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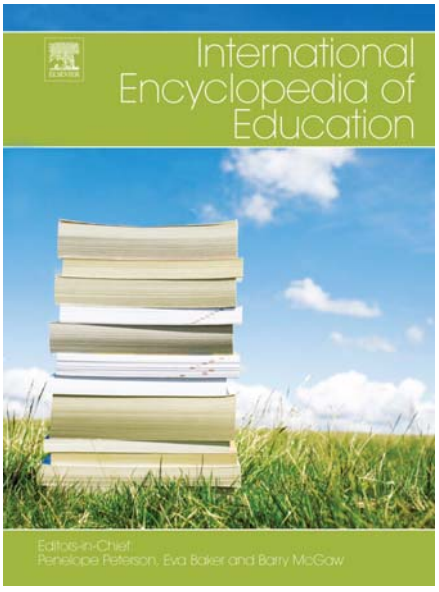

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Personalized Learning and Vocational Education and Training

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Introduction

Personalized learning is a teaching and learning approach which is centered on the needs, aptitudes, and interests of individual learners. While it is not a new concept, it has gathered increased popularity in the last 10 years or so in a number of countries, including United Kingdom, United States of America, Australia, and New Zealand. It has been promoted as a key learning approach to prepare young people for the demands of the twenty-first century and the expectations placed on them by society (Bentley, 2005). Nowhere is this more true than in the area of vocational learning (Duckett and Jones, 2006).

In the United Kingdom, personalized learning has been an offshoot of a broader set of reforms aimed at customizing public services to respond specifically to the diverse needs of individuals. In other places personalized learning has evolved from policies aimed at ensuring equality of opportunity for all students. Here it has focused on helping students from minority groups reach their maximum potential.

In this article, we explore the nature and philosophical underpinnings of personalized learning, its evolution as a mainstream learning approach, and its implementation in a number of different countries, mainly the United Kingdom, Australia, United States of America, and New Zealand.

What Is Personalized Learning?

Personalized learning is a distinct student-centered approach to learning that is increasingly being used to ensure that students are able to meet their goals and their potential. It has been a key element of recent and planned educational reform in the United Kingdom, United States, Australia, and New Zealand. The philosophy underpinning this approach is a belief in the ability of every learner to succeed, communicating this to each individual learner to unlock their potential, and providing them with the resources that will enable them to succeed. Support for its application is based on the findings of research studies which indicate that personalization of learning and assessment results in improved scholastic attainment, thinking skills, personal development, and self-confidence for learners.

Although by definition personalized learning is necessarily student centered, we should not confuse personalized learning with the child-centered learning approaches of the past which catered mainly to individual interests (OECD, 2006). Personalized learning is also about raising standards by taking account of both personal interests and aptitudes. It is about providing a safe environment for learning and coordinating learning support structures to help students maximize achievement toward a set of negotiated targets. Nevertheless, knowing learners' personal interests continues to be of vital importance in engaging the learner and improving motivation.

Personalized learning is not about abandoning curriculum. "At the core there would still be a common script – the basic curriculum – but that script could branch out in many different ways, to have many styles and endings" (Leadbeater, 2004: 14). A commitment to providing opportunities for students to participate in making decisions about their learning is another key component. This is aimed at equalizing opportunity for learning. However, giving learners (and their parents) a voice in deciding the nature and delivery of education will only equalize opportunity if learners from minority groups have the resources to be able to make such choices. This means that for some groups, the more the "services become personalized" the more the public resources will have to be skewed toward the least well-off (Leadbeater, 2004: 22).

A Culture Shift for the Educational Establishment

"Personalized learning is a highly structured approach that places the needs, interests and learning styles of students at the centre" (Kearney *et al.*, 2007). It requires a change in how educational establishments view and behave toward learners. It requires them to develop a professional ethos that recognizes the importance of listening to learners to ensure that they understand and take account of what learners are saying. They must also accept that learners have unique aspirations, different types and levels of skills, and learn in different ways. Personalized learning requires a commitment to working jointly with learners to identify their personal learning needs. Identifying the way a particular learner learns is crucial to the process. If personalized learning is to be effectively implemented in schools, then educational establishments need also to be committed to supporting teachers through appropriate and effective continuing professional development. Personalizing education also requires education systems to have a commitment to lifelong learning and to provide learners with flexible

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learning environments. It is not about allowing learners to do their own thing, or permitting them to coast at their own pace.

Personalized learning should not be confused with individuals sitting alone learning and working through assignments or self-paced programs – a mode that may suit some learners but certainly not all. Personalized learning is about schools promoting a "community of learning" approach which "cultivates strong relationships . . . between home, community, local institutions, businesses and services" (Kearney *et al.*, 2007: 3).

A changed role for teachers

Personalized learning changes the traditional role of teachers. They move their focus from teaching students as an amorphous group of learners toward teaching students according to their individual aptitudes and interests. They become facilitators and learning brokers helping students make the most suitable choices. In doing so, they will also need to respond to the different ways learners achieve their best. An initial step is for teachers to identify individual needs, aptitudes, and preferred learning styles. This will enable them to tailor their teaching and assessment practice so that every learner has the opportunity to achieve the highest possible standard. In personalized learning, teachers set individual learning targets and regularly monitor and review progress toward these. They provide learners with structured feedback and teach them how to use it to improve their work. They also help students learn how to learn by providing them with advice on how to organize their learning and apply study skills which have been found to be effective. They encourage learners to engage in critical self-assessment. In personalized learning, it is crucial for teachers to have high expectations for all learners regardless of background and ability levels and monitor learning needs and progress through on-going dialog and formative assessment. Personalized learning requires students to use information on student progress to modify their learning.

It is sometimes a challenge to keep students interested and motivated (Duckett and Jones, 2006) even when learners have chosen a course of study. This is where personal knowledge of individual learners comes in to play. Knowing which buttons to press for each individual can provide the ignition to motivate and inspire any learner. Once teachers know their learners they are 90% toward raising achievement levels. Which button will differ from learner to learner as the very uniqueness of each individual will form the basis for their personal determination and motivation. Learners crave realism. Making learning real, by linking it to the outside world, can inspire and increase motivation.

A changed role for learners

Personalized learning also changes the role of learners from being passive recipients of predetermined programs to becoming active agents and problem solvers. Negotiating learning which suits their particular talents or shortcomings not only improves motivation for learners but also helps them to maximize their potential. This gives them a sense of power and fulfillment which in turn helps to increase confidence and self-esteem. However, not all learners will be able to take the same advantage of this increased choice and these learners will have to be supported by knowledgeable and sensitive teachers and counsellors.

Different players in the learning process may share the same or similar goals for learning, but the support individual learners require to achieve these goals may vary. What is fundamentally different in personalized learning is that learning becomes a shared process with learners actively in control. This has clear implications for how students learn how to learn.

A changed meaning for assessment

Assessment in personalized learning is not only about giving learners a test of their achievement at the end of a program of study. It is also about ensuring that learner's goals, aspirations, and aptitudes are analyzed at the beginning. At this time, it is important to diagnose precise learning difficulties that may require additional learning support. Other initial assessments include specific standardized diagnostic tests which in some countries (e.g., the United Kingdom) are used to identify and address any physical disabilities (dyslexia, and vision and hearing impairments) in order to comply with legislation which aims to ensure that these learners have access to required support or modifications. For all learners, the results of such initial assessments are used to help teachers develop appropriate learning approaches, materials, and assignments. Formative assessment processes are used by teachers and students to help students review and understand what they have been learning and how they can improve. Summative assessments are used to determine the extent to which negotiated targets are met.

A key role for information and communications technology

Information and communications technology is a key enabler of personalized learning. It can help systems respond to the needs of learners by providing a personalized space for students to do their learning. This type of learning is not confined to the classroom and allows the learner "to live locally whilst learning globally" (Kearny *et al.*, 2007: 2). The use of technology to undertake learning at home, at work, and at school has also been promoted in the Australian VET system as a key mechanism for ensuring that training remains client-focused and makes use of modern technologies. This generally goes under the banner of flexible delivery.

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Personalized Learning in the United Kingdom

Personalization and personalized learning are much in the UK education news. In a conference of educators in January 2004, then Minister of State for School Standards, David Miliband, MP, spoke about the government's aim to put individuals of this country at the center of all public services, including education. This would enable each individual to have a say in the design and improvement of the organization he serves. At the heart of Miliband's speech was his belief in the ability of personalized learning to promote equality and social justice. Since Miliband's key speech, the term personalized learning or the concept of personalization has been repeated in many education reports and in educational discourse.

The Department for Education and Skills (DfES) supports the introduction of the personalized learning approach by appealing to the findings of research on teaching and learning. This includes studies which indicate a link between key principles and improved student performance in scholastic attainment, thinking skills, and self-esteem.

However, implementation is still in its early stages. For instance, in the report 14–19 curriculum and qualifications reform (Tomlinson, 2004) the working group on 14–19 reform highlights observations mirrored in many Office for Standards in Education (Ofsted) and Adult Learning Inspectorate (ALI) inspection reports and puts forward recommendations for personalized learning including:

- stretching and challenging able learners;
- raising learners' personal awareness;
- increasing understanding of learners' strengths; and
- identifying learning and development needs.

A key driver for change toward personalized learning in the United Kingdom is the need to ensure that schooling provides learners with the skills and attributes they will require for the twenty-first century and to meet community expectations (Bentley, 2005). The introduction of student profiles in the United Kingdom schools has gone some way to personalize the data that schools have about individual students. Riel and Bentley (2006) are of the view that this could be extended by treating school facilities as "entry points to much wider networks of flexible, specialist, provision and participation" (p. 122).

Recently, the Learning Skills Council has endorsed the Recognising and Recording Progress and Achievement (RARPA) project. Although RARPA was initially designed for staff working in nonaccredited learning, it has many lessons for practitioners working across the range of accredited and non-accredited programs (Duckett and Brooke, 2006).

The five stages of the RARPA process are:

1. setting the aim of the program of learning, which may define its general purpose, or may be more specific (curriculum design);
2. initial assessment of the learner, to find out the learner's needs and aspirations; this is important as it enables learners to express their desires, interests, motivations and support needs; if under taken during induction, this stage can promote a greater understanding of the purpose of the program and enable learners and teachers to get to know each other; importantly, in the process of recording progression, it can establish where the starting-point is for the learner and identify what he or she wants to achieve by undertaking learning;
3. identification of learning objectives that meet the stated learning outcomes of the program of learning for the learner group and the individual learner;
4. formative assessment, or the ways in which teachers identify and record progress made by the learners; this may be a very creative process with suggestions of video recordings, learner diaries, exhibitions, as well as more traditional assignments and tests; and
5. end-of-program review of progress and achievement, which may involve learner or peer-group assessment, teacher's record of assessment, and a whole range of artifacts as appropriate to the program of study (summative assessment).

Australia

The term personalized learning is also gradually gaining currency in Australia. However, the concept is often seen as an extension of existing processes for placing students at the center of teaching and learning. Always, the main aim is to enable students to develop the skills, knowledge, and personal attributes required for acquiring qualifications, job skills, and employment.

For example, personalized learning is promoted in the South Australian Government's strategy for reforming senior secondary education, and the South Australian Certificate of Education (SACE). Here, the key aims are to provide students with engaging curriculum and to help them make successful school-to-work transitions. Teachers are asked to work with individual students to take a realistic account of their aptitudes, interests, career goals, and other opportunities and to develop personal learning and transition plans. Schools are asked to develop strong partnerships with the local community, business, industry, and education and training providers to enable students to gain valuable and challenging experience with work, training, or study. A student mentoring program has been established to provide students (generally those

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at risk of dropping out) with support and advice from teacher mentors who have been trained to support the learner's well-being, achievement, and pathway planning. In this context, the personalized learning plan which comprises the setting of targets against key learning outcomes is seen as especially important. Currently, about 29 secondary schools are engaged in pilot projects to trial these reforms.

Personalized learning has been especially promoted in the education of indigenous students who have historically not engaged with or benefited from schooling to the same extent as other Australians (Ministerial Council for Education, Employment, Training and Youth Affairs, 2006).

The personalized learning approach is also currently being applied in the Australian Science and Mathematics School, a senior secondary school located within Flinders University in South Australia. Here, it is characterized by the development of personalized learning plans for individual students, and a belief in challenging and rigorous programs using inquiry-based and experiential learning strategies. Personalized learning plans (gradually being developed for all students) involve tutors and students in discussions about what students believe are their strengths and weaknesses and their short and longer-term goals. These are then used to identify strategies to help students achieve these goals. A variety of online tools are also used to help students think about learning preferences and career options. Some students have used electronic portfolios to document their work and their achievements and their plans for the future. These have been found to be successful thus far.

It is also important that we are aware that many of the aspects of personalized learning are exemplified in other approaches to customizing education to the needs of individuals. The concept is also reflected in the flexible delivery initiatives first adopted in Australia to reform the public vocational education and training (VET) system in the early 1990s. The aim of these approaches is to ensure that the training system remains client-focused by enabling students to choose how, when, where, and what they learn. Self-paced learning programs customized the pace of learning and assessments to student interests and aptitudes, to assist them in becoming self-directed and independent learners. This aims to prepare students for workplace of the future. Teachers and trainers adopt a learning facilitator role and work with students individually and in groups to respond to questions, introduce topics, or discuss issues. Computer-assisted learning and other information and communications technologies play key roles in the development of technical skills and in monitoring the progress of students.

A continuing belief in every student's capacity for learning is also exemplified in the 2007 statement on the future of schools in Australia. Endorsed by the Commonwealth and State and Territory government ministers who have portfolios in the areas of education, employment training, and youth affairs, this statement sets out broad directions for how schools, parents, and communities can assist learners to develop fully their intellectual, physical, moral, and aesthetic talents and capacities in school and throughout life. A commitment to students is a key goal.

Personalized Learning in the United States of America (USA)

The use of the term personalized learning is still in its infancy in the USA. Kearny *et al.*, (2006) are of the view that the term was first used in the 1999 Breaking Ranks report which highlighted the need for personalization through the establishment of smaller schools and the use of a variety of instructional methods. Today a follow-up report Breaking Ranks II developed at the Education Alliance at Brown University stresses the need for personalization. It recommends that schools ensure that personal learning plans and a personal adult advocate for each student, recognize that each student learns differently, and provide support and guidance for each student to set, review, and achieve his or her goals. A personal learning plan for each education is also recommended so that they continue to improve their own skills and knowledge in helping students in the learning process.

Personalized learning as a learning philosophy has also been especially adopted by 35 schools established by the Big Picture Company in conjunction with state educational authorities in a number of different states. The motto one student at a time has been adopted by the 35 schools involved and exemplified by the following mission statement (Big Picture Learning, http://www.bigpicture.org).

> Each student's learning plan should grow out of his or her unique needs, interests, and passions. We believe that the education system must ensure that students and families are active participants in the design and authentic assessment of each child's learning. Schools must be small enough to encourage the development of a community of learners, and to allow for each child to be known well by at least one adult. School staff and leaders must be visionaries and lifelong learners. Schools must connect students, and the school, to the community-both by sending students out to learn from mentors in the real world, and by allowing the school itself to serve as an asset to the local community and its needs. Finally, schools must allow for admission to, and success in, college to be a reality for every student, and work closely with students, families, and colleges throughout – and beyond-the application process.

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Historically, the need to customize learning to the needs and aptitudes of students in mainstream American schools has generally been associated with equalizing educational opportunity for all students and especially those from disadvantaged groups. The No Child Left Behind initiative of the Bush administration which resulted in amendments to the 1965 Elementary and Secondary Education Act aims to "ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging State academic achievement standards and state academic assessments" (Sec. 101, Title 1, amendment to Elementary and Secondary Education Act 1965 (20 U.S.C 6301 *et seq.*).

Other initiatives to improve the lot of disadvantaged students include early childhood programs like the Head-start program which aims to improve the school readiness of pre-schoolers from disadvantaged backgrounds. A key aim is to develop reading and math skills of these pre-schoolers so that they can experience success in school. The program provides children and their parents with educational, health, nutritional, and other services. In 1995, the program was extended to ensure that children from birth to 3 years of age were also engaged. Parents are involved in the administration of their local program and in their children's learning. They are also assisted to develop and meet their own educational, literacy, and employment goals.

New Zealand

The Ministry of Education of New Zealand has launched its vision for personalizing learning (Ministry of Education, 2007). It notes the need for the country to transform its education system to meet the challenges of the twenty-first century. In doing so it emphasizes its mission to no longer tolerate failure for any student.

Personalized learning in New Zealand is viewed not only as a strategy to place students at the heart of the learning system, but also about making learning more meaningful. It is felt to succeed best when students know what they know, how they know it, and what they need to learn next. Two key components of the New Zealand approach are effective teaching and appropriate assessments. Teachers will be expected to appreciate the capacity for learning of every student and to monitor progress for future learning. They are also expected to help students develop their skills of working independently and in groups, and support each other in learning. To do this, they will develop a wide range of effective learning strategies including using new technologies to support student learning. Initial needs assessments will be conducted and the results used to determine the strengths and weaknesses of each student and to develop suitable learning programs. Timely and effective feedback that improves learning outcomes and engages students in learning is also required. The "Assess to Learn" project and assessment tools for teaching and learning (aTTle) have been developed to help teachers, students, and parents with information which accurately records student achievement and progress.

In turn, the Ministry of Education promises to play its part in providing the resources, conditions, and policies to support these changes. Personalized learning will also be supported by the New Zealand Curriculum which will provide direction for what is to be taught and opportunities for teachers to better structure learning so that it meets the needs of individual learners. It will require strong partnerships between schools and parents to provide teachers with the information they require to better structure learning to suit the individual needs and aspirations of students. The "Team Up" program established to facilitate this partnership will also help parents understand how they can help in their children's learning. The professional leadership skills of principals are also critical in implementing personalized learning. A First Time Principals program has been established to train new principals for their roles. A Kiwi Leadership Framework is also being drawn up to reflect the country's unique educational culture and environment.

The Te kotahitanga program is an example of a program which implements a key principle of personalized learning, (that is, the need for teachers to understand the backgrounds and strengths of students and build supportive relationships with students), to improve school retention and achievement of indigenous students.

Issues around Personalization

Personalized learning locates students at the heart of the learning process by not only giving them a voice in determining their own learning, but also ensuring that they are provided with suitable guidance and targets to meet their goals. Research conducted by the Quality Improvement Agency (QIA) in the United Kingdom has highlighted some issues of controversy, which largely focus on learner voice and provider guidance (LSN, 2006). It is clear that the issue of learner voice, and the extent to which it plays a role in the delivery of personalization, needs to be resolved.

The major issue is that of learner voice, that is, how much learner control is appropriate (see e.g., QIA, 2006). A better formulation is how we enable the learner to take more control. It is the transition from an inexperienced to a self-directed learner which is key and which coincides with the concept of the expert learner. Clearly, becoming an expert learner, and being able to take control of their learning, are two very similar skills which come with age

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and experience. In short, although the issue of learner participation seems to be a significant point of debate and potential conflict amongt the sector, this can be resolved by taking a more flexible, developmental approach. We know that expert learner skills can be developed over time – so it is perfectly feasible that the (very similar) skills required for a learner to make responsible and informed choices about his or her learning can be developed too.

Conclusion: Personalized and Individualized Learning

Individualizing learning is something which learning and skills providers have been carrying out for many years. It is much more than offering a broad range of curriculum choices and flexibilities – it is also about adapting teaching and learning strategies to meet the needs and abilities of different learners. This may include (and often does) individualized learning plans, individual targets, group and one-to-one work, and different forms of pedagogy to suit different learners. We have used the term personalized learning to distinguish it from the student-centered learning approaches of the past; however, we must also be careful to make sure that we do not invent another term to describe activities that are essentially similar in scope, intent, and application.

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