

The Influence of the Drivers of Education on Programme Design

In today's higher education there are a number of factors and influences which affect how an academic programme and its modules should be designed. In particular, Ireland being part of the European Union, has had to adapt to the harmonisation of higher education throughout all member states. Therefore, programme design must adhere to European guidelines.

The main drivers influencing higher education fall into four main categories: learners, industry, government, and the influence of the EU. The latter category has been most influential over the past decade or so. In 1999 the Bologna Process was initiated by 29 countries. Ministers and representatives gathered for a conference in Bologna, Northern Italy, with a view to creating a European Higher Education Area by 2010. This was realised by the Budapest-Vienna Declaration in March 2010, and by then there were 47 countries involved in the EHEA. The main objectives were to:

- facilitate mobility of students, graduates and higher education staff;
- prepare students for their future careers and for life as active citizens in democratic societies, and support their personal development;
- offer broad access to high-quality higher education, based on democratic principles and academic freedom.

(<http://www.eurireland.ie/programmes/bologna-process.128.html>)

The EHEA harmonises a common EU framework for academic and professional training. It promotes mobility so that higher education students are able to study in other EU member states, with the aim by 2020 that 20% of students will have some study time

abroad. It also creates a social dimension to identify and disseminate good practice amongst all countries involved, and to establish a European Observatory on Social Dimension in Higher Education (EOSDHE). The EHEA intends to make all higher education centres more transparent so that harmonisation is easier to implement.

Most importantly, it establishes the European Qualifications Framework; it is intended that all qualifications and course credits become more coherent across Europe. This is reinforced by the use of learning outcomes within programme design. This will mean an improvement between the needs of the labour market and the provision of training and education; validating non-formal and informal learning; and the ability to transfer qualifications across different EU member states. Each country has its own National Framework of Qualifications (based on the EQF).

In Ireland, this was established under the Qualifications (Education and Training) Act of 1999. This statute is meant to promote consistent standards and quality in education and training, to increase access, transfer and progression opportunities and to recognise and harmonise different qualifications. This is overseen by the National Qualifications Authority of Ireland. The Act also established HETAC (Higher Education Training and Awards Council) and FETAC (Further Education Training and Awards Council). The NFQ shows 10 levels of awards by use of a 'fan diagram' (*See Appendix 1*).

HETAC was established in June 2001, and superseded the previous National Council for Educational Awards (NCEA). It is the qualifications awards body for third-level education and training institutions outside of the university sector.

Another important organisation is ENQA (European Association for Quality Assurance in Higher Education), of which HETAC is a member. The purposes of ENQA are threefold:

- to represent its members at the European level and internationally, especially in political decision making processes and in co-operations with stakeholder organisations;
 - to function as a think tank for developing further quality assurance processes and systems in the EHEA;
 - to function as a communication platform for sharing and disseminating information and expertise in quality assurance among members and towards stakeholders.
- (<http://enqa.eu/profile.lasso>)

An important report as far as Ireland is concerned is the National Strategy for Higher Education to 2030, undertaken by the Higher Education Authority, which is the statutory body responsible for the funding, research and planning of all higher education institutions. The recommendations that they made outline the future of higher education in this country. In brief, they suggested the following:

- students should have an excellent teaching and learning experience supported by modern learning resources;
- higher education institutions should get feedback from students in order to inform institutional and programme management;
- environments for students to learn should be well informed by research and up-to-date practice and knowledge;
- the higher education system must continue to develop clear routes of progression and transfer including non-traditional entry routes;
- first-year students should be prepared sufficiently for their learning experience;

- all undergraduate and postgraduate programmes need to develop appropriate skills required for effective engagement both in society and in the workplace;
- quality assurance frameworks should be reviewed and developed constantly;
- higher education institutions should make sure all teaching staff are well qualified and support for ongoing development is supplied;
- research and development in education should be increased over time and researchers themselves should be allowed all resources needed;
- an improved framework for PhD education should be developed;
- higher education institutions should engage with the wider society by encouraging inward and outward mobility of staff and students between business and industry;
- institutions should determine an international vision to develop and widen their national policy goals;
- self-governing or autonomous higher education institutions need to be held accountable to the State on behalf of Irish citizens;
- a need for reducing the size of governing authorities of higher education institutions;
- frameworks to be developed to collaborate between diverse institutions, so that local economic and social needs are taken into consideration, as well as allow students more choices in opportunities in education and employment;
- institutes of technology should be encouraged to develop as technological universities;
- smaller institutions should be consolidated into existing universities and technological universities;

- teaching/lecturing staff in higher education need to have their employment contracts reviewed in order to be on a par with wider public and private sectors;
- higher education institutions will take on more responsibility for their own human resource requirements, and be accountable and transparent to the HEA;
- student financing needs to be reformed so that fees can be paid as a deposit with instalments over the course of their studies;
- an appropriate funding base is required by the State to ensure financial resources are available for higher education;
- State investment must allow for education for all.

(The Hunt Report: *National Strategy for Higher Education to 2030*, January 2010).

All the points mentioned above are important in regard to the future of higher education in Ireland, and therefore impact heavily on programme design. Certain aspects of statutory involvement in higher education may be enhanced or modified by the Qualifications and Quality Assurance (Education and Training) Bill, 2011, if it comes into law.

As mentioned earlier the four drivers influencing higher education are the EHEA, government, industry, and learners. The first two have been discussed, so the importance of industry now needs to be evaluated.

The term 'industry' refers to companies, corporations, and institutions (including education), whether they provide products or services. Industry itself always needs to improve and upgrade itself by an influx of suitably qualified graduates, and therefore all companies should take an interest in higher education policies. Many companies contribute to programmes in terms of evaluation and validation of programme design. Some guide research in higher education and/or provide funding for new or existing modules. Basically

there is a 'give and take relationship' between industry and higher education. A term often used is 'Training Needs Analysis' – matching the needs of the industry to the output of the education system i.e. fully qualified graduates.

In order to achieve this, suitable models of programme design should be incorporated. When designing a programme four important points should be considered:

1. Defining the level on the National Framework of Qualifications;
2. Writing Programme Learning Outcomes;
3. Developing a programme schedule;
4. Writing the various modules that contribute to the overall programme design.

Some modules of programme design include a curriculum which is based on content and education as transmission, known as the Curriculum Instruction Model (Kelly, A.V., 1983; 1999). This outlines the idea that the design of a programme/curriculum relies on the process of delivering the module and how to help students construct learning. Also there is the Outcomes Based Education or Outcomes Based Teaching and Learning (Biggs, J., 2003) which uses 'constructive alignment' – meaning that the teacher makes a positive link between what the students are learning and what the learning outcomes will be. The students are able to see what they are learning, and how they are learning, to what the learning outcome will be.

Another method of programme design is the 'Curriculum within Social Contexts' (Barnett & Coate, 2005). Within this the curriculum is defined six ways: as outcome based and QA (quality assurance) driven, as well as 'special' by having subject benchmarks. Furthermore, their design regards a curriculum as reproduction, or having a hidden curriculum, where only certain types of students will be successful, as well as

‘transformation’ by empowering and transforming students using pedagogy/andragogy (meaning the art and science of teaching children/adults). The fifth curriculum is ‘consumption’ – where the students are seen as consumers, and the sixth is the ‘liberal’ curriculum – where the student has a sense of responsibility for learning; has the ability to critically assess their own performance; and has an understanding to apply knowledge gained in varying contexts.

Learning domains should be considered when designing a programme, and each of the modules involved, as well as defining learning outcomes. There are three learning domains: psychomotor, cognitive, and affective.

The ‘psychomotor’ domain refers to tasks that require manual dexterity and therefore improve with practice. An example would be getting a journalism student to take a photograph using a digital camera.

The ‘cognitive’ domain is concerned with knowledge and knowing. With the analogy of the journalism student, it would be explaining the process of taking a photograph and explaining pixels and resolution.

The ‘affective’ domain relates to attitudes and feelings, such as appreciating the quality of a photograph.

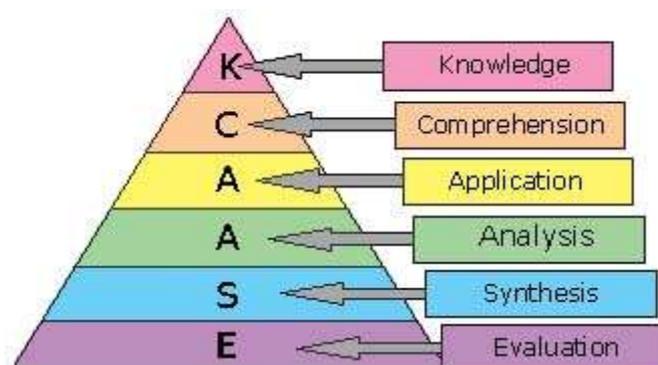
Each of these three learning domains would have a taxonomy i.e. various levels of difficulty depending on the subject in question. Taxonomies are useful when writing learning outcomes, to identify various levels or stages, and to measure success in achieving each outcome.

Learning outcomes are not the same as aims or objectives. An ‘aim’ of a programme or module is an overall statement of what will be covered on a module, but is not specific.

An 'objective' however is specific and indicates the goal of a particular module or programme.

Learning outcomes are descriptive of what the learner/student will achieve from a particular aspect of a module. The learner will be able to complete, produce, or define a certain aspect of the module. *'Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of a process of learning'* (ECTS User's Guide, 2009). ECTS stands for European Credit Transfer and Accumulation System, and is used to assess learning outcomes. It was developed by the Bologna Process.

A useful taxonomy when writing learning outcomes is the 'Cognitive Domain Taxonomy' accredited to Benjamin Bloom (1956):



In this pyramid diagram, 'knowledge' is the starting point, leading to the more difficult level of 'evaluation'. Knowledge represents the recognition and recall of information; comprehension means interpretation or summarising of information, application uses information in a different context, analysis separates the whole information into parts, synthesis combines elements to form a totally new entity, and evaluation equates to decision making based on criteria assimilated.

Certain phrases should be used when formulating learning outcomes. For example, a learning outcome should begin with: *'On successful completion of this module students will*

be able to...' and then be followed by an appropriate action verb relevant to the teaching level. In the psychomotor learning domain verbs like *'create, build, compose, and assemble'* would be suitable. For the cognitive learning domain, verbs such as *'describe, identify, classify and define'* are more effective. In the affective learning domain, one could use verbs such as *'appreciate, empathise, and influence'*.

A template has been prepared using relevant learning outcomes for a spreadsheet module from an Information Technology programme (*See Appendix 2*). Module Learning Outcomes should always be relevant to the objective. They should also be clear and easy for the learner to understand. Learning outcomes should always be student-centred.

In conclusion, there are various drivers of education on programme design. The European Higher Education Area developed by the Bologna Process harmonises systems of higher education in 47 countries of Europe. Government legislation follows through from these directives and interprets them on a national level, while still attaining to an international outlook. As times change, new programmes will be initiated, and these need to be designed with the EHEA and the State in mind. Not only that, influences from service and manufacturing industry need to be considered, since this is where graduates will be required as new technologies and systems develop. Last but not least, the learners must be considered in any programme design, naturally, and effective programme design requires clear and defined learning outcomes for each module of each course.

Each institution of higher education benefits from informed and qualified teachers/lecturers, and each student/learner receives maximum benefit from well-designed programmes of education.

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