Institution: 10007857 – Bangor University
Unit of Assessment: UoA 28 Modern Languages and Linguistics
Title of case study: Language policy, diversity and usage

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

Professor David Crystal's world-leading research on language policy, diversity and usage, conducted at Bangor since 2000, has led to a transformation in terms of public and political attitudes, both nationally and internationally, towards the nature and use of language in public and private discourse. In particular, the research has led, since 2008, to an increased awareness of linguistic diversity, changes to governmental policies on language, and the development of the world's first targeted online advertising technology, which today indexes billions of impressions across 11 languages to provide real-time data services in the emerging online advertising world.

2. Underpinning research (indicative maximum 500 words)

The research underpinning this case study is that published by Professor David Crystal (OBE, Fellow of the British Academy, Fellow of the Learned Society of Wales) as Professor of Linguistics between 2000 to 2008 at Bangor University.

Crystal's research focused on three related areas relevant to the impact case study. The first concerned the nature of language usage, the dangers of prescriptivism, and the nature and development of the English language; exemplars include *The Stories of English,* **[3.1]** and *The Fight for English* **[3.2]**. The second area relates the cultural value and significance attached to linguistic diversity, and the negative impact on a culture when a language dies out, represented by his book *Language Death* **[3.3]**. A further aspect of Crystal's research on linguistic diversity focused on new media, as exemplified by *Language and the Internet* **[3.4]**, also submitted in RAE2008. The third area concerns Crystal's development of a semantic content classification schema for improving online search, leading a team of over 40 lexicographers, between 1998 and 2004, to assign lexical senses to knowledge categories **[3.5, 3.6]**. The resulting Global Data Model was patented in the UK in July 2003 (patent no. GB2345771), and in the USA in December 2007 (patent no. 7305415 B2).

Specific findings

Crystal's research has given rise to four sets of specific findings that have resulted in significant impact during the current REF census period:

1. Language usage in communicative contexts, such as in official language domains: explicit guidelines on best practice in terms of communicative factors such as the message being conveyed, selection of lexis and grammatical structures, and avoidance of ambiguities **[3.1, 3.4]**.

2. Language diversity: demonstrating its benefits to communities, cultural life and heritage, adding value to the wider economy, and advocating policies of language maintenance **[3.1-3.4]**.

3. The English language: a focus on significant variation arising from historical contexts and socio-political factors, drawing attention to the dangers of linguistic prescriptivism and an exclusive focus on a single variety of 'standard' English; there is particular emphasis on a global perspective, and to the role of new media in enhancing rather than adversely affecting language **[3.1-3.4]**.

4. Semantic taxonomy **[3.5, 3.6]**: the development of a lexical semantic frame of reference (or 'sense engine') within which an online classification engine can operate. The aim is to ensure that a web page is accurately classified, so that its content can be accessed with confidence by anyone

using the internet, thus improving relevance and accuracy in search, appropriateness in advertising placement, and protection against insensitive or objectionable subject-matter.

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

[3.1] Crystal, David (2005). *The Stories of English*. London: Penguin. Submitted as part of Bangor's RAE2008 submission. A copy of this output is available on request.

[3.2] Crystal, David (2006). The Fight for English: How language pundits ate, shot, and left. Oxford University Press. A copy of this output is available on request.

[3.3] Crystal, David (2000). *Language Death.* Cambridge University Press. Submitted as part of Bangor's RAE2001 submission. A copy of this output is available on request.

[3.4] Crystal, David (2006). *Language and the Internet*. Cambridge University Press, 2nd edn. Submitted as part of Bangor's RAE2008 submission. A copy of this output is available on request.

[3.5] Crystal, David (2008). 'Who pays the piper calls the tune: changing linguistic goals in the service of industry. A case study'. In D Prys and B Williams (eds), *Global Understanding in Multilingual, Multimodal and Multimedia Contexts* (Bangor: Language Technologies Unit) pp. 39-46. A copy of this output is available on request.

[3.6] Crystal, David (2010). Semantic targeting: past, present, and future. Aslib Proceedings, Vol. 62 Iss: 4/5, pp.355 – 365. DOI: 10.1108/00012531011074627. *This is the first systematic application of linguistics to provide a solution to the problem of inappropriate ad placement online.*

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

1. Impact on governmental policies relating to language

Crystal's research has led to far reaching and significant impacts on governmental policies relating to language usage, planning and maintenance, at both national and international level [3.1, 3.2].

During the REF census period, for instance, Crystal's research has impacted on the way UK governmental ministries deploy language in communicating with the general public – part of the so-called "plain English campaign" conducted under the UK Government's Public Administration Select Committee. A public consultation document on the state of Local Government Improvement and Development 2001-2010 entitled "*The state of the language*" [**5.1**] was circulated by the Select Committee. This document relied, in large part, on Crystal's research on language usage, especially his findings relating to official language. He was subsequently invited, as one of four experts, and the only linguist, to appear before the Select Committee at the House of Commons (9th July 2009) [**5.2**]. He provided advice on the issue of official language use, and ways to improve linguistic and communication strategies, by government, local and national, in official communications with the general public. The ensuing report "*Bad Language: The Use and Abuse of Official Language*" (30 Nov. 2009), [**5.3**] urges "politicians and public servants to use language that is clear, honest and understandable" and relies heavily on Crystal's expertise: Crystal is the only one of the expert witnesses consulted cited in the report (56 citations). The ensuing impact on language usage was felt UK-wide throughout the civil service, which was invited to adopt the report's recommendation.

2. Impact on public awareness and greater understanding of the role and value of linguistic diversity in culture and society

Secondly, Crystal's research has significantly enhanced public awareness and understanding of the nature and value of linguistic change and diversity. This impact is evidenced by Crystal's dissemination of his research findings and engagement with the general public. Since 2008, Crystal has published seven books translating his research for a general audience, with a common

theme of the role and value of linguistic diversity. Several of these have been translated, such as *Txting: the gr8 db8* (2008, Oxford: OUP), which appeared in Chinese since (2010). He has made over 100 invited TV/radio appearances to comment and/or report on specific issues relating to language diversity, as well as many invited podcasts. These include a BBC *Newsnight* feature with Jeremy Paxman (first aired Nov 2008); an appearance on BBC4's *It's only a theory* (first aired Oct 2009); and recordings for the British Library. Some of his broadcasts, have subsequently been deposited on YouTube, attracting even greater exposure **[5.4]**. According to YouTube's statistics on typical viewers (by age and gender), the viewers across these YouTube postings are predominantly (35-54 year old) men, and (45-54 year old) women: distinctly above the usual age for university students. Viewing figures (>100,000K **[5.4]**) reveal that viewings have steadily increased over time and that almost every country that has internet access has viewed his presentations, with some of the postings having the highest proportion of hits in Australia, Spain and parts of South America, demonstrating worldwide reach of his work. Further public engagement can be found in news coverage, such as, for example, in the Guardian, BBC and internationally in the Economist, Huffington Post and on Minnesota Public Radio. Crystal's public engagement extends to popular media, such as his play *Living On* (1998) on the plight of minority languages, which has been staged by various amateur dramatic companies worldwide, and as far afield as Yerevan State University in Armenia (2012) **[5.5]**.

From Nov 2010 to April 2011, Crystal co-curated a major exhibition at the British Library in London. *Evolving English: one language, many voices*, was the first time the Library had presented an exhibition on the English language and the planning and selection of content relied heavily on Crystal's research. He provided the audio examples of earlier periods of English used in the exhibition and wrote the accompanying book with the same name (London: British Library, 2010). It proved to be the best-attended winter exhibition the Library had ever put on. Over 10,000 visitors that attended the exhibition contributed a recording of their spoken English to the British Library's Sound Archive, which can still be enjoyed online **[5.6]**.

3. Global commercial impact in internet advertising applications

In 2001, together with David Saunders, Crystal set up his company Crystal Semantics, with the aim of developing lexical products, including the Global Data Model. Uniquely using context, human linguistic intuition and semantic relationships between words, this led ultimately to the development of the patented Sense Engine™, which provides the basis of a suite of targeted online technology solutions that currently lead the field in web-based advertising to make advertisements relevant to the subject of each individual webpage.

In 2006, Crystal sold Crystal Semantics to Ad Pepper Media International – one of the world's largest online advertising technology solutions providers, with a reach of over 4 billion monthly impressions of web and email. Ad Pepper incorporated the Sense Engine as a reference frame into two new web advertising technologies: The iSense system (launched September 2007 in Europe, March 2008 in North America) provided the online advertising community with the world's first targeted advertising system, allowing adverts to load on the most contextually appropriate webpages, and in the most appropriate locations, maximising the potential success of the advert. The precise advert placement facilitated by iSense has transformed the digital advertising industry. It is currently is available in 11 languages, has won numerous awards and is applied by the world's leading brands including Volkswagen, IBM and Philips (more brand references listed on Ad Pepper's website **[5.7]**). In 2009, Ad Pepper launched the SiteScreen system **[5.8, 5.9]** that also incorporates Crystal's Sense Engine, protecting advertisers by identifying potentially objectionable content in various categories and thereby making and end to ads loading next to such content.

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

5.1 Local Government Improvement and Development 2001-2010 "The state of the language" ©: http://webarchive.nationalarchives.gov.uk/20100202110648/http://www.idea.gov.uk/idk/core/page.do?pageId=16268570

"David Crystal is Honorary Professor of Linguistics at Bangor University … gave evidence to the Public Administration Committee on the 'Use and abuse of official language'.

5.2 Oral evidence provided by Crystal and three others (9 July 2009) can be found at: http://www.publications.parliament.uk/pa/cm200809/cmselect/cmpubadm/c743-i/c74302.htm

5.3 Public Administration Select Committee. Bad Language: The Use and Abuse of Official Language. Inquiry (30 Nov. 2009) **"**report urges politicians and public servants to use language that is clear, honest and understandable.**"** http://www.parliament.uk/business/committees/committees-archive/public-administration-select-committee/pascmindyourlang/.

5.4 Selected YouTube postings of media appearances (since 2008) by David Crystal can be found, for example, here:
   David Crystal - How is the internet changing language today? YouTube, > 45K hits (Oct 2013). http://www.youtube.com/watch?v=P2XVdDSJHqY
   David Crystal - Texts and Tweets: myths and realities. > 45K hits (Oct 2013). http://www.youtube.com/watch?v=Boj8VYzDAy8
   David Crystal - Words Words Words. > 21K hits (Oct 2013). http://www.youtube.com/watch?v=Ihx5B8vkaQA

5.5 A report on David Crystal's visit to Yerevan State Linguistic University Bryusov, Armenia, can be found at: http://www.brusov.am/en/news-and-events/937-david-crystals-visit-to-yslu-

5.6 The *Evolving English: One Language, Many Voices* (British Library, 2010) website, can be found at: http://www.bl.uk/learning/news/evolvingenglish.html and a report on its success at: http://www.bl.uk/aboutus/annrep/2010to2011/mainachieve/majorexhib/. Recordings of over 10,000 visitors are available at: http://www.bl.uk/evolvingenglish/mapabout.html

5.7 The iSense website including a list of reference users can be found at: http://www.isense.net/english/references/ and details of the technology at: http://www.isense.net/english/technology/sense-engine/.

5.8 SiteScreen is available at: http://www.sitescreen.com

5.9 A press release on SiteScreen detailing its links to Crystal and iSense can be found at: http://semanticweb.com/ad-pepper-media-expands-in-the-u-s_b232