

Workshop proposal:

Title: Developing Intelligent Decision Support Systems: Societal Challenges and Technical Strategies

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Abstract

The scope of the event will be to present the experience, challenges and inter-disciplinary learning from an ongoing H2020 project, Enliven – Encouraging Lifelong Learning for an Inclusive and Vibrant Europe – as a springboard for an interactive session examining best practice in relation to evaluation of projects in order to provide decision support. The ENLIVEN research combines bounded agency theory from the social sciences with case-based reasoning from computer science (in particular, artificial intelligence). Integrating theoretical and empirical perspectives from social and computer sciences, it focuses on the needs of young adults, and particularly young adults not in employment, education or training (NEETs). The workshop invites contributions from social scientists, computer scientists and practitioners working with community target groups, who are involved in developing and evaluating such projects. The key concept behind the workshop will be that of **praxis**: the bringing together of research, theory and action and this will be explored through an examination of the research methodologies trialled in Enliven and our engagement with local practitioners. The aim is to examine the divide between the lived experience of young people and the policies which target them and how data could meaningfully bridge this gap, fostering greater understanding between policy makers and end users. The workshop will focus on three key questions:

- The lack of adequate data particularly on the impacts of programmes targeted at vulnerable young people means that evaluations of programmes and initiatives are inconsistent, making gathering data and finding commonalities difficult. How could data gathering and/or recording be improved?
- How can we best evaluate projects/programmes to make them meaningful – for policy makers, practitioners and for the young people/target groups who are the recipients of interventions?
- Does evaluation pay sufficient heed to the impact or value of initiatives aimed at target communities/young people on their lives and future work prospects? When dealing with humans (and the diversity of their experiences) missing values are hard to handle in computer-based system as contextual information is not present - how do we engage directly with vulnerable young people and find ways of developing best practice from both quantitative and qualitative data?

The Main Topics and Themes

Primary theme: Inequality and Imbalance

Focus: The mediation of inequalities via computational methods.

Enliven brings together an inter-disciplinary team at the University of Nottingham, from Computer Science and Education, with social science colleagues across Europe, to develop and provide an innovative model and mechanism to support policy debate, policy formation and policy evaluation in lifelong learning, with a focus on young adults from the most disadvantaged backgrounds. Its focus is primarily on social inclusion and it is also about how data can serve knowledge creation for those most excluded in society.

Based on an evidence-based analysis of where, when and why policies have been effective, the project is developing a computer-based intelligent system to improve policy-making, known as an 'Intelligent Decision Information System' (IDSS). The aim of the IDSS is to provide a repository for existing programmes to enable anyone interested in offering programmes for young adults (particularly those from disadvantaged groups - in terms of gender, ethnicity, culture etc) to examine what measures have worked and to identify types of actions which have been previously employed, to enable their assessment against suitable criteria and to examine how similar programmes have worked.

According to a recent youth at risk paper, young people who face multiple disadvantages and barriers in relation to their labour market entry have been particularly adversely affected by the Recession. “The size of this group can be approximated by the number of young people not in employment, education or training (NEET) which in 2014, amounted to 7.1 million young people aged 15-24 across the EU (or a NEET rate of 12.5%), although there are marked country differences”.¹

Bounded agency is a key concept in social sciences which recognises the complex interplay between personal/individual motivation and the broader structural and cultural conditions in which a person has been raised - specifically the institutional and labour market settings and the social support available – and argues that such factors are as important in shaping their decision to engage in lifelong learning/adult education. “People living in specially disadvantaged circumstances are less likely to engage in lifelong learning, in part because they lack the financial resources to fund their studies and believe that there will be few economic benefits. In addition, their life experiences may have reinforced a sense of powerlessness and inability to control risk” (Róbert 2012, p. 88).

Our practitioner focus allows us to examine the coming together of both research paradigms to look at how civil society practitioners, social scientists and computational social scientists can work to share expertise, to create greater knowledge democracy and to address the ontological differences between data expectations at policy maker level and at target community level.

How workshop submissions will be evaluated

We are seeking to invite contributions for attendance at the workshop from people working in either the social sciences or computer science who have an interest in the interface between the two disciplines.

We have invited a parallel European project, Edumap, which we believe is addressing similar issues. Edumap is a Horizon 2020 research project focusing on adult education among young adults at risk of social exclusion. Particular attention is paid to educational policies and practices needed to foster active citizenship among vulnerable young people.

Event Format and timeline

The event will take place over half a day (3 hours).

9.30 – 10.00 - It will commence with a half hour presentation from Sharon Clancy and Claire Palmer from the Enliven project, University of Nottingham, outlined above, who will introduce some of the challenges experienced and key findings in the Enliven project so far. To enable the Nottingham team to examine the needs of end users and to collect and analyse data, the team has been working with an independent community-based practitioner, Richard Hazledine, who is evaluating a project which supports NEET young people in Nottinghamshire and Derbyshire, called Young and Successful. This is a five year programme, managed by Groundwork Greater Nottingham, which is designed to provide support services to develop young peoples’ employability. The programme particularly emphasises the importance of trust building and ongoing communication and the heterogeneity of the young people who are targeted, offering a ‘person centred’ and individualised approach. It recognises that the journey to develop employability is not linear and consistent between individuals and that attempts to standardise interventions have a high probability of failure and can have unintended deleterious outcomes based on erroneous assumptions. The work with Enliven allows for the use of conceptual approaches to using data to help identify the specific needs and situations facing young people. Though our partnership is still in its infancy, we ultimately aim to ‘road test’ data to provide opportunities to spot underlying trends and patterns which contribute to inequalities and bounded agency

¹ Hadjivassiliou, K. (2016) High Level Learning Exchange on *Designing and implementing effective strategies to support the integration and retention in the labour market of youth at risk*, Stockholm (Sweden), 18–19 February 2016, Mutual Learning Programme Thematic Paper, European Commission, Brussels, p.1.

issues which might otherwise be overlooked by commissioners and policy makers. The premise for the partnership work is that, by effectively utilising data, both commissioners and policy makers will be able to significantly enhance their understanding of the needs of NEET young people as a target community.

10.00 – 10.30 - Edumap presentation - Edumap's main research question is allied but slightly different to the focus of Enliven – namely, what policies and practices are needed in the field of adult education to include young adults at risk of social exclusion in active participatory citizenship in Europe? They have, however, faced similar difficulties creating a bridge between policymaker level data collection and the human stories behind the data. Edumap will be presenting on their own experience to date.

10.30 – 11.10

We would like to provide around 2 other participant groups who wish to do so the opportunity to present their work and are allowing two slots of 20 minutes for their contributions:

Slot one - 10.30 – 10.50; Slot two – 10.50 – 11.10

11.10 - 11.20 – Coffee break

Workshop discussion sessions – notes and queries – interactive and open to whole group. Here we will break into smaller groups to identify key points and feed them back to whole group. The Discussion topics for the sessions will cover:

11.20 – 11.40 - Session One

What are the key attributes required to evaluate the usefulness of a social (lifelong learning) programme, and how might this affect the data that should be gathered and recorded? How do we bridge the gap between individualized human story-telling and complex statistical analysis so as to present a meaningful evaluation - for policy makers, practitioners and for the young people/target groups who are the recipients of interventions?

11.40 – 12.00 - Session Two

How can complex evaluation information be presented in an easily understandable format? How could a computer tool aid information visualization and comprehension for policy makers and practitioners?

12.00 – 12.20 - Session Three

How do we best enable comparison of evaluations in order to provide decision support for a policy maker and what information does a policy maker require in order to assess which programmes are most fit for purpose? How can we present diverse programme information in a consistent format so as to allow comparison?

12.20 – 12.30 - Wrap up/plenary – learning and key points from each discussion session – to be circulated afterwards to all attendees. Prospects for future joint work/communication.

The Organising Committee

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