

## Got the moves?

HOW CAN you verify if an L2 speaker can think in their L2? They have the moves of a native speaker of that language. Languages conceptualise the world in different ways, and the L1's lexico-semantic and morpho-syntactic structures are difficult to completely leave behind when speaking an L2. The study *Getting it Right: Advanced Danish Learners of Italian Acquire Speech and Gesture L2 Forms* by the University of Copenhagen tested the ability of a group of highly advanced Danish learners of Italian to reproduce L2 semantic representation and gesture patterns. It analysed the concept of motion: in verb-framed languages (such as Romance languages) the path is expressed in the verb (think of 'enter') and the manner in other parts of the sentence such as adverbs. In satellite-framed languages (such as English or Danish), the path is usually expressed outside the main verb (think of phrasal verbs) and the manner in the main verb.

When Italian speakers divide path and manner ('the ball entered the room rolling'), they also produce two gestures. When they express path and manner in the main verb and particle construction ('the ball rolled into the room'), they produce one gesture. The study participants' gestures while recounting short cartoon videos showed that they mastered the underlying Italian conceptualisation of motion. ■

# Machines, masters and music

Claudia Civinini presents a round-up of the latest ELT and applied linguistics research

## Mapping the masters market Grammar groove

A TEAM of researchers at the University of Stirling has set out to take the pulse of the ELT masters provision in the UK. With our experience in compiling huge lists of masters, it doesn't come as a surprise that such research would attract our attention.

In a study funded by the British Council, the team has indexed UK ELT masters provision and elicited students' opinions on a range of topics related to their programmes. As well as practical guidance for providers and recruiters, the team hopes to develop a theoretical understanding of the student experience, which has been lacking to date for Tesol students.

The study was articulated over three phases. The first one audited all ELT masters courses in the UK with the help of their programme directors, and will be transformed into a list of 144 courses with details of key features. This will be available on the British Council website in the next couple of months. The second part surveyed 500 students at the start of their courses and 350 at the end, gauging expectations and decision-making processes. The third phase consisted of four focus groups with students – two in England, one in Scotland and one in Northern Ireland.

The team is still going through the data, but they have shared with the *Gazette* some interesting insights emerging from their work.

On the providers' side, the team has some good news. Although the ELT-related masters course provision could be considered overcrowded, the UK has an edge over its US and Australian competitors, as one-year programmes seem to be a pull factor for international students.

However, the student body has changed over the years, and the researchers urge providers to know their students well and make sure they offer what they ask for. Compared to the past, more and more pre-service teachers choose courses that were before populated only by experienced teachers. The team said that students are starting to see ELT masters as an 'entry level qualification' into the teaching profession. This shows also in the modules that students choose: practical and pedagogical mod-



MASTERING THE THEORY Dr Vander Viana, Prof Fiona Copland and Dr David Bowker, part of the research team

ules are the most popular; apart from second language acquisition, only one theoretical module (research methodology) made it

into the top 10.

The study will be published soon on the British Council's website – maybe in time for latefl. ■

MUSICAL ABILITY and language skills are related, a number of studies have suggested. However, a 2014 study sheds some light on which specific aspect of language is correlated to musical ability. A sample of 25 children aged five-to-seven years old performed four standardised tests: rhythm perception, phonological awareness, morpho-syntactic competence (grammar) and non-verbal cognitive ability. After controlling for non-verbal IQ, socioeconomic status and prior musical activities, rhythm perception 'accounted for 48 per cent of the variance in morpho-syntactic competence'.

The authors comment in the discussion that children with higher rhythm discrimination skills may be more sensitive to those variations in speech rhythm that mark 'grammatical events'. ■

Reyna L. Gordon et al. 'Musical rhythm discrimination explains individual differences in grammar skills in children,' *Developmental Science*, 2014; DOI: 10.1111/desc.12230

## Do you speak science?

HAS ENGLISH removed all barriers to the global sharing of knowledge? A paper published in *PLOS Biology*, 'Languages are still a major barrier to global science', thinks otherwise.

Using Google Scholar in sixteen languages, researchers surveyed 75,513 scientific documents on biodiversity conservation published in 2014 and found that 35 per cent of them were not in English, with most of these providing neither an abstract nor a title in English. This means that most of those documents cannot be fully

understood without appropriate foreign language skills, and cannot be found using English keywords. This lack of access to non-English knowledge can cause gaps and biases in the understanding of global issues – and the paper explains that systematic reviews, for example, could be biased, as positive or statistically significant results are more likely to be published in high-impact English language journals. Also, some local and indigenous knowledge could be underrepresented in English, as field practitioners, the paper

reports, often find it challenging to have their work published in English if this is not their first language.

Conversely, the over-representation of English as the lingua franca of science has made scientific knowledge unavailable in local languages, as more and more researchers aim to publish in English. A survey of 44 protected areas in Spain revealed that half of their directors identified languages as a barrier to using scientific knowledge as a source of information for management. ■

The paper puts forward some solutions to these issues: multilingual panels conducting systematic reviews; use of non-English search terms; developing a database of non-English literature relevant to each field; and translation of paper summaries in multiple languages. The authors also suggest that institutions should invest more in outreach activities aimed at overcoming language barriers. ■

See <http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.2000933>

## Sheffield's £1m for natural learning

A RESEARCH team from the University of Sheffield in the UK has been awarded a £1 million grant by the Leverhulme Trust to carry out a major research project with an ambitious aim: make language learning more natural for adults.

Team members Dr Dagmar Divjak and Dr Petar Milin represent expertise from a wide range of fields, from linguistics and psychology to machine learning, and are supported by research software engineer Dr Mike Croucher.

In their project, they aim to reach a deeper understanding of what speakers know about their first language and, with the aid of machine-learning techniques that mimic the way humans learn, find a new way to teach foreign languages to adults. They will concentrate on the two most widely spoken languages in the UK, Polish and English.

The study will be carried out

over five years and will consist of three components.

The first three-year component will gather data on the linguistic knowledge of native speakers. What do speakers know about their own language? This will be conducted through a series of experiments, from cloze (gap-fill) and correction exercises to other lab-based techniques such as eye-tracking.

The second component will focus on machine learning and run parallel to the first. The two components will cross-inform one another. The patterns of learning that emerge from the tests performed by native speakers will inform a series of algorithms. These will be tested by using them to predict the outcome of the experiments from the first component of the study, to try and replicate the way humans learn.

When asked how they would account for the machines' lack of

understanding of pragmatics and semantics, Dr Divjak explained that their previous work had shown that a standard statistical classifier can actually predict as well as a native speaker which of six synonyms to choose, without the semantic knowledge. Dr Milin explained that the learning algorithms they plan to use are all biologically (or psychologically) plausible. For example, one of the core algorithms, which was co-developed by Dr Milin, is similar to conditioning, referring to the famous Pavlov's Dog experiment. Cues such as words that co-occur in a context can allow machines to predict what comes next – in the same way that humans do.

The third and final component, of about three years, will be dedicated to the development of teaching materials based on the patterns that the machines have flagged up as important. The materials will be tested through

classroom intervention studies. The aim is to mirror natural language learning, moving towards replacing explicit grammar instruction with implicit learning. This will be achieved, for example, by exposing students to comprehensible input packed with examples of the pattern they intend to learn. 'We'll try to stay as close as possible to how people learn their first language,' the team said. 'Learning may not be easier, but more natural.'

We take the opportunity to congratulate the team on the achievement and wish them well for their project. Since last year, we have started to interview academics again with our long-time favourite question: what would you do with a £1 million grant? Since then, two research teams have won such grants in ELT – one in the US (January 2017 *Gazette*, we'll interview them soon) and one in Sheffield. We start to sense a pattern here. ■



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