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French Digital Kitchen Is a Recipe for Success

ScienceDaily (Oct. 24, 2011) — An innovative kitchen that gives step-by-step cooking instructions in French could spark a revolution in language learning in the UK.

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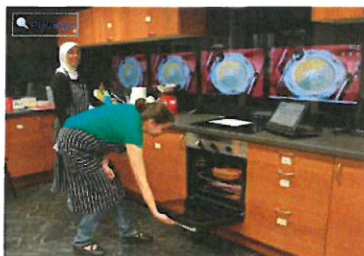
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From pear clafouti to croque monsieur, real-time cooking instructions for preparing each recipe are delivered in a similar way to an in-car sat nav.

Motion sensor-technology on the kitchen equipment and ingredients then help track whether each step has been completed successfully.

Developed by language experts and computer scientists at Newcastle University, the kitchen breaks new ground by taking language learning out of the classroom and combining it with an enjoyable and rewarding real-life activity.

It is supported by the Engineering and Physical Sciences Research Council's Digital Economy Programme.



Students using the French Digital Kitchen at Newcastle University. (Credit: Image courtesy of Newcastle University)

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"This really brings foreign culture to life," said Paul Seedhouse, Professor of Education & Applied Linguistics (pictured). "Students are able to learn aspects of the language while performing a meaningful task and experiencing the cultural aspect of learning to cook a French dish at the same time.

"You never really understand something properly until you do it for yourself, and one of the universal problems of classroom language teaching is that students are often rehearsing, rather than actually using the language.

"Our overriding objective is to make language learning more enjoyable, more effective and, by linking it to the development of another valuable life skill, more educational too."

The kitchen builds on the proven technique of Task-Based Language Learning (TBLL), an effective teaching method where students are prompted by instructions in a foreign language to carry out specified tasks.

But TBLL has never previously involved instruction in a life skill like cooking, which will help to inspire and motivate users and accelerate their learning.

The new kitchen is designed to be installed in schools, universities and even people's homes and could be available commercially by the end of 2012. The first version of the technology was trialled in the catering kitchens of project partner Newcastle College.

A series of portable versions of the kitchen have now been developed which are being taken out on roadshows to schools across the North East.

The Newcastle University team is now exploring routes to commercialisation. An EU grant of €400K has also been obtained to develop English, German, Spanish, Italian, Finnish and Catalan versions. Ultimately, the digital kitchen could be developed for any language/cuisine in the world.

Professor Seedhouse, of the School of Education, Communication and Language Sciences has led the project in conjunction with Professor Patrick Olivier of the School of Computing Science.

"By international standards, the UK is low down on the league table when it comes to learning languages -- a problem that inevitably has an economic impact," he said. "We believe that simultaneously developing skills in a country's language and its cuisine will help reverse the trend."

On a tablet or laptop computer incorporated into the kitchen, the user first selects the French recipe they want to follow. Digital sensors built into utensils, ingredient containers and other equipment then communicate with the computer to make sure the right instructions are given at the right time, or to give feedback to the user if they go wrong.

At any time, the user can ask for an instruction or a piece of information to be repeated, or translated into English, simply by pressing the touch screen.

All grammar and vocabulary has been carefully selected to ensure that using the kitchen adds to basic proficiency in

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understanding French. After a session, the user can see what they have learnt by carrying out a short test on the computer.

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Three portable versions of the kitchen, comprising the computer and a set of sensor-enabled kitchen equipment, are now being prepared. These are to be installed in Newcastle College and at Institut Français, a London-based charity dedicated to teaching the French language.

The 18-month Language Learning in the Wild Project has received total EPSRC funding of nearly £163,000. The project has adapted technology that was initially developed for Newcastle University's Ambient Kitchen, designed to help people with dementia and also developed with EPSRC funding.

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