
Designing Technology for Adolescents: An Ethnographic Video Collage Approach

Tamara Peyton

Information Sciences & Technology
The Pennsylvania State University
University Park, PA 16802
tpeyton@psu.edu

Erika Poole

Information Sciences & Technology
The Pennsylvania State University
University Park, PA 16802
epoole@ist.psu.edu

Abstract

An understanding of adolescents' everyday lives is critical to designing technology that supports their needs. We present Video Collage Ethnography as a novel approach to discovery-oriented research with adolescents. Our approach positions adolescents as reality show directors, providing tools to record, photograph and articulate their daily activities. This approach provides a better understanding of the contextual situations in which they use technology.

Author Keywords

Mobile Health; Adolescents; Participatory Design; Action Research; Vulnerable populations.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction

Adolescence is a pivotal time in human development. In this transitional period, adolescents deal with rapid changes in physical, cognitive, social, and emotional development. While in the US, adolescents are legally considered "children" [9], the needs and capacities of

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ACTION RESEARCH

"Action research does not refer to a methodology that leads to harmonious thought and action but to a problematic practice of coming to know through struggle" [25:3].

It is based on "the proposition that generalized solutions may not fit particular contexts or groups of people and the purpose of inquiry is to find an appropriate solution for the particular dynamics at work in a local situation" [23:5].

adolescents are markedly different than those of younger children. Yet, the interaction design literature does not distinguish between a child (aged 4-12) and an adolescent (aged 12-20).

It is important that adolescents' everyday lives be accounted for in design projects. Design projects should be careful to take into account the specificity of daily life for this age group [9,23]. In this brief workshop paper, we describe our video collage ethnography (VCE) approach to understanding adolescents' everyday lives. We have shaped VCE as part of a project with a major American pediatric hospital, designing mobile interventions that prepare adolescents with chronic health conditions for transition to adult clinics. While the results of our interaction research are geared at mobile health design, both the literature that informs our methodological concerns and our approach to studying with teens are transferable to other design contexts.

Issues and Hurdles

Typical methods of user-centered design, such as interviews and focus groups, may be ineffective when an adult facilitator is paired with adolescent participants. The use of these methods often results in apathy and avoidance [13], silence and obfuscation [1] or confusion and discomfort. Working with adolescents presents an additional set of hurdles, such as defining the compromise of informed consent; figuring out how to empower youth to participate; and understanding power dynamics between youth and their social groups and institutions.

Research approaches

Guided by action research and participatory design principles, our work around mobile health is oriented towards fostering positive personal and clinical change in participants' everyday lives. Action Research advocates respect for the individuals and populations targeted by research activity, and directs investigators to involve researched peoples in the messy, problematic and hopefully fulfilling process of research practice. Participatory Design places research subjects in control of research acts and artifacts, in order to enable them to "transform their own environment" [11:330].

Video Collage Ethnography

Our VCE approach represents an integrative and forward-thinking methodology, informed by best practices from research in the sociology of adolescence, action research, value driven design, participatory design, traditional qualitative methods and the social change sensibilities of community informatics. Because mobile applications are used in a variety of contexts within adolescents' everyday lives, our approach to understanding the lived reality of teens involves participants using mobile devices to make video diaries, take photos, tweet impressions and ideas, and text thoughts and emotions. Our VCE approach draws on the comfort teens feel towards television, film and audio communication.

The video diary approach is inspired by the Participant-Authoring Audiovisual Stories approach from the London School of Economics [12] and by Ito et al.'s work [5]. The photographic approach was synthesized from video perspectivity with teens approach [4] and from travelogue "postcards" work [10,14]. We recognize that

PARTICIPATORY DESIGN:

A moral and pragmatic way of empowering research participants to participate as full members [2]. The "politics of design" are thus shifted to the "practicalities of design" [3], by flattening the research field between researchers and the researched, and by incorporating a concern for technological artifacts from the outset of research action.

the fluency teens may feel with videography and photography may not mean that not all participants are comfortable being on camera. Consequently, we take guidance from [8], who maintain that some teens may be potentially more inspired to share stories via texting or tweeting than other mobile methods. The textual element of our approach is also stimulated by reports on textual support systems for youth chronic care systems [2,3,15].

In the VCE approach, adolescent participants use video and photographic methods to create a week-long documentary of their lives, situating themselves as both the "reality TV" directors and the stars of the show. Participants use either their own mobile devices or inexpensive and easy-to-operate technologies supplied by researchers. Prompted by daily questions and reflections supplied by the research team, participants take 4-8 photographs a day over seven days, which depict a variety of situations that are typical to their life and to the study's concerns. They also record a video diary each evening, ranging from 1-10 minutes, depending on the occurrences in their day. As an optional daily activity, participants are encouraged to send spontaneous texts or tweets to a specified research number. The textual option is intended to allow participants to share impromptu thoughts on the research process, the research topic, or something that happened in their lives.

Using a simple and inexpensive video editor, participants are able to clip and combine video, so that

bits they may accidentally capture on film can be erased before sharing with researchers. To address consent issues around non-participants, the research team blurs out any faces of non-participants in videos or photos, in order that they not be identifiable. The video and photographic data is then shared with participant peer groups in a focus group setting. As a group, they identify video clips, photographs and audio snippets that they feel collectively reflect an aspect of their shared everyday experience as adolescents. The researchers meld the selected clips and images with relevant tweets and texts into a single video. The resulting video collage represents the public face of the data, usable in meetings with project shareholders and in participatory design sessions.

We feel that a key advantage of our collage approach is that researchers do not need to spend intensive amounts of time following around behind participants as they go about their daily lives. The self-empowerment of participants also helps to offset the dampening effect of a researcher presence. Additionally, when there is a marked difference in age, ethnicity or socio-economic status between researchers and participants, not needing to have researchers co-present in the participant's everyday milieu results in research that feel less intrusive. The VCE approach produces richer accounts that feel more authentic to the adolescent participants. The ethnographic detail enables researchers to conduct effective and tailored participatory design sessions which take into account the lived reality of adolescent participants' lives.

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