Reflections on the acceptance and success of RadioActive101: Motivation through problematisation, improved well-being, emancipation and extreme learning

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Abstract One way to tackle the often neglected and also 'slippery' and complex concept of motivation in Technology Enhanced Learning (TEL) is to reflect on what motivational and affective factors led, or may have led, to the acceptance and success of a TEL innovation. This article does this, through presenting the implementation and evaluation of a 'radical' TEL intervention, called RadioActive101, an active international internet radio hub that is an educational intervention which promotes inclusion and informal learning through giving 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: contextualize RadioActive101 from a motivation perspective; describe this project along with its strikingly positive evaluation so far; and, reflect on the motivational and affective factors that are implicated. These motivational factors and forces, as our title indicates, are linked to our design approach (the problematisation), improvements in confidence and well-being, the perceived and actual value of the learning (as emancipation) and the motivation bought about through 'extreme' learning.

MOTIVATION, TEL AND 21C LEARNING

Motivational and affective factors are becoming incresaingly important in Technology Enhanced Learning (TEL) as the field shifts to focus increasingly on more open, independent and informal learning approaches [1]. Arguably, these approaches are more relevant processes to becoming an active citizen or working in the 'Digital Age' where the appropriateness of pre-structured, pre-defined and 'staged' curricula seem often unsuitable and out of date. This is also linked to how the TEL Community has emphasised the need to focus on 21C skills (e.g. The Proceedings of EC-TEL 2012, [1]), which is also similar to the idea of 'Fusion Skills' [2], to meet the changing needs of what is required to become educated and work in the digital age. These skills prioritize, 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[1]. *However, a missing link in how this learning occurs and how these competencies are acquired is the motivational and affective factors that, in certain ways, are the 'engine' that drives the learning process.* But how do we establish the key motivational and affective factors that are at play and complicit in realising 21C learning? Can we design for motivation? Or does motivation come from a complex interplay of relations between emotions, values, personal situations and complex reward relations between the learner and their environment? Arguably, instead of theorising about motivation, or trying to design for it, a more pragmatic approach is to perform a reflective analysis of accepted and successfull TEL innovations, from a motivational perspecive. The

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[1] 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 expression

rest of this paper does this, through treating RadioActive as a nuanced Case Study we: describe a 'radical' TEL innovation (RadioActive101); describe it's successfull adoption and evaluation; and, then reflect on the motivational and affective factors that led, or may have led, to its acceptance and success.

THE RADIOACTIVE MODEL: LINKING INCLUSION, INFORMAL LEARNING AND EMPLOYABILITY

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 skills and 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 [3], Vygotsky's [4] notion of scaffolding and learning within zones of proximal development, socio-technical design [5] and learning through dialogic and dialectic dialogue [6]. 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'[2] the processes in terms of the EU key competencies for Lifelong Learning

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[2] We accept that the notion of 'accrediting' informal learning is a contentious issue, but we use the term deliberately loosely here as a description of a procedure in the learning process, and not as reference to formal accreditation procedures.

that are recognised through a system of electronic badges. ***The way in which 'the badges process' in particular aims to motivate learning*** is given below. These are a relatively recent development within the project that is currently being implemented, but has not yet been evaluated. However, their rationale and design are particularly important from a learning and motivation perspective.

RadioActive101 has designed a set of 39 Mozilla Open Badges (see http://radioactive101.eu/podcasts/radioactiveproject/ActivitiesForBadges_en.html) that are being awarded. These cover technical, journalistic and organisational competencies. Each of these badges is linked to several observable real-life activities that must be completed to earn the respective badge. Activities are evaluated by learning facilitators and experienced senior education practitioners at each site. Also, the whole Badge process, from negotiation to awarding is deliberately open and encourages motivational dialogues between radio-activists, facilitators and senior practitioners. Badges come in Bronze, Silver and Gold to motivate the learner to achieve higher levels. Additionally, the possibility to easily publish Open Badges to Facebook and Twitter has a motivating effect for the many learners which are active in these networks. The modular, specific and profession-oriented character of the RadioActive101 badge system is designed for bottom-up usage in informal learning contexts where the learner decides which badges they are motivated to strive for.

The practical processes that are involved in the RadioActive model which lead to the badge acquisition are: *recruiting and engaging* participants who see how RadioAvtive101 is relevant to their lives; *negotiating the roles* that the radio-activists play, from the range of radio production and broadcast roles; *training and scaffolding* in radio production; *'learning by doing'* of radio production that is facilitated and orchestrated through scaffolding; the *planning and creation* of show content and related promotional materials; *broadcasting of live shows* that are then archived; and, reflective and critical de-briefs on shows linked to planning the next show.

Linking RadioActive101 badges to EU Key Competencies for Lifelong Learning or to the ESCO European Skills Competences, Qualifications and Occupations Framework (https://ec.europa.eu/esco/home) points the learner to the broader context and opens up further perspectives for lifelong learning.

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 covered by RadioActive101 programming. These 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.

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. Its low-cost, extensibility and sustainability, are key factors in the success of the project. It is realised through the application of state-of-the-art thinking in Community Action Research, Socio-technical design (e.g. [4]) and Technology Enhanced Learning (TEL), and is described in detail in Ravenscroft et al. [7].

The implementation thus far is realised through five national hubs (web-sites) and one international hub (web-site) that provides access to the national ones (see radioactive101.eu). Over three hundred and fifty radio-activists have participated thus far, with many of these being constantly involved since their first broadcasts (so over eighteen months in some cases). Five excluded and disenfranchised groups have been participating so far - young people linked to youth organisations, older people (typically over 50 years old), schoolchildren from schools with high drop-out rates, HE students linked to church outreach organisations, and Learning Disabled young people. These radio-activists have engaged in 1,321 hours of preparation and broadcasting, which has led to 27,178 page views and 17,0355 unique web-hits/listeners.

The following section briefly presents the key evaluation findings so far, that are later reflected upon from a motivational perspective.

An early evaluation of RadioActive101 [8], showed its impact during a pilot phase in the UK, that was a four month intervention within a youth organization, that was striking. During this time: the number of new young people attending the centre increased from 5 - 28 (approx. 560% increase[3]); more at-risk young people were retained, increasing from 2 – 10 (approx. 500% increase); and, perhaps most striking was that the number of young people moving from 'NEET (Not in Education, Employment or Training) to EET (in Education, Employment and Training), increased from 3 – 24 (approx. 800% increase). The trend of these improvements also 'accelerated' during the later months as pre-recorded and live shows were broadcast. Although these numbers are relatively small, they are highly significant within a challenging youth work context, and clearly demonstrate the positive social impact of RadioActive101 at one site. Of course, these figures do not represent the outcomes of a well-defined empirical study, that was not possible at this early stage of the project, but both the Director of the youth organization and the youth worker who was centrally involved stated that these improvements were due to 'the radio project' and not other activities within the youth centre. These early findings inspired the ongoing work in the UK (funded by the Nominet Trust) that led to the European version of the project (funded by the EC LLP). The later evaluation of RadioActive Europe is described below, with a focus on disenfranchised young people in the UK and Portugal.

A second evaluation of RadioActive101, working with disenfranchised young people in two countries, the UK and Portugal, have shown strikingly positive and complementary findings. A study in the UK [9], was conducted first, as a 'prototype' evaluation for the other international partners. It had a representative sample (n=48) of learners (or radio-activists as we call them) and showed the delivery of additional impact and value beyond the informal learning of technical and employability skills. Additionally they found im-

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[3] We are aware that the numbers given are relatively small, so the percentages given are considered strongly indicative rather than exact measures.

provements in confidence, self-esteem and general well-being of individuals, groups and organizations involved with the project. Indeed the necessity of, and model for, developing a 'platform' of improved 'well-being' prior to and alongside the informal learning of digital literacy and employability skills was a key preliminary finding of the project. It appears that once our excluded groups developed the confidence and competence to perform activities they previously thought were beyond them, such as the production and broadcasting of live radio content, they seem then empowered, to learn many other things and to develop a number of key competencies[4]. In the UK evaluation, confidence levels were assessed by questionnaires which identified that on average (across different groups) over 50% of respondents felt they were more confident after being involved with RadioActive. The data across a range of mixed methods highlighted the significant impact the project had on the skills and social outcomes for these young people as well as on their well-being. For example the scores on the Rosenberg Self-Esteem Scale identified that all respondents scored in the normal or above normal range except two. The evaluation also highlighted the skills acquisition that participating in the project had brought about.

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, as mentioned earlier in the context of the UK groups, 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 was expected, the deeper psychological improvements within individuals and groups alongside broader organizational 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 organizational thinking and communication. Then, building on these improved communicative, digital and media literacy competencies the youth organizations in particular seemed to, as a 'unit', become better organized 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 organizations in which it is used, e.g. putting organizations 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 realizing the above, the radio-activist groups felt a clear sense of 'ownership' of their shows, and that they are the central part of, and not 'performing for' RadioActive101.

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 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

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[4] Note, this is not apparently selection bias amongst those participating in RadioActive, as youth workers have noted that deciding to participate in other activities does not lead to the same level of improvements in well-being.

seems to have the capacity to inspire expressing 'dreams and ambitions' in ways that can then be realized as concrete and quality radio and media content.

REFLECTIONS FROM A MOTIVATION PERSPECTIVE

Given these particularly positive evaluation findings above – what motivational and affective factors led, or may have led, to the success of RadioActive101?

Firstly, and generally, the central idea and concept – of learning within and through the 'space' of radio - is perceived as *attractive, 'cool' and directly relevant* to the radio-activist learners involved. This was helped by the central idea being tangible, understandable and highly meaningful, e.g. through having dialogue based magazine shows about knife crime, drug abuse, the bullying of learning disabled young people etc. (see http://uk2.radioactive101.eu/broadcast/). It is important to note that this feature was not due to a 'novelty effect' that is often noted when new technologies are introduced. Many of the radio-activists are involved in a series of shows, which span months, and over eighteen months in some cases. For example, some Radio presenters of the UK shows have been involved in the project for over 18 months, since the first live UK broadcast. Indeed, the repeating rhythm and cycle of radio production, over which the radio-activists themselves have control, is itself a motivating feature.

Secondly, the first point above was addressed in terms of design methodology through employing ongoing *problematisation* [10] of the design space. During the early stage of the project meaningful relationships were formed between the learners, their organizations and the design teams. This created the 'dialogue space' to properly articulate the values, challenges and opportunities that were important to the learner organizations and communities prior to designing the form of the radio interventions. Once the learner contexts were comprehensively understood, and trusting collaborative relationships were established, then training and program production began, where the latter was mapped to the substantive issues at play in the lives of the learners.

Thirdly, it appeared, from the interviews and focus groups combined with specific questionnaires, that an initial platform of improved psychological dimensions, such as *confidence and general well-being*, was essential for the informal learning to occur (of the technical, communication and media literacy skills to create and broadcast radio). These psychological dimensions seemed fundamental to promoting learning, and seem to form a part of the essential landscape for motivated learning. For example, if you lack confidence and self-esteem within a learning situation, it is highly unlikely that you will actively engage and learn from that situation.

Fourthly, once the program production began and live broadcasts were performed there became a clear sense of *emancipation* amongst the learners and their organizations. Their confidence and sense of self-worth was boosted because they were expressing their voices, that had been previously unheard, using a medium that was usually associated with formally well educated people of a 'higher' socio-economic status. This sense, of being able to express their voice within an *emancipatory framework* of an internet radio hub linked directly to disenfranchised learners and their organizations, was clearly tangible and inspiring throughout all of the RadioActive101 processes

Fifthly, and related to the above, especially the point about confidence, a lot of the learners experienced *'extreme learning'*, in the sense that they learned to do things that themselves and others previously thought was beyond them. This included things like learning to technically sound engineer and broadcast radio, devise and conduct interviews about controversial topics, produce 'professional' quality sound structures (such as background music that conveyed the emotional tone of interviews). These things were learned precisely because they were catalyzed by the desire to present their 'life issues' on the radio, and were not taught as aspects of some curricula divorced from the learners living contexts. This process also gave rise to perhaps the most exciting educational principle, *that once disenfranchised learners found that they could do what they had previously thought was not possible, they then asked themselves what else they could learn to do.* And related to this, the learners seemed inspired to have ambitious and 'high-minded' thoughts through being a part of the medium of RadioAc-

tive radio. It seems that, potentially, the Radio-Active model can inspire 'dreams, curiosity and imagination' in a powerful and yet practical way (through devising and performing the 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.

Sixthly, although the Badges process has not been formally evaluated yet, there are early signs and anecdotal evidence from those who have received them. This shows that they are motivating and attractive to our radio-activists along the lines we have described earlier. The way in which they 'make tangible' the informal learning of EU key competencies is highly valuable to making the learning processes both transparent and concrete.

CONCLUSIONS: RADIOACTIVE101, MOTIVATION AND 21C LEARNING

This paper accepts that we have presented a focused reflection on the motivational landscape of one particular project, RadioActive101. This is a nuanced Case Study of a complicated situation that necessitated careful thinking at the design stage and then ongoing observations of the TEL innovation in action. Generalizing and applying our findings to other TEL design and implementation situations is future work.

The evaluation of RadioActive101 shows it to be accepted and successful as an ongoing educational intervention promoting the informal learning of disenfranchised groups, in a number of European countries. The motivational and affective factors that are in play during the RadioActive processes are clearly central to this and intertwined with virtually all of the learning activities. These motivational factors however, do not easily breakdown into notions like intrinsic motivation, extrinsic motivation and the like. Instead, the motivational landscape of RadioActive101 demonstrates complex relationships between learner's conceptions of themselves, their actual or perceived social and cultural posi-

tioning, and what is possible and desirable in a world that requires increasingly, what we call 21C skills. It would suggest that studies of motivation and affect, from a TEL perspective, will benefit from being highly investigative rather than prescriptive. It is through a thorough understanding of the learning problem in context, that motivational and affective factors can be emerged, mapped and exploited to promote learning.

RadioActive101 in particular shows that learning activities are motivating because they are both attractive (or cool) and directly relevant to learner's lives, and also when they provide a clear and tangible path to personal and community improvement. In a sense, this is simple, if learning has the perceived and tangible capacity to change our lives for the better - then it will have a good chance of being motivating. Conversely, if the learner doesn't understand why they are learning, and whether it will matter, they are unlikely to be motivated by it. And although this seems amazingly self-evident, the latter occurs far too frequently in traditional educational settings.

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