**Institution: University College London**

**Unit of Assessment: 29 – English Language and Literature**

**Title of case study: Creating educational and commercial access to English language resources: using corpora for English language teaching and learning**

**1. Summary of the impact** (indicative maximum 100 words)

We used the research consolidated in the British Component of the International Corpus of English (ICE-GB) to build the *Internet Grammar of English* (IGE), a web-based introductory English grammar; and an app for smartphones and tablets, called the *interactive Grammar of English* (iGE). The app is based on the IGE website, but was fully updated with new materials and exercises. Both resources have had educational and commercial impact as tools for English language teaching, reaching over 1.2 million users in 2008–2013 through the website and over 34,500 through the app.

**2. Underpinning research** (indicative maximum 500 words)

UCL's Survey of English Usage (SEU) research centre carries out research in English Corpus Linguistics, specifically English grammar: instituted in 1959, it was the first centre in Europe to undertake this type of research. Between 1990 and 1997, the SEU created the *British Component of the International Corpus of English* (ICE-GB) (www.ucl.ac.uk/english-usage/projects/ice-gb) [a]. The grammatically analysed collection of language samples on ICE-GB contains a combined total of around 1 million words of written and spoken English, some 600,000 of which are fully parsed (grammatically analysed) examples of spoken English. As one of the largest collections currently available anywhere in the world, the corpus has been, and continues to be, an indispensable data-mining resource for anyone interested in the grammar and linguistic features of both the spoken and written word. Complex and detailed searches of the corpus can be conducted using its innovative and world-leading exploration software ICECUP (International Corpus of English Corpus Utility Program): designed and developed at the SEU, ICECUP was originally released in 1998; version 2 was released in 2006. Using ICECUP, instances of grammatical and lexical constructions can be extracted from the corpus in intelligent ways, and to ascertain linguistic trends including contextual and frequency data for a vast array of linguistic features in actual use. In 2002, SEU researchers published a comprehensive reference to ICE-GB, including the use of ICECUP [b].

The research was funded by a number of grants (ESRC, Leverhulme Trust, and British Sasakawa Foundation), whose Principal Investigators were Professor Sidney Greenbaum, Dr Mark Huckvale and Sean Wallis, all of UCL during the research period.

In 1998 the Survey of English Usage used the grammatical annotation of spoken and written English in ICE-GB to develop the IGE website. The website's enduring popularity led, in 2011, to the provision of funding from UCL Business PLC for the development of the iGE smartphone/ tablet app. This was launched for Apple devices in 2011, an Android version following in 2012. The IGE website was developed in a project funded by the Joint Information Systems Committee (JISC; grant reference JTAP 2/247), whose Principal Investigators were Professor Bas Aarts and Dr Douglas Arnold (University of Essex), with research conducted primarily at the SEU. Alongside Professor Aarts, UCL researchers working on this project included Dr Gerald Nelson (Deputy Director of the SEU, 2004–2007, currently Professor of English Linguistics at Chinese University of Hong Kong), and Justin Buckley (researcher in the SEU, 1995–1998).

The development of the ICE-GB and, subsequently, of the IGE website was both supported by and itself fed into broader research undertaken within UCL's Department of English. This has included the production of numerous reference grammars based on Survey of English Usage corpora, both the ICE-GB corpus and others. Such grammars include Sidney Greenbaum's *Oxford English Grammar* (1996, based on ICE-GB), and Bas Aarts's *Oxford Modern English Grammar* (2011; also based on ICE-GB) [c].

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**3. References to the research** (indicative maximum of six references)

[a] The British Component of the International Corpus of English (ICE-GB). CD-ROM., London: Survey of English Usage, University College London. First release: 1998; second release: 2006. Available on request.

[b] Nelson, Gerald, Wallis, Sean and Aarts, Bas. *Exploring natural language: the British component of the International Corpus of English. 2002*. Varieties of English Around the World series. Amsterdam: John Benjamins. Available on request.

[c] Aarts, Bas. *Oxford modern English grammar*. 2011. Oxford: Oxford University Press. Submitted to REF2.

Key grants underpinning the research included:
ESRC Grant RES-000-23-1286. Awardees: Professor Bas Aarts and Sean Wallis. *Next generation tools for linguistic research in grammatical treebanks.* Period: 1 January 2006 – 31 December 2007. Value: £155,832.83.
ESRC Grant R000222598. Principal Investigator: Mr Sean Wallis, SEU. *Development of an effective grammatical query methodology in the context of a parsed corpus*. 1 March 1998 – 31 January 1999. Value: £37,962.
EPSRC Grant GR/K75033. Principal Investigator: Dr Mark Huckvale. *The development of an automatic parsing system using the ICE Corpus as linguistic knowledge base*. Period: 1 September 1995 – 30 September 1997. Value: £187,264. This project was graded as a 'very significant contribution to the field' with 'good use of resources'.
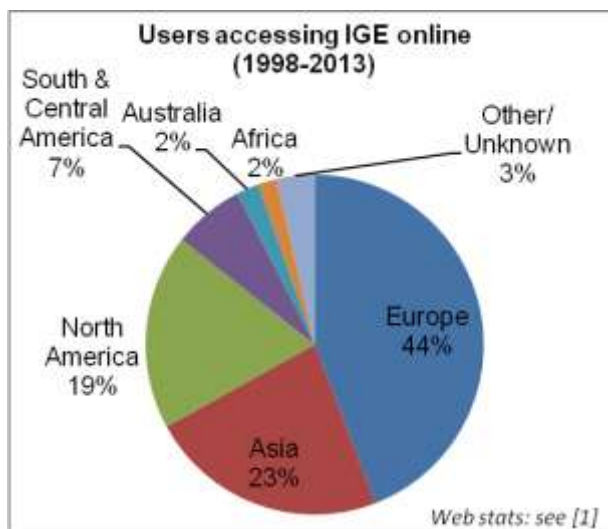Joint Information Systems Committee (JISC) Grant JTAP 2/247. *The Internet Grammar of English*. Principal Investigator: Professor Bas Aarts and Dr Douglas Arnold. Period: 1 August 1996 – 1 August 1998. Value: £125,689

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**4. Details of the impact** (indicative maximum 750 words)

The use of UCL research to develop ICE-GB and later the IGE website has provided an innovative, free resource for English grammar teaching and learning which has profoundly enhanced educational opportunities and standards both within and beyond formal education systems, all around the world. Since its inception in 1998, the IGE website has attracted 3.7m users worldwide; between 2008 and 2013 it reached more than 1.2m users, including a core of over 215,000 repeat users.

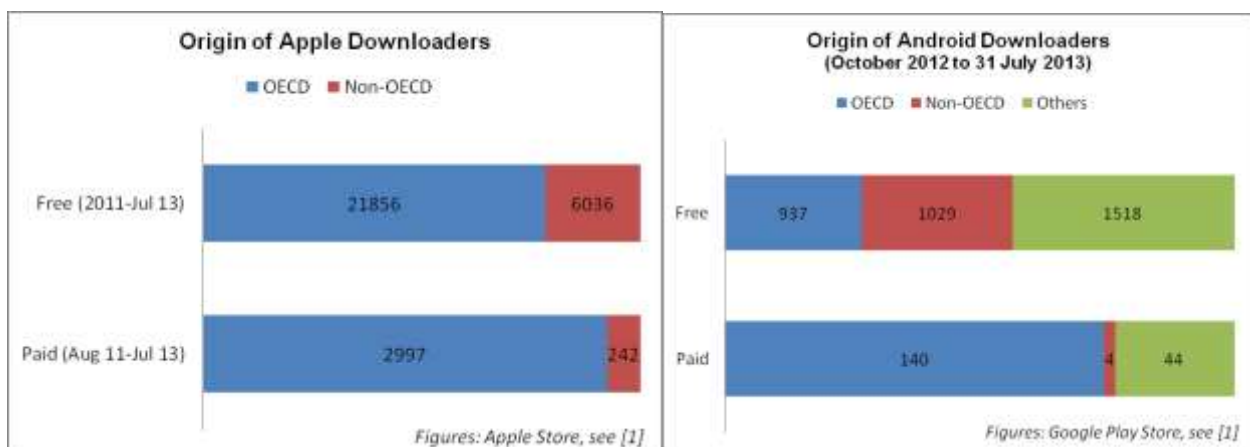**Provision of an educational resource for individual learners around the world**

There is a long tradition of using artificial, invented examples to illustrate grammatical phenomena to learners (e.g. *The cat sat on the mat.*). However, teachers and learners find the artificiality of these examples a barrier to their ability to get to grips with how grammar applies to real life. The IGE website and iGE app remedy this problem by making use of authentic examples sourced from the ICE-GB corpus to help learners acquire real English. The IGE website is freely available and has received over 1.3m hits since 2008 (over 3.7m hits since inception in 1998). These range from 184,046 to 337,561 per year. Visits from unique users range from 149,642 to 298,089 per year while 30-50,000 per year are repeat



Users accessing IGE online (1998-2013)
South & Central America 7%
Australia 2%
Africa 2%
Other/Unknown 3%
North America 19%
Europe 44%
Asia 23%
*Web stats: see [1]*

users, totalling over 215,000 repeat users since 2008. Although overall page hits declined from 2008 to 2011, they were on the rise again through 2012 and the first half of 2013 [1]. The website brings key insights from UCL's long history of research into English grammar use to global users,

as shown by the chart below, which demonstrates its appeal in the world's biggest markets for English learning.

As a direct extension and further development of the IGE website, the iGE app sustains and expands IGE's impacts on beneficiaries in the non-academic educational sector and in the commercial sector by expanding its reach from the web to an easily accessible offline app. The iGE app is available in both free and paid versions. It has been downloaded by over 34,500 users who can now access innovative grammar lessons and exercises any time, anywhere. The paid version has been downloaded by around 3,500 users (Apple version £4.99, Android version £2.99) and the free version by over 31,000 users [1]. The app helps maintain IGE's global reach and user-base: while the paid versions of the app are largely accessed in OECD countries such as the UK, US, and Australia, the free versions allow access to the vast number of people in non-OECD countries who are interested in learning English. Thus, the free version of the Apple app has a significantly higher proportion of downloaders from non-OECD countries, and while downloaders of the paid version are based in only 33 different non-OECD countries, those for the free version come from 74 [1].



*Note:* The Google Store only gives the top ten countries from which apps have been downloaded. Thus 'Others' may include both OECD and non-OECD countries.

In July 2013, the iGE app had a rating of 5 stars (the highest possible rating) on both the Apple App and the Google Play stores. Reviewers described it as: 'Authoritative (as you would expect from UCL), comprehensive, clear and informative…' [2], and noted appreciation for the wide range of materials it included: 'Even in the free version', one reviewer wrote, 'there is both scholarly yet easy to understand content about key aspects of English grammar, as well as very useful exercises…The full glossary included is easy to use and a fantastic reference for students of all levels. It is clear that this is the product of university-level work, made accessible to all kinds of users.' The app has also been positively reviewed elsewhere, including: Linguistics *Research Digest*; *iPad English* ('an essential purchase for iPad-owning English teachers… more advanced EFL/ESL students should also find it useful') [4]; David Crystal's blog ('The model presented is a well-established and influential one, and there are lots of real examples of usage') [5]; *Emphasis Business Writing Trainers*; and the *English Editing* blog, which described it as 'an essential acquisition for iPad-owning English teachers and more advanced learners' and listed iGE in its top 10 apps for learners of English [6]. The most recent review on Google Play remarks: 'This is a great way to refresh grammatical knowledge for adults….The best part is the large number of practice exercises that give great feedback and teach through the errors. … Worth 10x the cost. Thank you for making such a quality learning tool' [3].

**Provision of a new resource supporting English language teaching**
Both the website and the app support individual study, and have provided an important and freely available resource for English language teachers the worldwide. Both are recommended on the BBC's 'Learning English' site, while the IGE website has been recommended for use by English language teachers by, among others: the British Council, Macmillan Dictionaries Online, Guardian Education Online, Palgrave Study Skills, English Teaching in the UK, Intute, BUBL English

Language Education, and UsingEnglish.com. Accordingly, it was noted in the *Guardian* in 2011 that: '[T]his excellent site offers a detailed and clear course in English grammar for undergraduates' [7].

The iGE app has also provided a useful learning resource to accompany professional educational courses both within and beyond the UK. For example, it now comprises a central part of the curriculum for undergraduate modules in English grammar at University of York [8] and at Montclair State University (USA). At MSU, the app is the only required resource for students enrolled in 'Structure of American English', which in turn is a required course for all undergraduates in Linguistics, including those working towards certification in English as a Second Language [9].

English Language Teaching is a huge growing industry worldwide, described in 2006 as second only to North Sea oil in its importance to the British economy [10]. The SEU has contributed to the global market in English teaching through its sale of licences of the IGE website. Since January 2008, 13 such licenses for offline access to the IGE website were purchased by a number of companies and individuals [10].

**5. Sources to corroborate the impact** (indicative maximum of 10 references)

[1] Number of IGE website users: http://bit.ly/171NkMK [Motigo webstats; note that geolocation figures cannot be disaggregated by date, so are for 1998–2013]. Google Play and Apple Store reports available on request.

[2] iTunes App Store, User Comments, accessed July 2013 (available on request).

[3] Google Play Store, User Comments, accessed July 2013 (available on request).

[4] 'iPad English' (April 2012): http://bit.ly/15595L7 [ipadenglish.net].

[5] David Crystal (September 2011): http://bit.ly/1d2lwfC [davidcystal.blogspot.co.uk].

[6] The English Editing Blog (June 2012): http://bit.ly/14xPb7Z [blog.englishtrackers.com].

[7] Educational resources recommending the IGE website include *The Guardian* (2011) http://bit.ly/18HujPd [education.guardian.co.uk].

[8] University of York recommended the IGE webpage (and iGE app) for its Structure of English module: http://bit.ly/19Gpfz6 [york.ac.uk].

[9] An MSU student writes: 'The design of the App allows for an ease of use… [and] acts as a mobile textbook that students have found themselves perusing and interacting with at various times during the course of the day whether in class or not. Students have mentioned challenging themselves with the exercises while in between classes, waiting on lines for various reasons, and any time they may have usually found themselves aimlessly wandering the net. …Aarts and Wallis have constructed a useful and exciting App worthy of further classroom attention.'

For MSU student reviews of the app as a learning resource, see: http://bit.ly/14xRjq3 [ucl.ac.uk] MSU requirements for Linguistics with Teacher Certification 2012: http://bit.ly/18HvldK [montclair.edu]; and for 2011: http://bit.ly/16GJk63 [montclair.edu].

[10] Phillipson, Robert. 'Language Spread : Sprachverbreitung'. *Sociolinguistics*: An international Handbook of the Science of Language and Society. ed. U. Ammon, N. Dittmar, K. J. Mattheier and P. Trudgill. Vol. 3 2.ed. Berlin: Walter de Gruyter GmbH & Co., 2006. See page 2303 (available on request). Licenses sold: corroborated by Administrator, Survey of English Usage.