

Mobile and Intelligent Assistants in Education

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Visions of the future?





https://eandt.theiet.org/content/articles/2015/02/ibmsartificial-brain-to-power-japans-companion-robot/



https://robots4autism.com/news/social-robots-used-to-teach-kids-around-the-world/



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http://consequentialrobotics.com/miro/

Human and artificial intelligence transposed into another setting via a robotic companion - to learn or to help others







Jade Gadd suffers from Ehlers-Danlos syndrome, which can leave her bedbound for weeks at a time.

Now she will be able to carry on her studies thanks to her robotic companion R2-Bee2 attending college and taking part in classes when she is unable to attend. Through her robotic companion she can also be there to help other students.

https://www.itv.com/goodmorningbritain/news/meet-jade-and-her-robot-300817

We should be asking ourselves some big questions. In the near future...



Who (or what) will help learners learn (and teach)?

Who (or what) will help teachers teach (and learn)?







Moving on from effective use of smartphones... ... to intelligent assistants within complex ecosystems for ubiquitous contextual learning

Where does that leave the teachers?

The smartphone has long been a smart assistant for mobile learning



Affording augmentation: "Mobile learning should be viewed as a way to augment the learner..." (Berking et al., 2012)



Access to immediate support: "quick handson training, on-the-go learning, and justin-time performance support... at the moment-of-need" (InfoPro Learning, 2014)

Connecting interactions across contexts: "learning across multiple contexts, through social and content interactions..." (Crompton, 2013)



While augmentation, immediate support and enabling interactions across contexts are all valuable...





...How do we balance technological and human assistance?



MASELTOV

This was an EU FP7 project to develop and evaluate an integrated collection of context-aware smartphone services for immigrants in Europe, 2012-15





A number of integrated tools and context-aware services were offered in the prototype MASELTOV app (with optional interest- and location-based recommendations) The Open University



Goal-setting assistance was designed by a teacher; *connecting interactions across contexts*





My Quests

Learn how MApp tools help you explore the city and communicate with our community

Navigator Quest

Get around the city using MApp tools.

Communicator Quest

Improve your communication skills using MApp tools

Community Member Quest

Share your discoveries and explore the Forum



Pedestrian Navigation

Make 3 journeys

Translation tool

Take 3 photos of signs

The Forum; Think! Reflect!

Post about an experience using these tools on the services thread

Share a transport tip

Share 5 words or phrases discovered on this quest.

Recommend a place to discover!

Complete your profile







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In this project, beacons were placed in 27 locations in Milton Keynes and these triggered dialogue-based learning lessons in an app

http://www.open.ac.uk/blogs/salsa/

Learners could:

- Listen to a dialogue, read the transcript
- Learn vocabulary, idioms, grammar
- Use new language learnt or rehearsed immediately in context
- Get ideas for further activities and practice

The app was used by English language learners from the local Adult Continuing Education Centre, encouraged by their teacher



Maps were used to encourage mobility and interactions in the city and at home





Intelligent assistance can be seen as part of an emerging notion of 'mobile pedagogy'



Elements of mobile pedagogy

- exploring 'intelligent assistance' within the multifaceted role of a teacher

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20120114-17 Teachers by davidwison1949 (2012) https://www.fickr.com/photosidavidwison1942/9916586718 4thbulion (http://circativecommons.org/licenses/by/2.0/) ?hoto Attribution by PhotosForClass.com

Mobile Pedagogy - personalization of learning





Personalization means taking into account learner differences and preferences

...while enabling individuals or groups to reach some goals

Apps can support particular goals (improving pronunciation, developing listening skills, extending vocabulary...)

Adaptive apps learn from, and respond to, learners' behaviours

Report available: http://oro.open.ac.uk/49021

Mobile Pedagogy - designing for mobile learning activities beyond the classroom



Moments of reflection



Diverse outcomes







Time for rehearsal

Personal or group inquiries

Mobile Pedagogy – connecting learning within and beyond the classroom







Developing a Mobile Pedagogy for English Language Teaching







Extending learners' and teachers' practices to encourage new designs

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Guide for teachers http://oro.open.ac.uk/43605

- Understanding mobile pedagogy
- App selection
- Mobile activity designs for in and out-of-class learning





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Types of assistance for mobile language learning

Generic assistance: Motivation, guidance, scaffolding, disability support ...

How can I help you?

More specific to language learning: Confidence coach, habitformation, memory training, social connector, conversational partner... More specific to mobile contexts: Navigation support, environment sensing, multitasking, cultural guru...

> Image: https://zanzidigital.co.uk/conferencesevents/ai-and-robotics-conference/

Toward a vision of an inclusive mobile education: incorporating assistance for individual or group needs of learners across contexts, with technologies and human help in the mix



Tilburg University https://www.youtube.com/watch?v=vImjvKgWtmU



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Concluding thoughts and questions



There are justified concerns about artificial 'intelligent' agents that could replace human tutors and teachers in certain respects.

This prompts us to ask: What are the important roles of a teacher - and of a teacher's assistant?

Teachers want to educate learners how to become more autonomous and need less help. Will intelligent tools do this too?

How should mobile and intelligent assistants be designed to complement and work in harmony with human assistance?







Thank you!

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Kukulska-Hulme, A. (2016). Mobile Assistance in Language Learning: A critical appraisal. In: Palalas, Agnieszka and Ally, Mohamed eds. *The International Handbook of Mobile-Assisted Language Learning*. <u>http://oro.open.ac.uk/47333/</u>

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Gaved, M., Jones, A., Kukulska-Hulme, A., & Scanlon, E. (2012). A citizen-centred approach to education in the smart city: incidental language learning for supporting the inclusion of recent migrants. *International Journal of Digital Literacy and Digital Competence*, 3(4) pp. 50–64. <u>http://oro.open.ac.uk/36648/</u>