Learning Outcomes at the Open University

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Learning outcomes
at The Open University

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Foreword by
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The declaration and delivery of Learning Outcomes for both modules and qualifications makes explicit and transparent how Quality Enhancement is maintained within and across qualifications. This report outlines the background to and current use of Learning Outcomes at The Open University.

The language and terminology surrounding Learning Outcomes can be problematic as reported by Cohen and Manion (1977) and Rowntree (1982). However, Edwards in this report, has brought clarity to this area with respect to the progression and coherence of Learning Outcomes within a given qualification.

Learning Outcomes have been documented by Allan (1996) as being developed through rational curriculum planning and she suggests that Learning Outcomes should include personal, transferrable, subject based and generic academic outcomes. Allan stresses that:

“Learning Outcomes represent what is formally assessed and accredited to the student and they offer a starting point for a viable model for the design of curricula in higher education which shifts the emphasis from input and process to the celebration of student learning”

Student satisfaction is often used as the measure which relates to students’ perceptions of success and feelings about their achieved outcomes (Keller, 1983). Nonetheless the literature often reveals that what is really being measured is how satisfied learners are with their overall learning experience. The Open University does measure student satisfaction but it also links the assessment of Learning Outcomes to the design of the tutor marked assignments and individual progression can be monitored in this way.

There are, of course, challenges with respect to Learning Outcomes. One of these is to make sure the design of online qualifications meet the expectations and needs of both tutor and student in order to provide a satisfying and effective learning environment. These are the goals of our Learning Design Team who have documented their role in the first publication of this Quality Enhancement Report Series.

References


Contents

Introduction 4
Background 4
The decision to introduce learning outcomes in UK HE 5
Introducing learning outcomes into the curriculum 6
Embedding learning outcomes 8
Learning design and quality enhancement 10
Progression and coherence 10
Planned developments 13
Conclusion 13
Glossary 14
References 15
Introduction

This report describes the background, role, use of and support for learning outcomes at The Open University, UK (OU), which defines them as:

A learning outcome is a statement of what a student is expected to know, understand and be able to do at the end of a module or qualification.

Background

The OU’s mission is to be open to people, places methods and ideas. It also highly regards and promotes several values: inclusiveness, innovation and responsiveness. Since its inception these have been enshrined within the University’s approach to teaching and learning which has become known as Supported Open Learning (SOL). Before the UK moved, in 1997, to using learning outcomes, learning objectives were in common use within the OU’s teaching materials. These were an important guide to curriculum design and could be considered the precursors to learning outcomes, as whilst they described to students and their tutors what was to be covered and understood they had no formal definition and were not linked to assessment or the award of credit.

Before the Dearing report, which precipitated the UK’s move to learning outcomes, colleagues within the OU had already been working on skills development and were considering the use of learning outcomes. An early but detailed description of the potential for learning outcomes is given in a report by Sue Otter from the Unit for the Development of Adult Continuing Education (Otter, 1992). In this report Otter describes the main benefit of using learning outcomes as,

‘providing a focus for staff, students and employers to examine more clearly what they are seeking to achieve, and enabling them to contribute actively to the development of a common understanding of the nature and purposes of higher education and of specific programmes and awards’ (Otter, 1992)

In her conclusions she is clear that learning outcomes cannot achieve this benefit unless they are linked to credit through assessment and how they can never be reduced to a static or simple list of statements. These statements continue to be relevant today. It was early in 1997 that the University set up the Learning Outcomes and their Assessment (LOTA) project, to explore the value of learning outcomes and how they might be used by the University.

An important concept to consider when working with learning outcomes is that of constructive alignment. This was described by John Biggs the year before the Dearing report was published (Biggs, 1996). Biggs tells us that constructive alignment combines the constructivist approach with the need to align assessment with course objectives. The constructivist theories of learning can be seen as originally coming from Piaget’s
work on the theory of development (Piaget, 1976) and Biggs refers to a number of these developments in their application to adult learners. Constructivism holds that individuals construct their own learning from their experiences and what the student does is therefore of prime importance to their learning. Although the University always offered face-to-face tutorials to students, the increasing use of the internet to mediate learning and teaching and the growing shift to forums, video conferencing and social networking means that for many, social constructivist theory is also increasing in relevance. For Biggs, the introduction of learning outcomes with their link to assessment and credit adds a dimension to teaching and learning.

Constructive alignment is therefore, where a course of study is designed to develop a student’s skills and understanding through a range of planned activities and assessments that are aligned to learning outcomes.

The decision to introduce learning outcomes in UK HE

In July 1997, ‘Higher education in the Learning Society’ was published (National Committee of Inquiry into Higher Education, 1997). This report produced by the National Committee of Inquiry into Higher Education, led by Sir Ron Dearing was the result of a major review of higher education and it made 93 recommendations relating to HE in England, Northern Ireland and Wales. It was the twenty first recommendation that led directly to the requirement to introduce learning outcomes.

‘Recommendation 21
We recommend that institutions of higher education begin immediately to develop, for each programme they offer, a ‘programme specification’ which identifies potential stopping-off points and gives the intended outcomes of the programme in terms of:

- the knowledge and understanding that a student will be expected to have upon completion;
- key skills: communication, numeracy, the use of information technology and learning how to learn;
- cognitive skills, such as an understanding of methodologies or ability in critical analysis;
- subject specific skills, such as laboratory skills.’ (National Committee of Inquiry into Higher Education, 1997)

This is the full definition of learning outcomes that underpins the University’s own definition included in the introduction which has been used to describe learning outcomes in a useful way for students as well as colleagues.

The subject benchmark statements, hosted by the QAA and developed in consultation with subject specialists across institutions, are an important point of reference in setting learning outcomes. The requirement for these benchmark statements was set out in recommendation 25 of the Dearing Report (National Committee of Inquiry into Higher Education, 1997). Recommendation 24 in the Dearing report required them to be published by 2000, to coincide with the publication of the Quality Code for higher education. It should be noted that some apply in different regions, for example, Scotland has its own statements for clinical psychology, applied psychology, childhood practice, nursing and initial teacher education.
At the same time as the Dearing report, there was an equivalent report published in Scotland, the Garrick report (National Committee of Inquiry Into Higher Education, Garrick and Dearing. 1997) which led to corresponding changes within the Scottish system (Coats, 2000). The OU offers curriculum across the United Kingdom, and therefore has to ensure it meets all requirements within each nation state. This report describes how the University ensures learning outcomes are fit for England, Northern Ireland, Wales and Scotland.

Introducing learning outcomes into the curriculum

When the UK Government accepted the Dearing recommendations, the aims of the LOTA project were changed to include the implementation of learning outcomes throughout the undergraduate curriculum by the 2001/2 academic year as required. There followed a period of briefings and workshops run by the project team. Early sessions were part consultation, as practical approaches were tested and later sessions were to inform and support module teams as they made transition to a curriculum with learning outcomes. At the end of the project, the LOTA team produced a booklet, the LOTA Booklet (COBE, 2005a) to guide module teams and those developing new qualifications. The set of headings proposed by the QAA were adopted. Thus learning outcomes are categorised under one of four headings: knowledge and understanding; cognitive skills; key skills; practical and professional skills. Also within this period the University adopted its definition of a learning outcome.

Within the OU, a qualification specification template was designed to record the required detail of a programme specification and this included the educational aims, learning outcomes and details on the forms of teaching and assessment used. Similar documentation was produced for module specifications. Alongside this documentation a process was designed to manage the decision making steps for curriculum development and to ensure the collection of appropriate information for each of these. This became the University’s Stage-gate process: describing a series of stages for the development of curriculum followed by a decision gate that determined whether a particular development moved onto the subsequent stage. The Stage-gate process articulates with other University processes and structures, including the Business Planning process, production and presentation systems, and the governance structure.

In order to properly manage resource and workload, curriculum developments are planned through the Business Planning process, and expressed within Unit Plans. The Stage-gate process then sets out the information gathering and decision stages to production, presentation and beyond. The annual cycle of review and enhancement operates for all curricula in presentation and feeds back into the Business Planning process.

Qualification specification documents need to show how learning outcomes are developed through the various pathways available to the student. The simplest way of representing this information was and continues to be through the curriculum map. This is a grid illustrating the qualification learning outcomes and showing how each module, within the programme of study, contributes to developing or assessing it, and a typical example is shown in Table 1. At the time of writing, the University is developing IT support for learning outcomes and curriculum maps. The Centre for
Outcomes-Based Education (COBE), which ceased functioning in 2010, provided learning outcomes expert guidance but also scrutiny of qualification specifications at this institutional approval stage. This scrutiny ensured programmes had properly considered all the criteria regarding learning outcomes and a consistency in the use of learning outcomes across the institution. Without this level of vigilance it was clear, from a proportion of the documentation submitted for approval, there was a risk of an immediate drift from an institutionally consistent approach to unknowingly accepting a multiplicity of approaches. The current governance committee to approve qualification specifications is the Qualifications and Assessment Committee (QAC) which responsible to the Education Committee for policy and regulations relating to modules, qualifications, assessment and the classification of qualifications.

Learning outcomes for qualifications are made public through Study at the OU (SaOU) and those for modules are clearly set out in the study materials.

The University met the deadline and had an outcomes-based curriculum in place for the 2001/2 academic year.
Embedding learning outcomes

The introduction of learning outcomes contributed to the Institution meeting the requirements placed on it by the findings and recommendations of the Dearing report, and introduced first-hand experience of developing learning outcomes to a small portion of our academic staff. There followed a period where the Institution’s broader academic community learned how to work with learning outcomes. More module team members became practised at using them in the development of learning materials and assessments and Associate Lecturers gained familiarity in using them as statements of the intended learning throughout their teaching. The LOTA team was based in COBE. As the LOTA project ended, the unit retained responsibility for continuing to support colleagues across the University in using learning outcomes. This it did by responding to individual requests, through providing sessions on learning outcomes at the annual Module Team Chairs (MTC) event or, when requested, at faculty organised events, and as part of the University’s induction for new academics. As learning outcomes became embedded, and therefore included within any session dealing with module production, presentation or review, the need for this level of support declined, with the last separate contribution to an MTC event in 2011 and in the academic induction programme in 2012.

Following the initial inclusion of learning outcomes within the curriculum, a programme of audits, managed by COBE was undertaken, including one in 2008 and the last in 2009. These final audits demonstrated learning outcomes were fully embedded in in the culture of module development and presentation. That is not to say that practice in the use of learning outcomes was uniformly perfect, which is why learning outcomes were included as a specific item in the MTC event and in academic induction for some time longer.

One of the major differences between the development of qualifications and modules is that modules have always been developed by a team whereas, a qualification specification was usually developed by an individual, who would often only develop one qualification. This often meant that the complicated qualification specifications were produced by novices. This was recognised and support was provided centrally. In 2005, at the instruction of the Pro-Vice Chancellor Curriculum and Awards, programmes were formally introduced along with programme committees. Programmes were introduced to increase the development of interdisciplinary curriculum and to introduce a more comprehensive view of our offering and the student experience. The new programme directors assumed responsibility for the specifications of their qualifications, including learning outcomes. It should be noted that the Faculty of Business and Law (FBL) was already organised by programme, and some faculties had informal programme boards in place. The introduction of programmes required a governance change where module teams were replaced by programme committees: module teams now were responsible to the University through their home programme committee.

The introduction of programmes and programme committees did provide an environment conducive to a broader view of the curriculum. Prior to programmes the focus on modules made it hard to consider the bigger picture: hence the move by some to introduce the informal programme boards. Programme committees have now been in place for ten years with only minor changes to their terms of reference being required in that time. They have become fully established. Also, programme directors, and where they have delegated responsibility, qualification directors, have become experienced in developing and working with qualification learning
outcomes and in considering progression through their programmes: the whole student journey to qualification. When programmes were introduced, COBE established a programme director group, this was primarily to provide two functions: to assist the programme directors in taking on this new role and dealing with issues arising; to provide a group identity so that other parts of the University could establish links and ways of working with programmes. Briefings covered a large range of subjects including learning outcomes and developing qualification specifications. The programme directors group is also used for consultation and it has made valuable contributions to the revision to the Stage-gate process as well as regularly considering the outcomes of the annual review process. The review of programme committees, reported in 2009 recognised the programme directors group as valuable (Awards Committee, 2009) and further evidence is that it is still running in 2015, now hosted by the Learning and Teaching Centre.

The LOTA booklet (COBE, 2005a) was revised in 2007 and published as Using Learning Outcomes within COBE’s Practical Pedagogy series (COBE, 2007). This revised document reflected developing practice and accommodated feedback on the earlier version.

To assist module teams in setting module learning outcomes and programmes, qualification learning outcomes, the University approved an Undergraduate Levels Framework (UGLF) in 2005 (COBE, 2005b), which was revised this year (2015) to become the refreshed OU Levels Framework (OULF) (Curriculum and Validation Committee, 2015). If the subject benchmark statements provide the first reference point for learning outcomes, the OULF provides a second for all modules and qualifications and ensures they align with the required external frameworks and support the Open Programme’s qualifications. The external frameworks covered by the OULF are The framework for higher education qualifications in England, Wales and Northern Ireland (FHEQ) (QAA, 2001), the Scottish credit and qualifications framework (SCQF Partnership, 2014) which incorporates The framework for qualifications of higher education institutions in Scotland (FQHEIS) (QAA Scotland, 2014) and the European Qualifications Framework for Lifelong Learning, EQF (European Commission, 2015). The QAA recently published The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies, a document summarising these frameworks (QAA, 2014).

The timescale of our module development and renewal means that qualifications are usually established with all or nearly all of their modules already in presentation, and in terms of learning outcomes this tends to support coherence as changes are usually incremental. One of these incremental changes is a reduction in the number of learning outcomes for any module and qualification. Early in their use, there were regularly lists of more than twenty learning outcomes but this number was found to be problematic both for students and for academics. Students could not engage with such large numbers and their value was therefore diminished. Academics found it hard to manage such large numbers within pathways to qualification, and they could therefore become a hindrance to developing qualifications and introducing new ones. We now find it achievable for the most part to keep numbers of learning outcomes to within a dozen, though it is recognised there are good reasons for sometimes needing more: particularly when qualifications are directly linked with a set of vocational standards. Managing curriculum is less complex and students regularly report very positively on their module learning outcomes from the University’s Student Experience on a Module (SEaM) surveys.
Learning design and quality enhancement

In March 2014, the University began requiring all module teams to engage with a formal learning design process (Galley, 2015). The University’s approach to learning design has been developed and trialled over a number of years and makes explicit a range of activities that many had been undertaking in a variety of ways as they thought about and developed curriculum. Working with learning outcomes is naturally one of the elements within this learning design process. Though not detailed in the documentation, this development promotes constructive alignment (see Box 4) by requiring all module teams to consider the learning materials, outcomes, activities and assessment and how they work together to create the student learning experience.

Within the Institution there is a culture of enhancing the quality of the curriculum. This quality enhancement is formally managed through the annual cycle of curriculum review, Annual Quality Review (AQR). Module teams report through their home programme rather than through the faculty, and this has improved the coherence of review. It better enables programme committees to manage all aspects of their curriculum, including learning outcomes. There are four different levels of module review: post launch, annual (or regular), mid-life (or lifecycle) and exception. It is possible that a need to change learning outcomes may come at any time, especially if the need arises through external changes, for instance a change in legislation, or by the requirements of a professional body, such as in the subjects of engineering, law or nursing. Minor changes such as the updating of language without changing the meaning of the learning outcome can be readily made. Significant changes need a higher level of Institutional approval because of their potential to impact on all the qualifications they support. The rule of thumb for deciding whether changes to learning outcomes are significant is described in the learning outcomes guide (Edwards, 2015) as: “to consider whether there will be any impact on the study experience of students within the programme, this could be simply that they may be confused if they look at the new learning outcomes and find them different to those they are used to, or that they have to reconsider the options they are planning to study. The Stage-gate gatekeeper’s judgement is important.”

Progression and coherence

Learning outcomes for a module are never determined in isolation. Each module contributes to one or more qualifications, and these can be within the module’s own programme or in more than one programme. A qualification usually has more than one potential pathway, as illustrated in Figure 2 below. The programme must be coherent, and every pathway offered must deliver the learning outcomes of the qualification. Also, programmes always need to remember the Open qualifications when they are writing learning outcomes. Figure 2 also illustrates how learning outcomes need to be considered when replacing a module with another. Whilst most qualifications are fairly straightforward, this can be a challenge for some, as there have been some programmes that offer seventy or more paths to qualification.

Figure 1 shows how modules at higher levels build on those at the lower levels.
Progression within the undergraduate curriculum is conceived as relating to level, and the OU Levels Framework helps with the language of learning outcomes. Programmes have also come to their own understandings of levelness that fit within the context of their subject.

There is not necessarily a direct one-to-one relationship between the learning outcomes in modules and those of qualifications, there could potentially be a many-to-one or one-to-many relationship in some instances. Learning outcomes are also not cumulative: with the qualification learning outcomes simply being the aggregation of all the learning outcomes of the modules studied. A real example of how module and qualification learning outcomes link is given in Table 2. Only the learning outcomes relating to constructing arguments are included to keep the table manageable. Each of the modules is compulsory for the qualification in the final row but together they only account for half the credit i.e. for the purpose of this comparison options are left out. The learning outcomes for each of the modules are appropriate to the coverage and level of the module as well as relevant to the qualifications they serve. The qualification learning outcomes relate to what is required at that level of achievement in that subject and what is supported through the programme of study.

In the postgraduate curriculum progression is viewed differently, where all modules and qualifications are at masters level, FHEQ level 4. Here, progression is considered in terms of increasing breadth and depth, rather than level: as all modules are at the same level. Within the OU there are two main models in place as shown in Figure 2. The first shows a linear model where there is a single pathway through the programme with each successive module building on the previous one. This may be by introducing learning outcomes, or by further developing one that was assumed or introduced earlier. The second model has a group of modules that complement each other, usually by focussing on different aspects of the subject area. The learning outcomes of these may be the same or similar. In its simplest form, a student taking any one of the modules in this group will be offered a PG Certificate, and a PG Diploma when they take a second.

An Addictaball, Figure 3, is in some ways analogous to the OU curriculum and the use of learning outcomes. A single ball can be considered to contain a programme of study with just a single pathway through to qualification. Each section of track has a distinctive shape and position and develops different skills for successful
Learning outcomes at The Open University

| Level 1 module |  > An understanding of how to construct a simple using appropriate concepts, theories and evidence  
> An ability to use examples, illustrations and case studies in presenting an argument |
| Level 2 module |  > Construct arguments that relate to the use of xx, applying appropriate evidence, concepts and theories |
| Level 3 module |  > Construct a detailed and sustained argument that acknowledges the complexity inherent in the subject or topic and is informed by current research developments  
> Synthesise and critically evaluate evidence, information and arguments from a diversity of sources, including publications informed by research developments |
| Degree |  > Select and synthesise evidence, information and arguments from a diversity of sources including publications informed by recent research developments in a particular subject |

Table 2 The learning outcomes relating to the construction of arguments have been taken from each of the compulsory modules for one degree, placed next to each other and to the related learning outcome from the degree. The name of the subject has been removed in order to focus on the language used.

Model 1 – A linear pathway model

Model 2 – A non-linear pathway with capstone project module

Figure 2, Two models for postgraduate programmes used at the OU. All modules at FHEQ level 4

navigation as modules cover a particular portion of a subject, are often best studied in a particular order and have their own learning outcomes. Part of the skill required by programme committees and module teams is to design curriculum where each module prepares students for their later study, a little like the way each portion of track leads neatly to the next. Learning outcomes are one of the tools that help academics produce coherent and progressive curriculum.

Figure 3, Addictaball. A 3D maze game which has been used to illustrate how students may initially see the complexity of the OU curriculum and how learning outcomes can contribute to the coherence of programmes.
Planned developments

The University’s IT department has been leading a project to develop our data management systems. This is a major institutional project, initially focussed on developing capability to support the enrolment of students, and secondly to provide improved systems for the management of curriculum and other data. As part of this second phase of work, learning outcomes will be built into the system, delivering in the last quarter of 2015. A further development, described within the original specification but currently with no timescale for delivery will allow each outcome to be tagged with metadata facilitating features we currently lack. For example, learning outcomes that particularly relate to employability could be tagged with this descriptor, and those relating to academic literacy could also be tagged as such. This will readily allow programmes to monitor how well they are covering these important aspects of the curriculum. Part of the requirement is for the system to build curriculum maps, allowing these to be created and managed dynamically. When available, there is currently no delivery date, this system would also readily highlight any gaps in developing learning outcomes for any pathway. The bureaucratic load should ultimately be lighter for learning outcomes than it is now, with the further benefit of additional tools to support those working with learning outcomes, from module teams seeking to establish how the learning outcomes for their module contribute to developing skills through a programme, to pro vice-chancellors establishing how well information literacy, for example, is embedded within the curriculum.

Conclusion

The University already had a well-established practice of using learning objectives, and some academics had been working on projects exploring the potential for learning outcomes to contribute to students’ learning, when UK higher education was given the requirement to introduce learning outcomes. The OU was therefore, well placed to implement this innovation.

Learning outcomes have been in use at the University for over fifteen years and there is an institutionally mature but continually evolving approach. Many individuals across central academic units, regions and the associate lecturer (AL) community have contributed significant efforts to ensuring learning outcomes are not only adequate but helpful to students, their ALs, and to other OU colleagues.

The recent introduction in 2014 of learning design activities provides a common approach to module development in a way that further strengthens the constructive alignment between learning activities, learning outcomes and assessment, and there are developments in train that will provide comprehensive IT support, which will enable much improved management and engagement with learning outcomes within the Institution. These developments will not only make the task of managing information about the curriculum, including learning outcomes, easier but will provide tools to further enhance their use. This will provide fresh opportunities to enhance both the cohesion within the curriculum and progression through it, to the benefit of our students.

New academics and module team chairs are provided with development opportunities that cover learning outcomes, guidance is maintained within the Curriculum Management Guide, CMG, and the governance structure ensures
Learning outcomes at The Open University

curriculum approval properly considers them. IET contributes an overview of the use of learning outcomes to ensure a consistent approach is maintained across the University.

One of the most significant lessons learned is that whilst step changes, like the introduction of learning outcomes to the curriculum, can be made in a relatively short time, getting them to stay takes a lot longer and requires a sustained effort. By this I mean that there is a need for staff dedicated to supporting a major development like this far beyond the initial implementation. Without this support, the consistent use of learning outcomes at the University would simply have unravelled over time. The mobility of staff passing through roles is one partial explanation. Another relates to the gaining of familiarity or confidence, or perhaps the forming of habit that comes with repetition.

Another aspect is that learning outcomes were not universally welcomed, and for some it has taken a significant time to reach a point of grudging acceptance. For the introduction of learning outcomes the period required for them to be seen as normal was over ten years. There continues to be a need to maintain an overview of qualification learning outcomes to ensure a consistent approach is maintained.

Since their introduction, learning outcomes have become central to the meeting the challenge of ensuring the student experience is coherent and progressive whilst fulfilling the mission and promoting institutional values. This is particularly important for a distance learning institution offering curriculum at scale and with a flexibility where each intake of students fragments into multiple cohorts: students can often complete in 3 years, would typically take 6-8 years but could take up to 16 years to complete their studies.

Glossary

Course – the set of modules studied towards a particular qualification

Curriculum Management Guide – this is an online guide for OU staff, providing information on all aspects of curriculum development and management

Module – the standard unit of learning within the institution. Students register for and study a series of modules in order to gain a qualification.

Module team – the academic team responsible for producing and presenting a module. Each team will comprise a module team chair, other academics as required and be supported by a curriculum manager and secretary.

Programme – a coherent subject area, agreed by the institution, that hosts a group of modules.

Programme committee – the group that manages a programme according to an institutionally agreed set of terms of reference. It is led by a programme director supported by a programme manager.

Programme of study – a series of modules leading to a qualification. Only qualifications included in the University’s qualifications framework can be offered. Programme (qualification) specifications are approved and managed by the Institution as required by the QAA

Qualification – a certificate, diploma or degree awarded to a student on successful completion of a programme of study

Student Experience on a Module (SEaM) – is the online survey hosted by the Institute of Educational Technology (IET) and available to all students studying a module. The data from this survey are analysed and considered as part of the Annual Quality Review.
References


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