

Introduction

The standard model of giving out a piece of coursework in September and expecting the students to return it in May does not work. Common sense says that the students will only start the work once they feel confident they can complete it – and for the best students that will only be a few weeks before the hand-in date. Those less diligent are either fail, are late or do not submit at all.

A better system for the coursework is to break it down so that the students have something to show on a regular basis. This has three advantages; first, the work gets completed. Second, the progress of individuals can be monitored more closely and finally, early successes to lead to increased motivation.

This proposal takes this idea one stage further. Here the students would be presented with (and assessed on) one item of learning at a time (an [atom of learning](#)). An atom has the following five characteristics:-

1. An atom is a discrete unit of learning.
2. An atom does not have a level since the same atom may be used for qualifications at different levels.
3. If an atom relies on prerequisite knowledge then these should be in separate atoms.
4. Once completed, an atom stays owned for life.
5. An atom should be presented in a format suitable to all learning styles.

It is then be possible to map atoms to qualifications - and there will be overlaps. For example, an atom on calculating a mean would be appropriate for GCSE mathematics, A'Level Biology and maybe a university course. The atom is neutral to the level. It is the context into which the atom is put that gives it a level.

The fifth point in the list above, learning style independence, is important in several ways. All of us who teach hope to present the materials in the most understandable format, but in reality we do so in the way we work best. Our students come from other educational experiences and so our way may confuse them through no fault of ours or theirs. If the atoms are presented in several ways, as text, videos or MP3s, for

example then the student is not bound to follow our way. If lots of people produce lots of atoms then the student would have the opportunity to use an atom which explains the topic in their preferred way. This would be open learning.

A further distinction to be made is that the physical implementation of an atom is called an aPage (an abbreviation of atomic page). Whilst this could be on paper, a web page would be more appropriate since it would allow hyperlinking to the various learning media. The intention is to have two inter-linked websites; one to allow people to create and consume atoms and the other to handle the administrative side. This would make separating the two functions easier and more logical. These sites are www.o-vl.com (O-VL) and www.edulevel.com respectively.

O-VL (short for Open Virtual Learning) will allow anyone to create aPages which will add a breadth of learning experience for all. Apart from the links to text, video and MP3, an aPage would also have a self-assessment quiz and allow coursework to be submitted for the material covered, thus linking process and product for the student.

The students on an atomised curriculum will need monitoring and this is where their lecturers or teachers will use EduLevel. This site will allow staff to set up a course, mark submitted atoms and monitor the progress of their students from their own on-line virtual [office](#). The students will also have a virtual [office](#) in which they can monitor their progress and set goals. Verifiers and inspectors will also have virtual offices in which they can view student work and feedback.

EduLevel will also contain a virtual Common Room to which everyone would have access. Here summary statistics will appear, but only if there is a sufficient quantity of data that ensures no individual or individual institution can be identified.

Whilst both sites will share a common database, the educational and administrative functions will be separated.

This system will mean that students can progress at a pace with which they are comfortable. Student progress would not be tied to a scheme of work, but to their

level of motivation and [monitoring](#). An increased speed of feedback and the small nature of the tasks involved could be expected to increase achievement.

Portions of this have been [tried](#) and the results for these were positive. Now it would be nice to provide the academic justification for atomisation.