Position paper

A learning Integrated Assessment System[☆]

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1. Executive summary

The following position paper sets out to inform policy makers, educators, and fund raisers about the state-of-the-art, the possibilities, and the needs for innovation in assessment. The position paper is divided into the following sections:

- Why current assessment systems fail learners and teachers
  This section describes the shortcomings of current assessment practices for both learners and teachers. Current assessments focus on assessment *of* learning rather than assessment *for* learning. They are limited in scope, and lead to teaching for assessment, NOT teaching for learning. They ignore individual learner differences. These current assessment practices also tend to be uneconomical and prevent teachers from developing teaching skills as part of their continuous professional development as assessments can develop into teaching 'straightjackets'. In general, current assessment practices do not fit the needs and demands of today's information and knowledge societies. Learning in today's knowledge and information society requires learners to become problem solvers and creative thinkers in all subjects and areas. These needs are currently not reflected.
- The need for fundamental change
  Re-thinking assessment forms part of a larger drive to effect change across the curriculum. Whilst modern societies have dramatically changed with the advent of technological changes and the development of information technology systems, most schools still rely on teaching according to an out of date information transmission model. Current assessment practices fail to address the needs of today's learners and the modern, complex and globalised societies that they are a part of. Teachers need to be supported in changing their current practices in order to assess learners in ways that reflect the future needs that will be placed upon them.

- Assessment for learning versus Assessment of learning

   Current assessment practices tend to focus on *Assessment of learning*. Such '*testing*' generally is summative, and drives the teaching ('teaching for the test'). It is also inauthentic, context independent, inflexible and uneconomical. *Assessment for learning* is generally formative, integrated into the curriculum, authentic, context embedded and flexible. In short, an Assessment for learning model can serve as a framework for developing *Integrated Assessment Systems (IAS)* as ways of assessing today's learners.
- Features of Integrated Assessment Systems (IAS)

   IAS serve a dual purpose – Assessment for learning and Assessment of learning. They address the needs of both learners and teachers. Key principles include that the learners participate in the assessment process and assessment is contextual and responsive. In this section, some examples of policy developments are given that clarify the characteristics and the benefits of such IAS in practice.
- Requirements for implementing an Integrated Assessment System

   In order to implement Integrated Assessment Systems (IAS) it is necessary to develop new policies that support the development of such IAS. IAS are needed to prepare learners, our future politically and economically active citizens, for the demands and needs of our complex and ever changing societies. In order to implement such IAS, the will and support of policy makers is required to create the conditions for researchers, educational experts, teachers and learners to implement such IAS approaches that will be beneficial to all.

2. Introduction

2.1. Why current assessments in schools fail learners and teachers

The range of assessment practices in various EU countries reflects educational traditions established in the past. These assessment systems may vary according to educational traditions, but they often share the following characteristic: they fail too many learners by:

- Focusing on assessment *of* learning instead of assessment *for* learning;
- Being limited in scope;
- Driving the teaching, i.e. teaching for *assessment*, NOT teaching for *learning*;
- Ignoring individual learner differences.

These key factors contribute to the failure and/or rejection of a range of learners within the current education systems across Europe. These learners are in the long run prevented to contribute to economic growth and are left 'on the edges' of our society.

In addition, many current assessment practices in EU countries fail teachers by:

- Forcing teachers to teach for *assessment* instead of supporting teachers to develop ways to integrate *Assessment for learning* as part of the curriculum;
- Taking up valuable teaching and curriculum development time;
- Preventing teachers from developing teaching skills as part of their continuous professional development as assessment practices can develop into teaching 'straightjackets'.

In general, current assessment systems tend to be un-economical, time consuming, not cost effective and demotivating both for learners and teachers. They generally do not take into account individual learner differences and needs, do not allow for differentiation and fail especially learners at the bottom and at the top of the ability ladder by considering all learners to be identical.

Today's knowledge and information society requires learners to become problem solvers and creative thinkers in all subjects and areas. This premise also includes the development of learning skills that become 'learning for life' skills. Problem solving and creative thinking are generally not required by current assessment practices in many EU countries. However, developing these skills for lifelong learning is a vital tool for adapting to ever changing needs and demands in order to contribute to future economic and democratic development processes. Not addressing these needs equals a failure of EU democracies to integrate all citizens and to equip them to become active members of society, by contributing to economic and democratic processes.

In order to address current failures in relation to assessment, there is a need for fundamental change. This need is outlined further in the following section.

2.2. The need for fundamental change in current assessment practices

Both Pisa studies point at the need for educational reforms in a range of European countries. These educational reforms may be more wide ranging than focusing on assessment, but re-thinking assessment forms part of a larger drive to effect change across the curriculum.

2.2.1. General reasons for change
Cascallar (2004) points out that 'a new approach is needed that addresses current concerns while making use of existing and new technologies and methods.' Whilst modern societies have dramatically changed with the advent of technological changes and the development of information technology systems, most schools still rely on teaching according to an out of date information transmission model. This in turn has led to a focus on developing assessments that fail to address the needs of today's learners and the modern, complex and globalised societies that they are a part of.

2.2.2. Specific reasons for assessing students differently
When questioned, learners tend to be very much aware of a range of ways of learning and the various kinds of information that they need to be able to acquire in today's societies. However, learners often do not see this range of information and variety of ways of learning reflected in their classrooms, which tend to focus purely on the acquiring of 'textbook' knowledge instead of focusing on the development of skills for learning and getting information from a range of resources. Accordingly, assessments tend not to be designed as assessment *for* learning, but as assessment *of* learning. In other words, assessment systems tend to be summative and not formative. These assessment systems do not allow learners (and their teachers) to develop a clearer understanding of how they can improve in their learning. Instead, they tend to be considered as an endpoint instead of a beginning or a step forward.

2.2.3. Why teachers need help with changing assessment systems
Teachers' daily jobs are regulated by the environments and – as part of these – assessment practices and rules that they have to adhere to in order to enable learners to pass exams as prescribed by the education systems. Currently, teachers have very little choice but to teach according to these existing assessment systems due to a general focus on assessment *of* learning instead of assessment *for* learning. Assessment for learning are assessment systems that allow both learners and teachers to gain information about learning progression. This enables teachers and learners to plan future learning appropriately. The current focus on assessment *of* learning leads teachers to *teach for the exams* instead of *teaching for learning*.

At the same time, current practices tend to prevent teachers from putting more Integrated Assessment Systems into practice that focus on Assessment for learning.

It is clear that teachers cannot implement these changes on their own. Instead, the development of assessment systems *for* learning require the will of policy makers to develop, pilot, review and implement changes in current assessment practices. These changes require time and commitment from policy makers, educational experts and teachers to achieve the overall goal – to improve assessments in order to improve learning.

2.3. Assessment for learning versus Assessment of learning

'*A true education requires far more than prepackaged tests and a box of Number 2 pencils.*'

(Hall, 2004)

As outlined in the previous section, current assessment practices tend to focus on the assessment, or testing, *of* learning. These assessments largely fail to address Assessment for learning, i.e. assessment as a means to measure learner progression and to inform the learners about their progression. In other words, a paradigm shift from *Assessment of learning* towards *Assessment for learning* is required.

This paradigm shift ultimately is aimed at making assessment part of the curriculum, i.e. assessment is to be considered as *learning*, NOT as *testing*.

In order to develop these arguments further it is necessary to outline briefly the differences between *Assessment of learning* and *Assessment for learning*.

Assessment of learning is:

- One dimensional
- Summative
- Apart from the curriculum, but drives the teaching ('teaching for the test')
- Inauthentic
- Context independent
- Inflexible

Assessment for learning is:

- Multi-dimensional
- Formative
- Integrated into the curriculum
- Authentic
- Context embedded
- Flexible

The differences between these two forms of assessment are becoming apparent:

Assessment for learning is transparent to the learners, and it is embedded into the learning curriculum. It is authentic in the sense that it reflects real life situations and includes the development of problem solving skills – a basic requirement of modern societies that far too many curricula and related traditional assessment systems fail to address. *Assessment for learning* addresses individual learners' needs by focusing on formative assessment, i.e. providing learners with information about their progression and information about areas for and ways of improvement.

Rethinking assessment in this manner does not exclude Assessment of learning, i.e. summative assessment, but it aims to combine both formative and summative assessment as two different ways of 'testing' learners, whilst giving both learners and teachers insights into the learning processes at work.

In summary, it is necessary to develop *Integrated Assessment Systems (IAS)* that allow for the development of Assessment for learning as outlined above. Integrated Assessment Systems (IAS) would be beneficial to both learners and teachers. The implementation of Integrated Assessment Systems (IAS) would allow teachers to:

- Spend time focusing on developing the teaching of the curriculum instead of teaching to the test;
- Spend less time with the preparation and/or administration of assessment (e.g. GCSE, A-level, end of year exams, etc.);
- Get useful information about individual learners' progress from Integrated Assessment Systems, i.e. through formative assessment modes.

The implementation of Integrated Assessment Systems (IAS) would allow learners to:

- Test themselves both independently and/or as directed by the teacher when appropriate as a means to review progression;
- The implementation and use of IAS would be less and less viewed as 'tests' and gradually become part of a 'task set'. This could be extremely beneficial as a means to motivate learners;
- The implementation of IAS would allow learners to get information about their individual learning progression, i.e. allow for formative (self-) assessment;
- The development and implementation of IAS would contribute to developing learner autonomy and the development of problem solving skills.

In summary, the potential benefits for both learners and teachers are obvious, but at the same time such changes require a clearer view of what Integrated Assessment Systems could look like. Some examples of IAS are presented in the following section.

2.4. What could Integrated Assessment Systems look like?

Integrated Assessment Systems are not entirely new, but are currently being developed in a range of areas and settings. As a general vision of an IAS it is useful to outline some generic features. The description of these generic features is adapted from Birenbaum (2004).

Key generic features:

- IAS serve a dual purpose – assessment *for* learning and assessment *of* learning;
- IAS address the needs of both learners and teachers;
- IAS contain a built-in mechanism for quality control;
- IAS can (but do not have to) use ICT;
- IAS are informed by research findings, piloted, evaluated and revised according to learner and teacher needs;
- IAS promote a deep approach to learning and conceptual understanding and therefore address the needs of today's knowledge and information societies;
- IAS take into account factors affecting learning outcomes such as intellectual abilities, use of resources, learning opportunities, assessment modes, approaches to learning and views of learning;
- IAS are economical as they reduce the burden on overstretched examining organisations.

Key principles for the development of such IAS are:

- The learners participate in the assessment process;
- Assessment is contextual and responsive – it is aligned to instruction;
- The topic of assessment is what the learners know and are able to do. IAS are NOT focusing primarily on gaps in learner knowledge and/or performance;
- Both learning processes and learning products are assessed;
- Assessment criteria are transparent to individual learners and teachers;
- Learners and teachers get feedback about assessment results and outcomes;
- The key aim of IAS is to inform learners and teachers on how to progress in their learning, i.e. IAS allow for the planning of a learning route.

Key design features of IAS are:

- IAS use a multidimensional approach;
- IAS presents non-conventional tasks and stores students' performances on these and other classroom tasks;
- IAS generates reports at various levels of aggregation, including student progress reports.
- IAS use technology in an integrated manner allowing for the development of a task pool, task delivery, automated scoring, automated reporting, data storage and data analysis;
- IAS ensure quality control mechanisms are in place;
- IAS are easy to use for both teachers and learners;
- IAS are context dependent and flexible;
- IAS allow all learners to develop self and peer assessment skills.

In summary, IAS that fit the above descriptions will:

- Integrate both new and old ways of assessment;
- Provide new perspectives on 'test' vaiildity;
- Develop new methods;

- Integrate formative and summative assessment modes;
- Be economical.

(adapted from Cascallar, 2004)

Some examples of ways to develop IAS:

It is clear that e-assessment will play a major role in developing IAS [For an overview of current developments, see: Ridgway, McCusker, & Pead (2004). 'Literature review of e-assessment—A report for NESTA Futurelab']. At the same time, IAS are not as 'futuristic' as they may seem. There are currently a range of initiatives under way at various levels, two of which are briefly reviewed below.

2.4.1. Quality and Curriculum Authority (QCA)/UK

The QCA is currently developing and piloting a range of e-assessment systems. Their strategic objectives by 2009 are outlined as follows:

- All new qualifications must include an option for on-screen e-assessment;
- All awarding bodies should be set up to accept and assess e-portfolios;
- All existing GCSEs, AS and A2 examinations should be available on screen. [. . .] (For further information, please consult the QCA website on: http://qca.org.uk)

Although the above points solely refer to the adaptation of current exams into e-assessments, the QCA goes further by outlining on their website the use of simulations, using the computer as a tool and as a data source that hint at developments of IAS as outlined before. One example of truly innovative work done by the QCA is the development of 'eVIVA', an assessment approach that uses online portfolios and mobile phone technology for assessing 13–14-year-old learners' performance in Information and Communication Technology.

2.4.2. Council of Europe: European Languages Portfolio

The Council of Europe's Language Policy Division has developed the European Language Portfolio which can be considered as an important step into the right direction. Its key aims are outlined as follows:

- 'To motivate learners by acknowledging their efforts to extend and diversify their language skills at all levels;
- To provide a record of the linguistic and cultural skills they have acquired [. . .]' (For further information, see: http://culture2.coe.int/portfolio)

Although primarily intended as a 'linguistic passport' the portfolio format and the fact that it allows the learners to reflect on progression, make it a useful building block in the development of IAS.

These two examples only provide a glimpse into current, more innovative practices.

At the same time, it is important to point out that these developments hint at the possibility of change and the range of unexplored opportunities for developing Integrated Assessment Systems that allow the learners to progress in their learning and reflect the demands and needs of today's societies.

In this section, some IAS principles as well as some related examples have been presented. Whilst there are moves into the right direction, it is also obvious that changes in assessment such as the ones required by IAS require support for teachers in particular to implement such changes. These requirements are presented in the following section.

2.5. Requirements for implementing an Integrated Assessment System

In order to implement Integrated Assessment Systems (IAS) which reflect the key features outlined above it is necessary to develop new policies that support the development of such IAS. Such policies would need to include:

- Changes and/or adjustments in initial teacher training and continuous teacher training as a means to develop IAS;
- Promoting IAS in the educational community at large as a means to develop broader acceptance of such IAS;
- Promoting IAS by policy makers and administrators as a means to implement such changes in practice;

- Promoting IAS for and by the 'testing industry', e.g. exam bodies and educational publishers;
- Changes in exam materials and in exam formats.

It is clear that these changes are far reaching and require some fundamental rethinking and refocusing of some current exam practices in a range of EU countries. At the same time, it has to be acknowledged that these changes might be less radical than imagined. For example, the widespread use and implementation of the European languages portfolio can be considered as part of a move into the right direction to change current exam practices towards IAS approaches. Also, on a smaller scale, developments such as the drive of some UK universities to develop Academies for the Gifted and Talented that combine a range of learning and teaching methods both on-line and through face to face interactions or the development of more and more e-learning platforms in the Higher Education sector indicate that such developments are not as futuristic as they might seem. It is also important to add that through their integrated approaches such IAS will be highly economical in the long run.

In summary, IAS are needed to prepare learners, our future politically and economically active citizens, for the demands and needs of our complex and ever changing societies. In order to implement such IAS, the will and support of policy makers is required to create the conditions for researchers, educational experts, teachers and learners to implement such IAS approaches that will be beneficial to all.

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