Developing entrepreneurial education in national school curricula: lessons from North Macedonia and Wales

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Received: 31 August 2020 / Revised: 19 September 2020 / Accepted: 21 September 2020 /
Published online: 4 October 2020
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Abstract

In 2016, Eurydice reported that no country in Europe had fully integrated entrepreneurial education in schools and that teacher training was fragmented. However, supported by the World Bank, North Macedonia introduced a compulsory and progressively evaluated Entrepreneurship and Innovation curriculum in 2016, following policy decisions made in 2014. Teacher training initiatives from Wales informed progress. The Welsh Government decided to integrate an entrepreneurial culture within curriculum and assessment arrangements in schools which built upon prior work including education within Initial Teacher Training. This included funding to pilot training for teachers at all levels, from schools to universities and across all subject specialisms—to develop entrepreneurial education. Welsh Government's Youth Entrepreneurship Strategy (YES) commenced in 2004 within the Ministry for Business and Transport (now Business Economy and Innovation), and since 2015, has been supported by the Ministry of Education and Skills. The sector now has 10 years of experience in entrepreneurial teacher training and has developed Doctoral-level study for educational leaders. In February 2020, the theme of 'creative enterprising contributors' was formally positioned as one of the four overarching 'purposes' of school education in Wales. This article provides reflective insights of knowledge exchange through the lens of the International Institute for Creative Entrepreneurial Development, in both a Macedonian and Welsh context, and will be of interest to those who wish to advance national policies and entrepreneurial educator development.

Keywords Entrepreneurship · Education · School · Curriculum · Policy · Teacher training

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Introduction and background

Entrepreneurial education is observed to be one of the fastest growing fields of education (Sirelkhatim et al. 2015), yet in terms of schooling, Eurydice (2016) reported that only 23% of European pupils had engaged in entrepreneurial education and that this was skewed towards younger participants who were twice as likely to have engaged. Half of all EU countries had no guidance for teachers, although only nine countries out of twenty-seven had yet to develop a policy to address the shortfall.

Eurydice (2016) and the South East European Centre for Entrepreneurial Learning (SEECCL) (Global Entrepreneurship Network 2016) further noted that most definitions, whether national or European, leaned towards the broader definitions related to mindset development as opposed to the more narrowly defined start-up perspectives, Spain and Northern Ireland being the exceptions. This broader definitional stance was also described as a strategic goal, with curricular approaches that reflected the fact that the key competence of entrepreneurship (as defined by the EU) is not necessarily about business launching, but has a wide ranging and inclusive definition.

The 2012 Programme for International Student Assessment (PISA) survey and subsequent Organisation for Economic Cooperation and Development 2018 report (OECD 2018) noted the demise of problem-solving skills in 15-year olds, and the Eurydice (2016) report concluded that teachers made a significant difference, but that support for teacher education was fragmented. This was reflected in the fact that learning outcomes were also fragmented, though the Balkan's region has undertaken some of the most advanced work, especially in fostering creativity and a readiness to grasp opportunities. The SEECCL was established in 2009, with a mission to develop policy-based integration in the region. By 2018, it had developed comprehensive and progressively levelled outcomes for both pupils and teachers, and from schooling and VET to university. The teacher Training Methodology was led by University of Wales Trinity Saint David's International Institute for Creative Entrepreneurial Development (UWTSD-IICED).

Despite reported successes in eight contributing countries, indicative of the fragility of such initiatives was that when central European funding ceased, partner governments did not make up the shortfall. The comprehensive website and its resources were lost and are no longer online. However, an overview of the intervention is provided by the Global Entrepreneurship Network (2016).

Advances in North Macedonia informed the SEECCL project, and by 2016, the country had established its own comprehensive approach to innovation and entrepreneurship in schooling. This included a 5-theme approach that progressively monitors learner progress from ages 13 to 18 within a Methodology Matrix (Polenakovikj 2016) and culminates in Entrepreneurial Leadership. Funded by the World Bank, expertise from UWTSD-IICED helped to develop the framework and associated teacher training. IICED has many international partners, including experts in Finland who review progress (see Järvinen et al. 2014) and provide research-based insights.

Following original calls within the Oslo Agenda for Entrepreneurship Education in Europe in 2006, other initiatives also evolved to provide practical guidance by the European Commission DG Enterprise and Industry, in 2013. Of special note is the OECD360 project that extended the remit in order to develop guidance for policymakers (OECD 2015). At university level, in 2012, the UK's Quality Assurance Agency (QAA) produced national guidance for enterprise and entrepreneurship, reviewed and revised in 2018 (QAA 2018). Following acknowledgement that no similar European guidance existed (European Commission Thematic Working Group on Entrepreneurship Education 2014; Komarkova et al. 2015a, b), the QAA work helped to trigger the development of the EU Joint Research Centre's EntreComp Framework (Bacigalupo et al. 2016), which is now the 'de facto' guidance for Europe.

Of specific relevance to our paper, Eurydice (2016) reported significant differences in the UK, where each country had to be presented independently. Scotland and Wales were commended for their approaches to progression and comprehensiveness, whereas England had yet to develop a policy. The earliest adopters of entrepreneurial education were in Wales, where the Welsh Government's impetus to create an entrepreneurial culture, within curriculum and assessment arrangements in schools (Donaldson 2015), and education within Initial Teacher Training (Furlong et al. 2006; Furlong 2015) included initial and continuous teacher training that aimed to educate educators within schooling as well as the further and higher education sector (Penaluna et al. 2015; David et al. 2017). The Welsh Youth Entrepreneurship Strategy (YES) commenced in 2004 and made this commitment explicit (Welsh Government 2010). Started by the Ministry for Business and Transport (now Business Economy and Innovation), and since 2015 supported by the Ministry of Education and Skills, the sector now has 10 years of experience in teacher training and an EntreComp informed Doctoral-level study for educational leaders (McCallum et al. 2018).

We will now briefly discuss our method before elaborating on the broader policy and educational developments that are the focus of this paper.

Method

This knowledge exchange case study is designed to provide an insider view (Young 2005; Sikes and Potts 2008; Greene 2014). It is 'practitioner enquiry' (Hellawell 2006) within the category of action research (Elliot 1991); it aims to provide context and insights into the implementations and strategy discussed (Stake 1995; Marriam 1998; Yin 2009), affording multi-faceted explorations of a real-life settings (Crowe et al. 2011). Specifically, it is an 'instrumental' case study to gain a broad appreciation of the approach (Stake 1995).

The case study is one of the most frequently used qualitative research methodologies in educational research (Yazan 2015), and insider research is increasing as a result (Greene 2014). The narrative is informed through active engagement with multiple stakeholders, including those charged with taking forward Welsh schooling

and the entrepreneurship agenda. As ontological considerations need to be overt in these discourses, the authors' situational perspectives need to be made explicit.

The authors have actively been involved in many of the aforementioned initiatives, and one chairs the UK's Quality Assurance for Higher Education team responsible for enterprise and entrepreneurship in the university sector. The authors' engagement in international initiatives includes European discussions that culminated in the development of EntreComp, leadership roles for the Government of North Macedonia and significant contributions to the work of SEECEL. The OECD commissioned two authors to review progress in a twenty-seven country series of pilots that culminated in practical and policy guidance. They also led the development of entrepreneurial teacher training in Wales and contributed directly to Welsh Government's implementation plans through workshops and research-based activities. This includes reviews and reports commissioned by Welsh Government's Education and Skills Department. All authors are immersed in both policy and practical dynamics relating to entrepreneurial education. This affords inside perspectives and evidence gathering that evolved over time, and through experience as university educator/teacher trainer/curriculum advisor, including one author being a Welsh Government Entrepreneurship Champion.

Attempts to mitigate bias and acknowledged limitations of the case study approach, including the associated criticisms of a lack of scientific rigour and limited basis for generalisation, have been made wherever possible, primarily through the transparency of the process and contexts. The provision of a conceptual structure with the themes and issues clarified (Stake 1995) also has this aim.

A chronological overview of reports and interventions are referenced to present the drivers and impetus of the current state of play. These insider views are written from the perspectives of those who have been actively involved, so are 'emic' in nature as opposed to the 'etic' view of an outsider (Brooks 1994; Young 2005), and should be considered in that light.

Whilst the focus of this article is the detailed development of progress in Wales, the North Macedonian work has had significant influence, not least because it is believed to be the World's first school curriculum that progressively monitors entrepreneurial learning—through a set of carefully crafted learning outcomes.

Context and drivers

The pioneering work in North Macedonia

At the time of writing, the Eurydice (2016) report noted that no country had yet mainstreamed entrepreneurial education; however, this changed in and around the time of the report's release. Supported by the World Bank, North Macedonia introduced compulsory and progressively evaluated Entrepreneurship and Innovation curriculum in 2016, following policy decisions made in 2014 (Government of Macedonia 2014). Illustrating the level of support from a policy perspective, the leadership and ministerial engagement included the President, Deputy Prime Minister, Education and Science, Economy and Labour and Social Affairs. From a practical

perspective, the resultant ‘Methodology Matrix’ progression model starts with primary children who investigate who an entrepreneur is, right through to Entrepreneurial Leadership experience for those aged 17–18 (Polenakovik et al. 2019).

The initiative started when the country’s President, together with the Ministry of Economy and the Ministry of Education and Science, supported the development of the National Entrepreneurship Education Network, which uniquely combined university and school teachers in order that a pipeline methodology could be considered. All ministers spoke at the launch event in the Hotel Aleksandar Palas on November 8, 2011. Further support from the British Embassy facilitated the Chair of Enterprise Educators UK (EEUK) keynote on the UK experience in terms of practice and policy developments. EEUK held their 2010 International Entrepreneurship Educator’s Conference in Wales, and the 2011–2012 Chair was based at University of Wales Trinity Saint David.

By 2015, with funding from the World Bank, and support from UWTSD-IICED, Entrepreneurship and Innovation curriculum was introduced for all courses: ‘Innovation’ in ninth grade, ‘Innovation and Entrepreneurship’ for first, second and third year and ‘Business and Entrepreneurship’ for the fourth year of secondary schools. A teacher handbook was produced (Penaluna et al. 2015) and teacher training commenced.

In order to illustrate progress, in 2017 and with additional insights becoming available through the EU’s EntreComp and DigiComp frameworks, 2030 teachers received one-day training sessions, and in 2019, ‘Innovation and Entrepreneurship’ became a compulsory course at the Pedagogical Faculty in the University St. Kliment Ohridski in Bitola.

At the time of writing, the EntreComp for Teachers Project (see <https://entrecompedu.eu>) is evaluating feedback from 1,800 students and 55 teachers. Preliminary insights suggest that whilst self-efficacy and self-awareness have increased, the mobilisation of resources and others may require more focussed work. Moreover, students that undertook extracurricular activities (competitions, fairs, garage sale, helping others in the community) have a higher average success rate based on the EntreComp evaluation metrics.

The EU and OECD consistently call for this type of cross-ministerial collaboration, strategic funding and teacher training (OECD 2015; EE-HUB-EU 2017), and in the case of North Macedonia, close collaboration with another learning nation that wished to facilitate entrepreneurial learning proved to be beneficial.

Positioning Wales

Wales is a principality of the UK with a population of 3.138 million. To put this into a UK perspective, England has a population of 55.977 million (Office for National Statistics 2018). The Welsh Government is the devolved government for Wales and has a responsibility for the economy and education.

There were an estimated 253,600 enterprises in Wales in 2017. They employ an estimated 1.1 million people and have a combined turnover of £117.1 billion. In 2017, 99.3% of total enterprises active in Wales were small and medium sized (i.e.

below 250 employees) and within that figure 94.9% were micro-enterprises (0–10 employees). Enterprises in the microsize band have had the largest percentage growth in employment since 2003, up to 37.6% (Welsh Government 2017a). These statistics demonstrate the significant contribution of small firms for the economic and social well-being.

Since 2000, Wales has received £3.2 billion structural funds from the European Union directed at improving economic productivity. Combined with match funding from private and public sources, this has resulted in additional jobs, more sustainable businesses and an increased GDP (Welsh Government 2019a, b).

Evolving Policy and practice from the business ministry in Wales

The chronological journey within this study commences in 2004 with the launch of the Welsh Government's Youth Entrepreneurship Strategy (YES) and draws on the parallel but distinct educational interventions from the Furlong et al. (2006) reviews of Initial Teacher Training; hence, we will initially look at interventions related to the Minister responsible for business.

In 2004 in an ambition to transform the Welsh economy to facilitate an increased capability for research and development and innovation, Welsh Government issued their strategy a Winning Wales (Welsh Government, 2004). One action from this was the Youth Entrepreneurship Strategy (YES) which made explicit the approach for taking forward the agenda. The actions in the original strategy covered the period 2004–2009, and a revised iteration was published for 2010–2015 (Welsh Government 2010).

The YES aimed 'to equip young people aged 5–25 with entrepreneurial skills and attitudes to raise their potential whatever choices they make in their future working life' (Welsh Government 2010). Post-2015, the strategy was taken forward under the umbrella of Big Ideas Wales (2015). The links with further and higher education are made explicit, with various supportive initiatives since 2004.

These included partial funding support for an Enterprise Champion within each FE or HE institution. This ensures two-way communication for disseminating activities and providing information across all universities and colleges in Wales. Latterly, through university-led teacher training initiatives such as these interventions, the work has been recognised by the European Commission as the best practice (European Commission 2014).

The first initiatives to introduce entrepreneurial learning into schools were therefore instigated by the Department of Business and Economy (BETS). Their Big Ideas Wales initiative (Big Ideas Wales 2019) offered inspirational stories, educator resources, boot camp opportunities and networking opportunities. Their website also acts as a portal to access government-funded role models, who can join classes to support educators at any level of education. Latterly and as the initiative developed, it was realised that these role models needed support if they were to better engage with educationalists, and to understand what it means to be an educator. As a result, all role models now have to undertake one-and-a-half-day induction training and shadow an experienced role model prior to working with educational establishments.

This is believed to be unique and contrasts with endeavours in England such as that provided by the Careers and Enterprise Company, where the support is far more light touch and business advisors only interact with a single educational establishment (The Careers and Enterprise Company 2019). Advisors receive no training in education.

Another example initiative from Big Ideas Wales is the Primary School-based Enterprise Troopers (Enterprise Troopers 2019), where educators dressed as the ‘ACRO’ model ‘superheroes’ demonstrate four key characteristics of entrepreneurial behaviour:

- **Amy—Attitude** Understanding self and motivation, setting and achieving goals
- **Callum—Creativity** Generating ideas, solving problems and creating opportunities
- **Rhian—Relationships** Expressing views and ideas, appreciating others’ viewpoints and working cooperatively
- **Owain—Organisation** Ability to make decisions and fulfil objectives

The troopers set national competitions for primary schools and offer a wide range of resources that help teachers to prepare their pupils.

The Welsh Government’s (2017) economic action plan makes explicit their desire to develop an entrepreneurial culture ‘that enables young people in all communities in Wales to contribute positively to economic and social success’ (Welsh Government 2017, 27). A key message here is that the aim is not to create specialist entrepreneurship educators, but to enable all subject specialists to become more entrepreneurial.

Evolving policy and practice from the Education Ministry in Wales

In their 2006 report on Initial Teacher Training (ITT) Provision in Wales, Furlong et al. highlighted many challenges facing the profession. The greatest challenge was observed to be that:

the ‘teachers of tomorrow’ will have to respond to the changing nature of knowledge in society. In a world of rapid change, teachers will not only need to be experts in teaching something (history, chemistry or mathematics), they will also need to be experts in teaching their students to ‘learn how to learn’... This, we argued must be one of the key outcomes of students’ learning in the twenty-first century (Furlong 2015, 6).

In his review of Initial Teacher Training (ITT) in Wales, Tabberer (2013) suggested that Welsh Government should appoint an adviser to help raise standards within the sector. As a result, Furlong was reappointed in March 2014 and published a further review in 2015 (Furlong, 2015) that pressed the need for change. His review was conducted parallel to that of Graham Donaldson’s review of Curriculum and Assessment Arrangements in Wales (Donaldson, 2015). As will be

discussed momentarily, these forward-facing policy drivers for schools in Wales offered insights that closely aligned to the evolving entrepreneurial education agenda.

Through educational initiatives such as the Welsh Baccalaureate Enterprise Challenge (Welsh Joint Education Committee 2016), the journey had already begun, as this (now compulsory) school activity incorporates learning briefs from outside agencies and bodies, and includes new ways of developing learners and assessing their performance. This is currently operational in all Welsh schools and provides a springboard to develop further initiatives.

By 2015, Donaldson's curriculum review 'Successful Futures' had also made explicit the call for 'enterprising creative contributors' (Donaldson 2015, 29), as one of his four purposes (pillars) of education, and spearheaded a sea change of thought as to what education should be about.

Welsh Government's Education Department recognised the need for children and young people to develop a range of 'wider skills' perceived necessary for modern life and work, with the aim of making them more resilient and able to cope with today's and tomorrow's challenges. Donaldson (2015, 42) references an NFER/Arad report citing Parsons and Beauchamp's conclusion that 'most high performing countries highlight problem solving, creative and critical thinking, selecting information, applying knowledge and drawing conclusions as the most prevalent skills identified'. Subsequently, the four purposes became pillars upon which the entire new curriculum was to be developed:

- ***Ambitious, capable learners*** who are ready to learn throughout their lives.
- ***Enterprising, creative contributors*** who are ready to play a full part in life and work.
- ***Ethical informed citizens*** who are ready to be citizens of Wales and the world.
- ***Healthy, confident individuals*** who are ready to lead fulfilling lives as valued members of society.

(Donaldson 2015, 29–31).

The review advocated an 'Areas of Learning Experience' (AoLE) structure for the entire age ranging from 3 to 16, which whilst acknowledging the importance of subjects and disciplines, proposed a grouping of six areas that would ensure cross-pollination of learning.

- Expressive arts
- Health and well-being
- Humanities
- Languages, literacy and communication
- Mathematics and numeracy
- Science and technology

Specifically, in respect of the enterprise agenda, Donaldson (2015, 39) advocated that:

Teachers should be able to help children and young people to make links across learning, bringing together different aspects to address important issues relating, for example, to citizenship, enterprise, financial capability and sustainability.

Moving from the curriculum development to the assessment arrangements to support the purposes, Donaldson (2015, 74/75) stated:

- align assessment with the purposes of learning: assess what matters
- be clear about the reasons for assessment and plan in advance for the intended uses of assessment results
- promote the use of a wide range of techniques that are appropriate to their purpose
- engage students in their own assessment and ensure that reports to parents and carers focus on progress
- be as light touch as possible and avoid unnecessary bureaucracy
- use assessment evidence systematically and in combination with other evidence to inform school self-evaluation
- address the implications of good assessment practice for teacher capacity
- form a coherent, agreed assessment and evaluation framework with a clear vision and strategy based on all of the above.

Welsh Government's Curriculum, Assessment and Pedagogy Division within the Government's Education and Skills Department were charged with taking the recommendations forward. Initially, 68 'Pioneer Schools' were selected to lead experimental work, though this has expanded and many other head teachers have taken it upon themselves to start preparations.

As the complexity of the process presents challenges in the context of a single paper, the following series of insights are offered to illustrate the process and to indicate responses as they evolved.

Insights on the process of development

Successful Futures launch and first feedback—an overview (2015)

The public were invited to comment on the proposals between February and May 2015, and this was supported by three roadshow events, a webinar and a series of workshops. An online survey was used to elicit individual responses. Described as the 'Great Debate', this focussed on four areas related to the proposals:

- The purposes of the new curriculum
- The structure of the new curriculum
- The pedagogy of the new curriculum
- The assessment process

The consultation indicated strong support for change and elicited ideas and thoughts for future development. Interdisciplinarity was highly valued, though some concerns were expressed regarding a potential reduction of rigour, identity and status in, for example, history classes. Many teachers were concerned that whilst the new freedom of autonomy that the curriculum would bring was very welcome, they would need support to learn to move beyond the prescriptive nature of current approaches.

Concerns were also expressed about the current exam-laden approach that privileged summative assessment to the detriment of creativity, and seemed to be driven by an accountability agenda as opposed to a learning and teaching agenda.

Insight 2: strand 1 developments (2016–2017)

The Welsh Government's responses were implemented in two stages.

During strand 1 activities between April and December 2016, pioneer groups of schools considered the interrelationships between the Four Purposes of the Donaldson Review (2015) and the ongoing work in the specialist AoLEs. Using a thematic approach that asked 'What Matters', these aimed to ensure school-level curriculum development. Termed 'Wider Skills' and loosely based on the work of Lucas and Claxton (2009), these debates followed presentations to Welsh Government and school leaders from UWTSD-IICED and Bantani Education, who introduced the newly released EntreComp (Bacigalupo et al. 2016) into the discussions.

Strand 1 principles for wider skills were agreed, and a draft model was prepared to illustrate the principles and promote further debate with pioneer school representatives and Welsh Government in strand 2. Whilst this has not been published, it is an important stepping stone towards the final outcome; hence, the following extract helps to position the thinking at that time (Fig. 1).

Wider Skills develop curious learners who will discover challenges. The development of a range of potential solutions (not just one) to a challenge facilitates novel connections between new knowledge and understandings. Prototypes facilitate reflection and consideration, and temporary failure informs new learning.

When developing new creations, the more novel a solution, the more complex it may be to communicate, so good reflection informs good communication. As ideas are never wholly right or wholly wrong, time, context and relevance inform their evaluation – what is right today may not be right tomorrow, which in turn inspires more curiosity.

Challenge norms—Connect new ideas—Consider the potential—Create novelty and value—Communicate to others.

Reflective skills such as linking topics and subjects to ensure breadth as well as depth of learning focussed on the need for reflective practice through cycles of learning such as prototyping and introduced the notion that the most creative responses would most likely be the most difficult to communicate due to their newness. This guidance also proposed staged movement from being taught, to

Fig. 1 The relationship between the four purposes (circled) and the areas of learning excellence (AoLEs). This was designed to encourage interaction between external stakeholders and groups, offer opportunities to challenge norms, connect disparate knowledge, consider alternative perspectives, create new opportunities and communicate them to others (*Source*: Author and Welsh Government—used with permission)

independence of thought in increasingly complex scenarios. This progression model was also informed by EntreComp.

All AoLEs were given specific responsibility to address cross-curriculum competencies in literacy, numeracy and digital competence, thus, ensuring cross-disciplinary learning. Originally termed ‘Cross-Curriculum Responsibilities’ by Donaldson (2015), these were revised under the title of ‘Cross-Curriculum Competencies’, so as to emphasise the learning and not the management. Of particular relevance to our discussion is the emphasis given to EntreComp and the usefulness of broader definitions (than business start-up). ‘We have also begun to consider how elements of this framework could feed in to our work as there are clear links between its key elements and our wider skills’ (International Perspectives and Wider Skills Working Group 2017, 9).

Insight 3: the UWTSD-IICED reviews, strand 2 (2018)

In July 2018, Welsh Government commissioned UWTSD-IICED to provide an audit/report on work completed and to propose a series of responses to the AoLE teams who were writing the new curriculum guidance. The aim of the review was twofold:

1. To provide an audit/analysis of how the Wider Skills have been embedded in the work produced so far by the AoLE groups.
2. To advise and suggest next steps for the AoLE groups as they continue their work.

Whilst this cannot be discussed in its entirety, Welsh Government have approved a discussion on the key messages that resulted.

Multiple methods were used to review the draft AoLE documents provided, including Nvivo11 analysis. Keyword searches were for:

- Exact words
- Stemmed words
- Synonyms
- Specialisations
- Generalisations—where words are returned that have a generic link to the keyword (e.g. Talk and communicate)

A thematic interrogation of language used in the documentation was also undertaken. And specific note was made of areas in which authors appeared to be discussing the same things, but were using different terms and language.

The main findings included a perceived limitation related to specialist language that could potentially deter interdisciplinary work. Assessment needed more formative ‘for learning’ as opposed to summative evaluation, and progression models required further development. The latter made special mention of the goal to take learners from dependency to autonomy.

Following a presentation and the findings to AoLE leads, a revisiting of the Wider Skills took place, and a further review of the changes was commissioned by Welsh Government in September 2018. This was presented to Welsh Government in November 2018 and helped to shape interim proposals that were made public in May 2019.

Other reports commissioned by Welsh Government include feedback on the Welsh Dimension and International Perspective (Jarvis, 2018, unpublished) and the CAMAU Project on progression (Hayward et al. 2018). Whilst these fall beyond the scope of this paper, they are noted as they may be of interest to researchers.

Insight 4: EntreComp and the development of a new kind of Education Doctorate

Formal teacher training (PGCE/PCET) for enterprise and entrepreneurship was developed by a consortium of Welsh FE and HE institutions and was first taught in 2010 at Swansea Metropolitan University (now UWTSD). A full overview is available in the discussion paper ‘Enterprise Education Needs Enterprising Educators’ (Penaluna et al. 2015). The findings supported the educator view that idea generation strategies were required as well as the more prevalent ideas evaluation techniques that could be found in many competition-based approaches (see Brentnall et al. 2018) and similar educational offerings.

Whilst this helped to address grass root educationalists, and the CPD for existing teachers enabled further educator development, it did not assist senior educationalists and managers, to whom much of the debate was new. Although not detailed in this paper, the authors were alerted to this by those whom they had trained. Moreover, EntreComp was positively received by those engaging in CPD, and formal CPD sessions with teachers and their managers demonstrated that alignment with the four purposes was a straightforward matter and that the more detail in EntreComp enabled teachers and their leaders to effectively consider how Donaldson's (2015) Successful Futures could be implemented. Whilst the leadership in Welsh Government had approved Donaldson's report and accepted its recommendations in its entirety, there was clearly much to do in respect of supporting the managers who would be responsible for the development and mapping of the significant changes proposed.

Therefore, in order to address the perceived shortfall of experience in leaders and head teachers, a new type of doctorate was developed and validated by Yr Athrofa at UWTSO (McCallum et al. 2018). The first of its kind, this EdDoc took account of the debates discussed above and provided a semi-taught environment where educational leaders could learn about new developments, develop personal research questions and consider new avenues of inquiry that would inform their leadership roles. EntreComp is used to inform the research process and is also an aid to assess the EdDoc candidates. Thus, researchers are encouraged to not only look at the entrepreneurial competencies that they study, but to demonstrate them themselves in the way that they approach and disseminate their research. Their critical self-evaluations and reflection documents evidence their personal progress and engagement.

Through engagement with the pupil voice of young students who they engage with, they also provide insights into what has worked in their contexts, and what needs to be improved upon.

EntreComp offers clear and concise guidance for all levels of education and, importantly, picks up on the creativity and innovation aspects that so many other frameworks and assessment guidance seem to give scant attention to. The teachers told us that they were struggling in these areas.... (Penaluna in McCallum, 2018, 55).

Launching a new curriculum

Once the work of the Pioneer Schools that had been piloting the proposals had been disseminated, and a public consultation on the legislative framework concluded, Welsh Government announced that the first public draft would be available in May 2019. 'Our National Mission: A Transformational Curriculum Proposals for a new legislative framework' (Welsh Government 2019c) offers a thematic review that is based on the frequency of responses to statements. Key findings include significant support for the new curriculum, but concern over what it might mean in practice, for example what will it mean for teacher workloads and how will professional development for educators expand to meet the needs of all schools.

Respondents from the teaching professions were the most vocal in their support, though progression and equity aspects were cause for concern. The need for teachers and schools to take on research that informed their work was also highlighted, and a call was made to ensure that this activity was recognised. The previous measurement of ‘high stakes’ quantitative data that had previously dominated school-level work was also criticised.

The final version was published in February 2020, and to ensure centrality and relevance, the term ‘Wider Skills’ was changed to ‘Skills Integral to the Four Purposes’. At the heart of these is the desire to recognising, using and creating different types of value, under the themes of:

- Creativity and innovation
- Critical thinking and problem solving
- Personal effectiveness
- Planning and organising

The themes are designed to assist assessment strategies as well as learning approaches. For example, convergent thinking is typically process evaluated as originality should surprise, whereas convergent and critical thinking is usually goal driven and can be assessed through carefully defined outcomes. This mirrors the work of the OECD, most specifically their 360Entrepreneurship guidance where assessment can be viewed as either Innovation or Implementation (OECD 2015).

At the time of writing, the new Welsh curriculum is about to commence, opening the doors for further research and consideration.

Discussion

It is clear from our introduction and the report from Eurydice (2016) that Europe is forging ahead with entrepreneurial education and that policy incentives are already in place in most countries. The absence of a policy platform in England contrasts strongly with the examples offered from Wales. As the second country in Europe to include compulsory enterprise-related learning and teaching, Wales has undergone a sea change of thought in respect of what good teaching for the future might look like, and has highlighted some of the problems that more interdisciplinarity and creativity might mean, especially in evaluation of performance. Whilst much of this is a work in progress and requires testing, it positively responds to numerous calls for education that is future proofed and addresses the needs of twenty-first-century learners (World Economic Forum 2009, 2016; World Bank 2011; Bacigalupo et al. 2016).

The discussion and outlines related to policy movement demonstrate an increased engagement from educationalists, who are fully supported by those who work in business and economics. This mirrors the policy ingredients that led to the adoption of an enterprise and innovation curriculum in Northern Macedonia.

An enhanced awareness of international perspectives appears to have influenced the new policy environment in Welsh schooling, as the recommendations of

‘Successful Futures’ map extremely well to other initiatives, especially the European Joint Research Centre’s EntreComp framework. Many governments exhibit a tendency to look inwards at their offerings, with limited evaluations as to how other countries are responding to change (Eurydice 2016). This is perhaps most marked when contrasted to debates related to enterprise and entrepreneurship in English schooling (Anderson et al. 2014).

This in turn may impact on practical measures that need to be developed, for example teacher training that encompasses entrepreneurial education and leadership opportunities to engage and understand the agenda more fully. These are at a nascent stage in Wales and, according to feedback, require significant expansion.

Conclusion

From the insights offered here, it becomes clear that North Macedonian and Welsh educationalists are frontiersmen in entrepreneurial education. They are responding to calls from Europe (Eurydice 2016) for a systematic approach that covers different levels and demonstrates progression. Their experiences and insights might well offer rich data for researchers and educationalists to consider.

For policymakers, our insights could provide evidence of new ways to look at how we develop ambitious capable learners, healthy confident individuals who are ethical in their responses, and enterprising creative contributors. These goals frame the four main purposes of the new schooling system that is taking shape in Wales. Our policy discussions illustrate the way that well considered political leadership can promote change and empower educators charged with future proofing schooling.

Our four insights detail some of the practical and methodological aspects that have influenced this new way of looking at education and its role in society, and offer further insights into some of the challenges that are being met. Interdisciplinary and boundary crossing approaches have been advocated as the best practice.

Key to this change appears to be the bringing together of economic and business ministries with one responsible for education, in order to offer educationally relevant responses that meet the needs of society and commerce. Engaging grass root educators has also been a prominent success factor.

Compliance with ethical standards

Conflict of interest I can confirm on behalf of all authors that there is no conflict of interest.

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