Teaching and Developing Life Skills

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# Related HCI Literature

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HCI dealt with many related aspects already, building growing evidence that HCI can help in addressing some of the key challenges in teaching and supporting social skills. Still, support for teaching social and emotional skills was not addressed in a systematic way so far.

There are several examples where HCI research aims directly at teaching (or influencing) social skills. Most examples are from the *autism* domain, where a number of studies on using technology to help autistic childen learn particular life skills (often social skills) exist.  In the recent special issue on autism in Personal and Ubiquitous Computing journal, Hayes et al. /cite point out the potential of novel computing technologies, including assistive technologies, social systems and sensing and context aware systems for people with autism spectrum disorder (ASD).

Porayska-Pomsta et al. [2] argue for the importance of interdisciplinarity, and also highlight the methodological challenges that delivering effective socio-cognitive intervention by means of technology presents. The methodological issues are also pointed out by Zarin et al. [3] who presented a table top interface aimed at strengthening the communication and social skills of children with ASD and down syndrome. Escobedo et al. [1] conducted a field test of this kind of intervention and deploeyed a mobile augmented reality system based on a successful social skills curriculum in a school setting with autism and neurotypical students. The application was able to improve the quality and quantity of social interactions among students by facilitating the practise of social skills in real life situations.

other autism literature (in- cluding the projects at MIT and connection to affective computing).  Refs: [, 37, ?]

* + –  The autism technologies are often taken as part of fa- cilitated therapy. Similarly, also other therapeutic ap- proaches have been supported. Some work on CBT – David Coyle’s paper + any links he can provide?; any- thing published from Newcastle on kids/other thera- peutic related stuff?  Ref to follow up [13, 11, 12, 18, ?]
  + –  Systems aiming to influence particular social be- haviour (but not part of any larger interven- tion/teaching course process ... [[Refs to describe later:]] [27, 29, 4, 22, 25, 34, 21, 38, 23]

Good link to gamification as a way to teach children skills [36] – based on an existing curricula.

– Where do we include the military study of games+biofeedback used to help soldiers control and reduce stress level in real-world situations. [7]

* The review of the HCI work above focused on studies di- rectly aiming to support or influence particular life skills. Still, the review of life skills programs in the next section will lead us to argue that there are many other key aspects of life skills programs where HCI knowledge and technol- ogy in general could be very useful, and which are actually already addressed in HCI, only under different heading and emphasis.  To provide the reader with a heads up on [[where this is all going]], we list them below already now, with a few selected references illustrating the relevant work existing in HCI that could be re-appropriated for the setting of life skills.  We will return to them in Section X, providing additional justification of their choice and discuss how they relate to existing work in HCI in much more detail.
* There are four recurrent key aspects/challenges present in most of the training programs:  First is emphasis on *feedback* mainly as the skills to be taught are challenging to track easily by the learners them- selves. Many life skills are based on social and emotional aspects (e.g., emotional awareness or self-control) – we will draw out later how recent advances in sensing tech- nology such as affective computing [refs] or social signals processing [refs] could be useful in these aspects.  Second, connected aspect is *practice* – as life skills need to be taught on procedural basis [[refs, explanation]], practice is an inherent part of practically all training ap- proaches, often including role play. In combination with feedback, HCI could for example help extend the possi- bilities of practice beyond the classroom, or provide novel environments in which practice is possible (multiplayer on- line worlds, games generally, VR etc.). Can link to David’s last study with the therapeutic world, others as well?  Third, *support networks* helping to embed the learning (both as a process as well as the outcomes) into the real world. Examples through social networks both online and offline?  Fourth, generally *engagement and motivation* are needed for the skills to work. HCI has proven to be quite effec- tive in this in various related domains (behavioural change, cCBT, serious gaming), which suggests similar effects might trasfer in life skills course more widely.
* In addition, many of the life skills training programs are based on *facilitated learning* and the ultimate concern is how well do learnt skills transfer from the training into everyday, practical situations. Each of the four previous aspects can help towards this goal.

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# REFERENCES

.1. Escobedo, L., Nguyen, D.H., Boyd, L., et al. MOSOCO. *Proceedings of the 2012 ACM annual conference on Human Factors in Computing Systems - CHI  ’12*, ACM Press (2012), 2589.

2. Porayska-Pomsta, K., Frauenberger, C., Pain, H., et al. Developing technology for autism: an interdisciplinary approach. *Personal and Ubiquitous Computing 16*, 2 (2011), 117–127.

3. Zarin, R. and Fallman, D. Through the troll forest: exploring tabletop interaction design for children with special cognitive needs. *CHI  ’11*, ACM Press (2011), 3319.

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