

## RadioActive101: Using internet radio to break-down the boundaries for inclusion into smart cities

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**Abstract.** Although ‘Smart Cities’ is an enticing and progressive concept and metaphor for conceiving and designing socio-technical educational systems in the 21C, clear examples of how this might be realised in practice are only just emerging. Similarly, although few would disagree with the desire to incorporate into our ‘learning designs’ notions such as ‘person in place’, ‘smartness and well-being of communities’ and the need for 21C thinking and literacy skills, where these concepts are located and where they are actualised is often opaque. This article presents a clear and somewhat radical example of how ‘smart city’ notions can be articulated and also used to challenge conventional norms about ‘who is smart’. It does this through describing the implementation and evaluation of RadioActive101, an international internet radio hub that is an educational intervention which gives a voice to disenfranchised groups in mostly urban areas throughout Europe, with a particular focus on at-risk and unemployed young people. This paper will describe this project along with its strikingly positive evaluation so far, which questions, in our digital age, some of the tenets of traditional education, and the boundaries for who can become agents of positive social change within our developing smart cities

**Keywords:** Smart City, radio hub, social changes

### 1 21C Learning and Smart Cities

Relatively recently the Technology Enhanced Learning (TEL) Community has emphasised the need to focus on 21C skills [1], which is also similar to the idea of ‘Fusion Skills’, to meet the changing needs of what is required to become educated and work in the digital age. These skills prioritise, in addition to traditional ones, competencies such as communication, digital media literacy, social skills and awareness, initiative and entrepreneurship, and cultural awareness that are also part of the EU Key Competencies for Lifelong Learning [8]. This stance and these competencies, where informal learning in new spaces is integral, and where new technology-mediated social and cultural spaces are influential, has key overlaps with

the growing conception of smart city learning. But, when we try to get more concrete and specific some significant questions emerge such as: Where are the examples of smart city learning? Who is learning and developing in smart city communities? And perhaps more profoundly – can we reconfigure learning and working so that those disenfranchised from current educational establishments and pathways, can be active and successful within a ‘smart city’ conception of learning, society and culture? The RadioActive project that is described below answers these questions through exemplification and its evaluation.

Before describing this project we consider ‘who is smart?’ in smart cities, and how traditional boundaries for educational inclusion can be challenged.

## **2 Who is Smart in Smart Cities**

Arguably, the notion of smart city learning will benefit from a clearer and more prescriptive stance on who should become smart. The tenets of smart cities that emphasise informal learning in new spaces and through new or emerging communities questions the role of traditional educational practices and spaces, such as pre-defined and taught curricula within often exclusive institutions. Indeed, especially in the UK, there is a strong and clearly supported argument (e.g. based on those who reach ‘the top jobs’) that the ‘best’ educational institutions serve to sustain elites at the cost of providing a balanced and socially responsive learning environment. Smart city ideas can challenge these institutional conditions, and arguably injustices, to provide alternative learning pathways that are fundamentally inclusive and based on a social justice agenda. This is exemplified through our “RadioActive Europe” project, which uses primarily internet radio and social media to implement a radical technology-enabled pedagogy to promote the inclusion, engagement and informal learning of excluded people, or those at-risk of exclusion, across Europe. This project is breaking the boundaries for inclusion into smart cities, through promoting the inclusion, well-being, informal learning and employability of at-risk, hard to reach, and unemployed young people. In other words, we are developing smart city agents, our radio-activists, from a demographic that could otherwise become a ‘lost generation’.

## **3 Radioactive101? Breaking down the Boundaries for Inclusion into Smart City Learning**

The ‘RadioActive101 model’ is ambitious and relatively wide-ranging as it combines inclusion, informal learning and employability through creatively articulating the processes, practices and technologies associated with the ‘whole space’ of radio. Key to this is that the operations of this space are catalysed through the need to produce a quality broadcast according to a pre-defined timetable. Or, putting this in a more

everyday vernacular, the ‘buzz’ of creating and broadcasting radio shows creates an engaging and motivating framework to develop and marshal the requisite digital media, communicative and organisational practices that are implicit in radio production and broadcasting.

Central to the whole approach is the notion of ‘learning by doing’ that is theoretically informed through a synthesis of emancipatory learning through ‘lived experience’ that was proposed by Paulo Friere [2], Vygotsky’s [3] notion of scaffolding and learning within zones of proximal development, socio-technical design [4] and learning through dialogic and dialectic dialogue [5]. A simple way to conceive of the way these are articulated, is to think of the ‘whole space’ of radio production and implementation being a nuanced ‘learning lab’, that articulates these theoretical underpinnings in terms of the learning achieved through practically producing radio, and accrediting the processes in terms of the EU key competencies for Lifelong Learning.

The practical operationalisation of the above is achieved through: recruiting and engaging participants who see how RadioActive101 is relevant to their lives; negotiating the roles that the radio-activists play, from the range of radio production and broadcast roles (e.g. see <http://uk2.radioactive101.eu/who-we-are-2/>); training and scaffolding in radio production (e.g. technical skills, communication skills and media literacy skills); ‘learning by doing’ of radio production that is guided and orchestrated through scaffolding; the planning and creation of show content and related promotional materials (covering real-life issues such as knife-crime, relationships between young people and the police, bullying of learning disabled young people, etc.); broadcasting of live shows that are then archived (see <http://uk2.radioactive101.eu/broadcast/>); learning and applying a combination of communication, organisational and employability skills (e.g. collaboratively and critically assessing content in editorial meetings - that require radio-activists to work to deadlines, be aware of and monitor other’s work in their team, and critically evaluate the content, or changes to content, that are required to achieve the necessary broadcast quality); and, accrediting the informal learning processes AND employability skills in terms of the EU Key competencies for LifeLong Learning through using a comprehensive system of 39 badges (see: <http://moodle.radioactive101.eu/>). All the above is concisely captured by our project slogan, which states:

**"RadioActive101: Learning through radio, learning for life!"**

Summarising, the RadioActive Model links attested notions of learning and informal learning to real-life situations, that are articulated through the development and application of digital media literacies and 21C skills, that are in turn accredited in ways that are relevant to gaining employment or further education.

Therefore, RadioActive can be conceived as a model for smart cities, providing new learning in new spaces, leading to new cultural and social capital through internet and new media technology. The rest of this paper will describe this project along with its

strikingly positive evaluation so far, which questions, in our digital age, some of the tenets of traditional education, and the boundaries for who can become agents of positive social change within our developing smart cities.

#### **4 Radioactive101? Its Implementation and Evaluation**

*Actively developing, implementing and running the national RadioActive 'stations' (or hubs).* We use the word 'station' circumspectly to describe our national internet radio initiatives, as the traditional concept of a radio station is deliberately questioned by RadioActive's radical approach to educational intervention. Our accreditation approach (of electronic badges) links context specific RadioActive activities to the EU Key Competencies for Lifelong Learning, that also map to the competencies related to smart city learning.

The following section briefly presents the key evaluation findings so far in the context of key dimensions of smart city learning.

*The current Evaluation of RadioActive101*, that is presented in this paper focuses on disenfranchised young people in two countries, the UK and Portugal, that have shown strikingly positive and complementary findings. A study in the UK was conducted first, as a 'prototype' evaluation for the other international partners [6]. This initial study is presented in detail in [7], which comprehensively describes the design, methods (focus groups, interviews and questionnaires) along with the results. It had a representative sample (n=48) of radio-activists (subjects) and showed the delivery of additional impact and value beyond the informal learning of technical and employability skills (see next Section).

The evaluation conducted by partners in Porto (Portugal) was a pilot that used the same methodology as the UK as they were working with the same demographic, so their sample size was smaller (n=12). For the purposes of this paper we will present a synthesis of findings from both studies and then consider the implications.

Firstly, both groups noted the importance of developing greater 'confidence' and 'well-being' within their radio-activists, and that this was a platform for further engagement and skills development. In other words, RadioActive seems not just to be an educational intervention, but there are signs that it is also a positive psychological intervention (in terms of confidence, well-being, dialogue and digital discourse). Secondly, the groups noted wider positive impact than was initially envisaged. Whilst improvements in the informal learning of 21C skills leading to potentially greater employability than was expected, the deeper psychological improvements within individuals and groups alongside broader organisational and social improvements and developments were not initially envisaged to the degree to which they occurred. These two national groups reported developments in improved communication and literacy skills linked to a greater confidence and propensity to use their voices, with

this in turn, leading to more competent, confident and coherent group and organisational thinking and communication. Then, building on these improved communicative, digital and media literacy competencies the youth organisations in particular seemed to, as a 'unit', become better organised and drew greater attention to their activities. Thirdly, the groups noted that RadioActive was also a social and/or cultural, intervention, in the sense that it produces positive changes and impact at broader social and cultural levels beyond the organisations in which it is used, e.g. putting organisations on the cultural map, attracting attention and involvement from external agencies, and increasing very pragmatic dimensions - such as the capacity to attract further funding (that has happened in the UK). Fourthly, in achieving and realising the above, the radio-activist groups felt a clear sense of 'ownership' of their shows, and that they are the central part of RadioActive, and not 'performing for' RadioActive.

A difference noted between these groups, was that the Portuguese young people underlined the benefits of exploiting family structure more, and related to this, engaging an audience that is perceived as a sort of 'outer circle' of potential radio-activists.

Taking these two evaluations of learning, well-being and general experience collectively, we also noted another particularly interesting and positive finding that overarched more specific findings. The radio-activist groups seemed inspired to have ambitious and 'high-minded' thoughts through being a part of the medium of RadioActive radio. It seems that, potentially, the RadioActive model can inspire 'dreams, curiosity and imagination' in a powerful and yet practical way (through devising and performing the radio shows). These ambitious ideas can then motivate the acquisition of conceptual and communication skills, related to collaborative and critical or creative discourses and voices, that are in turn expressed through acquiring concrete employability and technical skills, such as things like team-working and sound recording and editing respectively. In other words, RadioActive seems to have the capacity to promote creativity and inspire expressing 'dreams and ambitions' in ways that can then be realised as concrete and quality radio and media content.

## **5 Conclusions**

RadioActive101 is an interesting example of smart city learning. It has been shown to improve the engagement, well-being and informal learning of disenfranchised urban groups through the innovative application of ICT, in the form of internet radio and related social media. It achieves these through working directly with 'grass-roots' organisations whose activities are articulated within a defined educational and social intervention - of becoming an internet radio hub.

This intervention improves the ‘smartness’ of individuals, groups and communities in various ways. But equally importantly, it breaks down the barriers dictating who can become smart and the active role that previously disenfranchised youth can play in new smart learning communities. These new forms of agency are facilitated through the everyday informal learning activities related to radio production and its live performance.

RadioActive101 influences communities, involves critical and creative meta-cognitive skills and provides a new form of voice. The development and expression of this voice fosters new forms of ‘learning in action’, that is articulated in a strong frame of social justice that can also lead to positive social change. The latter is perhaps the most important point, given the range of possibilities and practices for smart cities; we need to have ideological lenses to guide our designs. RadioActive101 says technology shouldn’t just be marshalled to make cities smarter; it also needs to be used to make them fairer, through giving a voice to those who would otherwise be unheard.

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8. These are: communication in the mother tongue, communication in foreign languages, mathematical competence and basic competences in science and technology, digital competence, learning to learn, social and civic competences, sense of initiative and entrepreneurship, cultural awareness and

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