described above focused on SDL in formative peer review. Thomas et al. (2015) suggest that independent learning with a combination of formative and summative assessment can be particularly valuable. In another project where peer review was used for summative assessment there was negative reaction by students (Wilson et al., 2014); the researchers conceded that one aim of their project was to explore if peer review could be a way to reduce tutors' assessment workload. Peer review, like Boud's (1995) observation of self-assessment, is a powerful way of increasing the role of students as active participants in their own learning. However it must be used with caution, as motivation can be misconstrued. It is worth stressing SDL constitutes more than peer review; but it is one approach that can be taken.

Other SDL strategies

Problem-based learning (PBL) is an approach that uses problems as the stimulus and focus of student activity (Boud and Feletti, 2008), in which the primary objective is to enhance students' SDL skills and their application of knowledge (Jonassen and Hung, 2008). Gibbs (2010) argues that some class contact methods are much more effective in generating productive independent study, and that PBL can result in substantial increases in autonomous learning.

One of the distinctive qualities of PBL is the use of collaborative group work, to identify what knowledge is needed to solve a problem and then engaging in SDL to achieve it (Hmelo-Silver, 2004). Knowledge is disseminated through debate within the group in the form of meta-discussion and questioning. The objective of the group debate is to elevate dialogue to this meta-level and discuss over-arching principles (de Graaff and Kolomos, 2003); this makes it distinct from a traditional design tutorial, for example, where discussion focuses on evolving particular project work. The group sources information, and is a forum for learning through debate, providing interaction and support. The tutor is purely a facilitator, as opposed to being responsible for any transfer of knowledge (Hmelo-Silver, 2004), and this makes PBL distinct from a traditional tutorial which is frequently, if not always, tutor-led.

Research indicates that PBL has an immediate and long lasting impact on students' skills (Dochy et al., 2003), that students retain knowledge for longer and that they apply knowledge and transfer problem-solving skills in professional situations more effectively (Norman and Schmidt, 1992). Therefore it has close alignment with the higher education objectives to foster independent learners and to prepare students for a professional working environment.

Wingate (2007) proposes that teaching should encourage students to think critically about and debate their subject; one suggested strategy is moving students out of the lecture theatre and into small group activities facilitated by subject teachers. Such task-based learning can itself strengthen students' learning and retention (Chickering and Gamson, 1987). The two pedagogic methods described above suggest that SDL can be effectively constructed through approaches which are driven through using interactive small group teaching. Such an approach also supports Kandiko and Mawer's (2013) finding that whilst students desire greater contact time SDL results from support through their preferred forums of small seminars and tutorials.

Implications of SDL on teaching and assessment practice

As the Green Paper (BIS, 2015) highlighted, the landscape of higher education has changed and will continue to do so. Recent media coverage has suggested that staff-to-student contact hours could be some measure of value for money in higher education (Thomas et al., 2015); in sharp contrast Gibbs (2010) argues that that quantitative class contact has very little to do with educational quality, and that the qualitative nature of contact might nurture deeper independent learning by students. If, as Biggs (2003) claims, SDL is university's ultimate purpose, what implications might greater integration of SDL have on teachers' learning and teaching practice, particularly in the changing context of higher education?

Kember's (1997) categories (teacher centred – content orientated and student centred – learning orientated) suggest that practitioners should be less concerned with students learning a particular curriculum and more focused on the skills of learning that students are developing. Indeed, it is in facilitating *learning how to learn* that there is a significant role for practitioners, as they

encourage autonomy through self-directed pedagogic methods. However Wingate (2007) observes that some teachers can be reluctant to devote teaching time to *learning how to learn*.

To facilitate a shift toward student centred learning methods practitioners can begin by informing students about the nature of independent learning. Thomas et al. (2015) suggest that this should commence before students even start at university, and that induction and early teaching fundamentally shape their understanding of it. Shields and Masardo (2015) argue that tutors should be made aware of the range of pre-university qualifications their students hold, and what that may mean in terms of student expectations, work patterns and familiarity with different assessment methods. However, they go on to stress the importance that initiatives to improve higher education outcomes for vocational students do not start from a deficit perspective.

Rather than viewing the diversity of the student body as problematic for SDL, it should be constructed in such a way that presents opportunities to gradually manage transition into higher education, to establish parity across students from all backgrounds. For as identified above, those from more traditional academic routes have also been shown to find learning independently a challenge. It is not an issue that is limited to those from particular backgrounds.

Whereas the formal lecture reinforces the conventional student-teacher power dynamic, it clearly shifts – potentially dramatically – in SDL as control over management of learning tasks becomes collaborative. In this shift teachers have to relinquish a substantial proportion of control, but the transition from teacher to facilitator lies at the very heart of student autonomy. Neary (2014) proposed the removal of the lecturer as the point of power in the classroom. Whilst this might be the ultimate objective, re-adjustment of the student-teacher power dynamic must be gradual and supportive, given that

dependent learners have particular needs that are supported by the conventional dynamic (Merriam 2001). Biggs (2003: 93-5) identifies three levels of SDL:

- Study skills in managing time and space
- Study skills relating to particular content
- Meta-cognitive learning skills to manage new contexts

It might be that these provide the stepping stones to increasing students' abilities and their confidence in their self-direction. Introduced appropriately, SDL can provide a structure through which to manage the transition to the independence which lies at the very heart of the higher education experience. However, it is absolutely essential that the methods, motivation and learning outcomes are explicit and clearly communicated to the student body.

As well as directing their learning, students can also take ownership of their assessment. Gordon (2014) suggests that flexible assessment, such as students choosing how they are assessed, can be enabled through learning technologies (for example, offering the choice of selecting from a set of assessment options). At one level students might influence assessment criteria, or the method of assessment; at another, they might take ownership of the assessment itself with self or peer review. The case study described above was very positive in supporting peer review as a form of self-directed evaluation. However it is worth noting that some participants felt that feedback lacked the depth a teacher might give; also, some students were initially a little reticent to participate. These outcomes reiterate the importance of supporting SDL in appropriate ways to give learners confidence to participate fully, and the role of teachers in monitoring the depth of learning being achieved.

Nicol (REAP, 2007) argues that evaluation via peer review is one way to encourage students to develop autonomy in their work.

However there is a need to be mindful of when and, in particular, why student-directed methods of assessment are being employed. Contrary to the HEA/QAA view (Thomas et al., 2015) there may be instances where traditional teacher-led methods might be more appropriate, as argued by Wilson et al. (2014).

In the 2014 UK Engagement Survey (UKES) students were asked how much their institution has emphasised taking responsibility for their learning. Interestingly the results showed that respondents felt that this was part of succeeding in higher education, and often what differentiated it from A-levels or college (Buckley, 2014); a few noted a negative connotation, and felt that the reason a student needed to take responsibility was because institutions did not provide enough support to them. The 2015 UKES asks students how much their course has emphasised taking responsibility for their own learning (HEA, 2015). Anecdotal evidence suggests that students often provide a very positive response to this question; however this might not always reflect their readiness for SDL. This may suggest further research into this potential dichotomy between students' belief in their readiness for SDL and their capacity to manage when it is implemented.

A toolkit of principles for SDL

SDL has distinct and numerous positive pedagogic outcomes, and there are compelling arguments for it to be more tightly woven into any curriculum, irrespective of the subject. Overall, SDL aims to facilitate students' transition to independent learners, with the ultimate objective of making them autonomous. This section concludes the paper by looking at some principles for putting SDL in to practice.

Wingate (2007) cautions that learning how to learn in higher education demands a

fundamental change in students' beliefs, and is a complex process requiring carefully constructed, supportive measures. With students approaching university from increasingly diverse backgrounds, and even those from traditional backgrounds struggling to make the transition, it is vital that self-directed pedagogies are introduced in a very supportive context so as not to alienate students from what is very likely to be a new concept of learning.

In the two learning methods discussed above – peer review and PBL – there is a different arrangement of contact between students and teachers. Common to both, however, is a dramatic shift in the student-teacher power dynamic. This is a defining quality of any format of SDL. However, the transition of power must be carefully managed, and in well-identified and clearly communicated stages.

Peer review and PBL also both make a persuasive argument for learning how to learn through activities in small groups, which Wingate (2007) contends are most effective when they are subject specific and not generic cross-programme learning support classes. Therefore the shift in power toward greater autonomy in students might be underpinned by a move away from large lectures, and toward greater small-group teaching. Crucial, however, is clear communication of the methods (what students are expected to do) and the objectives (what might be the outcome) particularly in the early stages of their engagement (HEA, 2014).

In conclusion, encouraging greater SDL and teaching *learning how to learn* could involve some of the following ten-point toolkit of principles, derived from the above discussion and sources:

1. Clearly discuss expectations relating to SDL	Practitioners work with students to ensure that there is a shared understanding of the meaning and methods of independent learning. This might happen as early as open days and pre-induction sessions. Be clear about the ways that students will be responsible for their learning and what is expected from them.
2. Be explicit in the purpose of self-direction.	The benefits of SDL – the learning gain – must be made clear. It is less about <i>what</i> is known at the end, and more about <i>how</i> learning happens. Guidance should be provided on how to be reflective and understand learning processes (HEA, 2014).
3. Make it integrated	It has been argued (Wingate, 2007) that transition to SDL is most effective where it is subject specific, and not generic, and fully embedded within the discipline.
4. ‘Scaffold’ progressively independent steps	This could be based on the following timeline using the three stages identified by Biggs (2003): Semester 1 – Study Skills 1; Semester 2 – Study Skills 2; Semester 3 – Metacognitive Learning Skills.
5. Ensure it is well-supported	In SDL teachers become facilitators, and not expert knowledge providers. This might be a novel experience, but it is fundamental to students developing the skills to learn themselves.
6. Make learning active	Consider where learning could be active, particularly in peer-to-peer groups, and driven by solving problems. Small groups also facilitate student-to-student learning, and it is well recognised that one of the most effective ways in which to learn something is to teach it to others (Biggs, 2003).
7. Embed learning in the real world	Thomas et al. (2015) identify a benefit of showing students the value of SDL ‘in the real

	world’, and propose that employers be encouraged to collaborate with developing learning opportunities. This could be through real world problem projects, for example.
8. Make it well-connected	Consider how a VLE (virtual learning environment) can facilitate self-direction. This might range from multimedia study materials being accessible anywhere and anytime, to students self-determining their assessments, to students assessing themselves or each other.
9. Introduce different aspects of SDL	Self-direction can be introduced in different stages of the learning cycle. For example students could be asked to choose their method of assessment of a task for which the teaching was more structured, or vice versa.
10. Ensure it is evaluated	It is important to monitor and evaluate SDL – both in terms of students’ progress and the processes themselves. The former can be achieved through informal formative evaluation sessions, particularly in the early stages, which provide supportive structure to introduce the processes of self-direction and measure their adoption (HEA, 2014). Reflection on the effectiveness of SDL strategies by teaching staff should identify ways to deepen the process (Thomas et al., 2015).

References

- Arnstein, S.R. (1969) 'A ladder of citizen participation' in *Journal of the American Institute of Planners*, 35 (4): 216-224
- Biggs, J. (2003) *Teaching for Quality Learning at University* (Second Edition), Buckingham: The Society for Research into Higher Education and Open University Press
- Boud D. and Feletti, G. (2008) *The Challenge of Problem-Based Learning*, Abingdon: Routledge
- Boud, D., Cohen, R. and Sampson, J. (1999) 'Peer learning and assessment' in *Assessment and Evaluation in Higher Education*, 24 (4): 413-426
- Boud, D. (1995) *Enhancing Learning through Self-assessment*, London: Kogan Page
- Buckley, A. (2014) *The UK Engagement Survey 2014: The Second Pilot Year*, York: Higher Education Academy, retrieved from: https://www.heacademy.ac.uk/sites/default/files/resources/ukes_report_2014_v2.pdf (November 2015)
- Business, Innovation and Skills [Department for] (BIS) (2015) *Fulfilling our Potential: Teaching Excellence, Social Mobility and Student Choice*, London: HMSO
- Center for Teaching Excellence (nd) 'Self-directed learning: a four step process', The University of Waterloo, retrieved from: <https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/tips-students/self-directed-learning/self-directed-learning-four-step-process> (November 2015)
- Chickering, A.W. and Gamson, Z.F. (1987) 'Seven principles for good practice in undergraduate education' in *AAHE Bulletin*, 39 (7): 3-7
- Collini, S. (2012) *What are Universities For?* London: Penguin Books
- de Graaff, E. and Kolomos, A. (2003) 'Characteristics of problem-based learning' in *International Journal of Engineering Education*, 19 (5): 657-662
- Dochy, F., Segers, M. and Sluijsmans, D. (1999) 'The use of self-, peer and co-assessment in higher education: A review' in *Studies in Higher Education*, 24 (3): 331-350
- Dochy, F., Segers, M., van den Bossche, P. and Gijbels, D. (2003) 'Effects of problem-based learning: A meta-analysis' in *Learning and Instruction*, 13 (5): 533-568
- Garrison, D.R. (1997) 'Self-directed learning: toward a comprehensive model' in *Adult Education Quarterly*, 48 (1): 18-33
- Gibbs, G. (2010) *Dimensions of Quality*, York: The Higher Education Academy
- Gordon, N. (2014) *Flexible Pedagogies: Technology-enhanced Learning*, York: Higher Education Academy
- Higher Education Academy (2014) *Independent Learning*, York: The Higher Education Academy, retrieved from: https://www.heacademy.ac.uk/resources/detail/internationalisation/ISL_Independent_learning (accessed August 2015)
- Higher Education Academy (2015) 'UK Engagement Survey UKES 2015', retrieved from: https://www.heacademy.ac.uk/sites/default/files/downloads/UKES_2015_items.pdf (accessed November 2015)
- Hmelo-Silver, C. (2004) 'Problem-based learning: what and how do students learn?' in *Educational Psychology Review*, 16 (3): 235-266
- Jonassen, D.H. and Hung, W. (2008) 'All problems are not equal: implications for problem-based learning' in *The Interdisciplinary Journal of Problem-Based Learning*, 2 (2): 6-28
- Kandiko, C.B. and Mawer, M. (2013) *Student Expectations and Perceptions of Higher Education*, London: King's Learning Institute
- Kember, D. (1997) 'A re-conceptualisation of the research into university academics'

conceptions of teaching' in *Learning and Instruction*, 7 (3): 255-275

Knowles, M. (1975) *Self-directed Learning: A Guide for Learners and Teachers*, Chicago, IL: Follet

McClellan, D. and Hourigan, N. (2013) 'Critical dialogue in architecture studio: peer interaction and feedback' in *Journal for Education in the Built Environment*, 8 (1): 35-57

Merriam, S.B. (2001) 'Andragogy and self-directed learning: pillars of adult learning theory' in *New Directions for Adult and Continuing Education*, 89: 3-13

Neary, M. (2014) 'Student as producer: Reinventing the undergraduate curriculum', paper presented at the Research and Practice in Higher Education seminar, 14 May, Liverpool John Moores University, UK

Norman, G.R. and Schmidt, H.G. (1992) 'The psychological basis of problem-based learning: A review of the evidence' in *Academic Medicine*, 67 (9): 48-57

REAP (2007) *Re-engineering assessment practices in higher education*, retrieved from: <http://www.reap.ac.uk/PEER.aspx> (accessed September 2015)

Quality Assurance Agency (QAA) (2015a) Chapter B3: learning and teaching. *Quality Code for Higher Education*, retrieved from: <http://www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code/quality-code-part-b> (accessed August 2015)

Quality Assurance Agency (QAA) (2015b) *Supporting and Enhancing the Experience of International Students in the UK: A Guide for UK Higher Education Providers*, retrieved from: <http://www.qaa.ac.uk/en/Publications/Documents/International-Students-Guide-15.pdf> (accessed November 2015)

Ramsden, P. (2003) *Learning to Teach in Higher Education* (Second Edition), London: Routledge Falmer

Ryan, J. and Pomorina, I. (2010) 'The Teaching International Students Project' paper presented at the Higher Education Surveys for Enhancement Conference, 18 May, Nottingham, UK

Shields, R. and Masardo, A. (2015) *Changing Patterns in Vocational Entry Qualifications, Student Support and Outcomes in Undergraduate Degree Programmes*, York: Higher Education Academy, retrieved from: <https://www.heacademy.ac.uk/resource/changing-patterns-vocational-entry-qualifications-student-support-and-outcomes> (accessed September 2015)

Smith, C. (2013) 'Evaluating Architecture Students' Perspective of Learning in Peer Reviews' paper presented at, DRS // CUMULUS 2nd International Conference for Design Education Researchers, 14-17 May, Oslo, Norway. Proceedings 1: 343-355, retrieved from: [http://www.researchgate.net/profile/Erik-Bohemia/publication/267451024_Design_Education_from_Kindergarten_to_PhD_Design_Learning_for_Tomorrow_Proceedings_of_the_2nd_International_Conference_for_Design_Education_Researchers_\(Vol._1\)/links/544fc404cf201441e934d7c.pdf#page=372](http://www.researchgate.net/profile/Erik-Bohemia/publication/267451024_Design_Education_from_Kindergarten_to_PhD_Design_Learning_for_Tomorrow_Proceedings_of_the_2nd_International_Conference_for_Design_Education_Researchers_(Vol._1)/links/544fc404cf201441e934d7c.pdf#page=372) (accessed December 2015)

Thomas, L., Jones, R. and Ottaway, J. (2015) *Effective Practice in the Design of Directed Independent Learning Opportunities: Summary of the Main Research Report*, York: Higher Education Academy, retrieved from: <https://www.heacademy.ac.uk/resource/effective-practice-design-directed-independent-learning-opportunities> (accessed August 2015)

UCAS (2015) 'Young BTEC applicants up by 18 percent to 42,000 in 2015' in *Analysis Note 2015/04*, 25 June, retrieved from: <https://www.ucas.com/corporate/data-and-analysis/analysis-notes> (accessed August 2015)

Webster, H. (2006) 'Power, freedom and resistance: excavating the design jury' in

International Journal of Art and Design Education, 25(3): 286-296

Wilson, M.J., Diao, M. and Huang, L. (2014) "I'm not here to learn how to mark someone else's stuff": An investigation of an online peer-to-peer review workshop tool in *Assessment and Evaluation in Higher Education*, retrieved from: <http://www.tandfonline.com/doi/abs/10.1080/02602938.2014.881980#.U9uTHOI8PIU> (accessed March 2014)

Wingate, U. (2007) 'A framework for transition: Supporting 'learning to learn' in higher education' in *Higher Education Quarterly*, 61(3): 391-405