Learning and Becoming in Practice

THE INTERNATIONAL CONFERENCE OF THE LEARNING SCIENCES (ICLS) 2014

PROCEEDINGS VOLUME 1

University of Colorado Boulder
June 23-27, 2014

ICLS2014

www.isls.org/icls2014

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the Learning Sciences**

Learning and Becoming through Making and Participatory Media

Julian Sefton-Green, London School of Economics and Political Science, UK, julian@julianseftongreen.net
Kristiina Kumpulainen, University of Helsinki, Finland, kristiina.kumpulainen@helsinki.fi
Karen Brennan, Harvard University, USA, karen_brennan@gse.harvard.edu
Anna Mikkola, University of Helsinki, Finland, anna.mikkola@helsinki.fi
Kylie Peppler, Indiana University, USA, kpeppler@indiana.edu
Elisabeth 'Lissa' Soep, Youth Radio, USA, lissa@youthradio.org

Abstract: Making and maker communities are at the cutting edge of social and economic innovation; participatory media encompasses civic and interest driven ways to create and communicate. This session explores the different potentialities afforded by making and using digital media for young people across a range of learning contexts (formal, out of school, community based and informal). Focusing on dimensions of identity and agency, presentations will question how engaging in digitally mediated expressive and communicative practices offer ways of learning that challenge conventional school pedagogy and curriculum. It will offer analysis of different ways to support and construct learning communities and explore the significance of young peoples' participation in a range of civic and social contexts.

What Does Making and Participatory Media have to offer Learning Science Research?

Whilst there has always been considerable interest in the diverse ways that young people might use forms of out of school culture to create, express, fabricate and communicate in a range of media (see e.g. Barron, 2006), there seems no doubt that access to forms of digital technology and the restructuring of communication ecologies – particularly the World Wide Web – has galvanised an interest in a whole range of media related phenomena – also within the research community of the Learning Sciences.

The terms *'making'* and *'participatory media'* do not accurately describe simple fields of activity but refer in general to a set of practices that have developed within the curriculum; alongside it as part of an extended offer; more organically within discrete cultural practices; and as part of larger social and community-based movements. In general terms we are talking about informal and out of school participation in virtual, asynchronous practices from commercially mediated computer games to more ad hoc alliances of interest driven forums and peer led engagements when we use the term 'participatory media' (see e.g. Sefton-Green & Soep 2007; Kafai, Fields, & Burke, 2010; Peppler, & Kafai, 2010). The term also encompasses opportunities to develop creative and expressive media either individually or as part of new forms of collective social organisation or indeed within more formal traditional frameworks thus allowing young people to play an active part as producers and authors within the wider culture (see e.g. Jenkins *et al* 2007; Kafai, Peppler, & Chapman, 2009; Halverson, 2013).

The idea of *making* derives from an older craft based invention and innovation culture which at his moment, has a particular focus around certain digital processes – in particular programming, coding and devising - as well as using cheap hardware from radio enabled units to 3-D printing to offer new ways of learning about as well as learning through computers and computerisation (Blikstein, 2013; Honey, & Kanter, 2013) Making also includes crucial aspects of design processes and like participatory media offers a host of entrepreneurial and employment focused opportunities (Resnick, & Rosenbaum, 2013). In this invited symposium we conceptualize making in this broadest sense, and thus do not focus merely on STEM learning to which making is often attached.

Both making and engaging with participatory media create possibilities for youth to simultaneously learn about practices and develop their own identities in relation to these practices. We see developing identity at the core of what it means to learn, and constructing practice-linked identities at the core of the process of becoming and re-envisioning oneself in relation to the world (Nasir, & Hand, 2008; Stern, 2008; Wortham, 2006).

Both sets of practices, however diverse and distributed across social and educational contexts, share a number of common features. They both revolve around the development and maintenance of new kinds of learning communities with their own sets of values and norms and which can be independent of traditionally organised institutional educational activities (Hutchins, 1995; Hughes, Jewson, & Unwin, 2007). They both situate young people, traditionally excluded from wider civic participation and/or economic opportunity very much firmly within a continuum of more public facing practices. They both (in principle) have low barriers to access and thus have significant social implications for forms of engagement that are fundamentally equitable in spirit and in practice. They both appear to offer independent, self motivating forms of engagement in complex and challenging activities whilst situating the young person as a real actor in the world and which typically have

been used both as complex learning experiences in her own right or as significant moments in ladders of progression allowing young people to engage in these activities and use them as ways of switching into more conventional academic progression routes (Ito, et al., 2013). Finally, both sets of practices often appear to develop outside of formal educational institutions, they can be self organising and collaboratively structured, they draw on complex sophisticated and current academic knowledge but in grounded and experiential fashions and they can develop forms of expertise and theoretical complexity that has not yet found its expression within traditional academic disciplines: they imply new kinds of knowledge creation and sharing (Sefton-Green 2013).

Their informal institutional basis is both why and how such activities engage marginalised youth and other socially excluded young people: and this theme often is central to accounts of practice (Nasir, & Hand, 2008; Packer, & Goicoechea, 2000). It also underscores why these topics are of great interest to the Learning Science community as they offer sites of learning that are distinct from but clearly related to learning in schools (Walker, & Nocon, 2007).

Because making and participatory media seem to offer forms of learning that have a particular currency at this point in time and can engage a wide constituency of learners from diverse backgrounds these two 'fields' thus appear to offer important sites for investigating types of learning across our society more generally as well as potentially offering models for change and reform within more formally organised learning institutions.

Framing Questions for a Learning Science Enquiry

The Learning sciences research community lacks knowledge about young people's perspective on learning through making or participatory media. At present, research knowledge is scrarce regarding youths' own conceptions of learning from the process of making and engaging in creative/maker cultures. Moreover, while creative/partoicipatory and maker cultures are theoretically open to all, it is unclear why and how they arouse young people's interest and motivation, and potentially broaden participation among diverse youth. There is a need to know which aspects in these cultures motivate and sustain young people's participation and engagement in learning.

To answer these pressing research themes we need to investigate different maker/participatory media cultures and forums – to find out, for example, what difference does it make if making and production are based on competition and/or collaboration, individual and/or collective practices. And what difference these features have on youth engagement, learning and identity given that Learning Sciences researchers are often interested in uncovering and developing the 'design principles' of different learning environments (Brown, 1992). In general, we know little about youth media practice(s) and their role in the organization of youth learning, sociality, and identity formation, either in or out of school.

Research might then be interested in the *quality and particularity of learning relationships in these practices,* how the *contexts of in – and non-formal sites of learning are constituted, regulated and maintained*, and the development of *new forms of disciplinary knowledge* as they are emerging and where they have not yet been sedimented by the academy (Kumpulainen, & Sefton-Green, 2014). More detailed and specifc questions surrounding these issues include:

- How are norms established and maintained in new and marginal making/creative cultures?
- What is the role of 'community' in these learning communities? How is it conceptualised how is it regulated?
- What kind of knowledge is valued and transferred?
- What is the nature of and balance between simulated and 'real-world' activities?
- In what ways does the expressive/participatory/voluntary drive change conventional power relations?
- How informal learning activities are valued, by whom and with what metrics?
- How can such initiatives be scaled and transferred across to other learning domains or should they? This is especially important, since most of this informal activity occurs in homes and outside of organised contexts; how can we be sure that we are inviting youth from non-dominant communities to participate?
- How does the distributed and networked nature of many of these practices give new insight into how we might reformulate and organise curriculum and schooling, especially to support inclusive engagement and learning?
- How do the new tools and systems of meaning making transform our understanding of the relationship between expert, novice and learning progression?
- How and why young people from socially excluded communities find forms of learning that are purposeful and meaningful?
- How youth's practice-linked identities travel across contexts and what consequences this has for their more general engagement with learning?

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