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The Multilingual Times: Breaking the Language Barrier Between Journalism and Science

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Abstract

This paper recounts and reflects upon the first two years of a project of transdisciplinary online collaboration involving a group of students studying journalism at Dublin Institute of Technology (DIT), who are paired one-to-one with a group studying linguistics at Trinity College Dublin. Taking as its starting point the idea that most journalism urgently needs to improve the accuracy and depth of its science coverage, and the equally urgent idea that scientists need to improve their capacity to communicate clearly to a wide public, the project has seen the students working together to produce an accessibly written blog, The Multilingual Times, reporting on the latest peer-reviewed research in the field of multilingualism. By using a series of Google Drive folders and files to host the collaborative work, the instructors (the paper's co-authors) are able to monitor students' progress, address issues as they arise, and assess the contributions of each student to the finished blog-posts. The project is therefore, in additional to its other pedagogical facets, something of an experiment in using Google Apps and its online synchronous and asynchronous capacities to facilitate collaboration.

Keywords: curricular innovation, journalism education, science communications, multilingualism, transdisciplinary teaching, technology in education

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Introduction: Teaching Problems

The blog entitled "The Multilingual Times" is the public face of a project of transdisciplinary collaboration between a group of students studying journalism at one higher-education institution and another group studying linguistics. Taking as its starting point the idea that most journalism urgently needs to improve the accuracy and depth of its science coverage, and the equally urgent idea that scientists need to improve their capacity to communicate clearly to a wide public, the project has seen the students working together to produce this accessibly written blog, reporting on the latest peer-reviewed research in the field of multilingualism.

This paper, of which Browne is the main author, focuses for the most part on the experience for Dublin Institute of Technology (DIT) students, and thus on the journalism-education side of the experience. Journalism educators are, like others, prone to exhortations that stress "the role of interdisciplinary and external collaboration in journalism education" (Davis, 2013, p. 17). Actual accounts of such collaboration remain in somewhat short supply, and tend to concentrate on the benefits to non-journalistic collaborators – e.g., research from Treise et al. (2016) and older research from Stone et al. (2008). Indeed, one of the most striking things in that recent research from Treise et al. (2016) in Florida is how novel the involvement of journalism students is even in a government-funded grant programme that aims to improving science communication:

> Unique among the more than 60 Clinical Translational Science Awards (CTSAs) across the country, is the involvement of a College of Journalism and Communications (CJC) as a key collaborator and contributor. As such, it is a fundamental ingredient for enhancing patient and community knowledge through

> translational efforts. Indeed, recent health communication research being conducted in the CJC includes empirical studies in infectious disease, body image and eating disorders, obesity, Internet health marketing, consumer perceptions of managed care, medical over-treatment, cardiovascular disease risk in minority groups, and breast cancer information search on the Internet. Consequently, faculty in the CJC and those associated with the Clinical and Translational Science Institute (CTSI) began to engage in and embrace the idea of team science by collaborating on research studies designed to contribute to the knowledge of health-related beliefs, behaviors, and outcomes. (Treise et al., 2016, p. 195)

Kavanagh and Cokley (2011), meanwhile, found that in a collaboration between engineering and journalism students, the journalism students were more likely than their engineering peers to be uncomfortable with a lack of specific direction, indicating that clear briefs, guidance and deadlines are especially important to students in the journalism discipline, a part, indeed, of their professional development.

The Dublin collaboration that I am describing arose as a consequence of an encounter between two academics with problems that needed solving, problems that were both systemic and, in some sense and in one case, specific and urgent. The idea originated with De Angelis, Assistant Professor in Applied Linguistics at Trinity College Dublin, who was concerned that her students needed to be encouraged to communicate with non-specialists. This admirable albeit rather common concern was compounded, crucially, by De Angelis's strong engagement in the field of multilingual studies, and her conviction that failure to communicate the latest thinking in that field was and is doing real damage to people, especially children, who are being raised and/or educated in multilingual or potentially multilingual environments. Dublin Institute of Technology (DIT) journalism lecturer Browne, meanwhile, faced his own set of methodological and pedagogical issues, especially after his

manager told him of a minor crisis that had arisen within his department, as journalism students rebelled against a new and heavily mathematical statistics module.

Thus, to invert the chronological order and place the journalism-education concerns on top, we identified four core problems, general and contingent, which started our collaboration and led us to devise ways of improving students' learning experiences. These four problems may be summarised as follows: a) journalists tend to communicate research-based scientific information inadequately or inaccurately (O'Sullivan, 2008), or, at best, as filler or "infotainment" (Rehman, 2013); b) specific journalism students, third-year undergraduates, were unhappy about a traditional maths-based statistical module, which had proven to be something of failed interdisciplinary experiment; c) students in linguistics have difficulties in communicating their work to non-specialist audiences; and d) multilingualism research is often misunderstood and it is widely subject to concerns and myths that are largely dispelled by recent research.

Why Multilingualism?

It should be said that from the point of view of journalism education, it probably does not appear especially important that the academic partnership is with students of linguistics: it might as easily have been any scientific field. On the other hand, the common concerns of both sets of students, most particularly with the mechanics of communication, are probably productive, a good fit; as is the fact that both sets of students are studying in fields where the disciplinary boundaries are already rather porous, where both research and practice range widely in setting, medium and approach. By coincidence, in 2016 one of the Trinity postgraduate linguistics students was herself a graduate of the undergraduate journalism programme in which her collaborators were studying. It is not an exaggeration to suggest that both fields are in themselves "transdisciplines."

On taking over the teaching of the erstwhile and rejected statistics module and reconfiguring it as a "statistics, science and data journalism" course, Browne determined to devote several weeks of teaching time, and 40 per cent of the (5 European-credit) module assessment, to a collaboration with MSc and PhD students from Trinity College Dublin – volunteers gathered by De Angelis. Each Trinity student would be collaborating with one or two randomly selected DIT students to produce blog posts, essentially news stories based on recent research in the field of multilingualism: for each post, one journal article or book chapter would be read, digested, discussed, then reported upon in approximately 300 words.

These articles and chapters of high-level scientific and sociolinguistic research deal with subjects and use terminology and concepts that were generally far outside the previous study and experience of the journalism students. They had challenging titles such as "Semantic feature analysis targeting verbs in a quadrilingual speaker with aphasia," and "Bilingual cognitive control in language switching: an fMRI study of English-Chinese late bilinguals." If journalism students were going to try to ascend this steep learning curve, it was vital that we give them a good reason to do so.

It was critical, initially, to engage the journalism students with the idea that there was indeed an overarching "story." De Angelis visited DIT to address the class and explain the importance of sharing such research findings in order to dispel the concerns typically associated with having knowledge of multiple languages, showing instead the benefits associated with multiple language learning for children, adults and seniors.

In her presentation she focussed on the history of bilingualism, describing developments from the early 1900s to the present day. She explained how scholars working in the early 20th century shared an interest in human intelligence and were chiefly concerned with the question of whether human intelligence was innate and therefore genetically determined, or whether it could be modified through experience and the external environment

(Hakuta, 1996). Bilingualism at the time was generally regarded as detrimental for the individual, a view that most academics seemed to accept and did not attempt to challenge in any way. It would have been common to read statements such “the use of a foreign language in the home is one of the chief factors in producing mental retardation” (Goodenough, 1926, p. 393), and the association between language knowledge and intelligence was inevitable. Baker and Jones (1998) for instance, report of a lecture given around the same time at the University of Cambridge, where a certain Professor Laurie claimed that “intellectual growth would be not doubled by being bilingual. On the contrary, intelligence would be halved” (Baker & Jones, 1998, p. 63).

Bilingualism was typically associated with a number of problems in individuals which ranged from speech problems to more serious mental disorders, and these views were widespread on both sides of the Atlantic. (Lee, 1996) The United States in particular represented fertile ground for these positions to spread because the country was increasingly worried about the massive influx of immigrants who were reaching American shores and politicians needed to provide some type of response to the general public. Deep racial feelings developed in the population who in turn eagerly accepted conclusions that made little sense (Edwards, 2004). In hindsight, what was happening at the time is now described as an example of manipulation of statistical data for racial reasons (Hakuta, 1996). It was not until the 1960s that these perspectives were seriously challenged and finally confronted with more rigorous scientific work (Peal & Lambert, 1962).

While this shift in thinking was taking place, these early views had already found their way into society and had deeply affected educators who had started to discourage the use of a language other than English in the home (Cantoni, 1997). A general feeling of uneasiness about raising children with two or more languages has remained with us to the present day and continues to influence many parental or educational decisions in society.

Immigration is a reality in our world and schools are now filled with children who speak two or more languages on a daily basis (De Angelis, 2014, 2015). In most countries, schools start the teaching of a second or foreign language at an early age, introducing a third or fourth language to children as young as five or six years of age. Even though we now know that the knowledge of multiple languages is an asset for children, concerns about when to teach a second language and the amount of recommended exposure continue to abound, and both the general public and educators are often unsure as to what to believe is beneficial for children.

In a study conducted among teachers located in three European countries (Austria, Italy, UK) De Angelis (2011) found that a significant number of them held fast to some of the described concerns. This is particularly worrying because most immigrant families would turn to the school teacher for help and advice on language-related matters and many well-meaning teachers may provide unsuitable guidance to families.

Families, educators and professionals working with multilingual children are all in need of being kept up-to-date with current research finding on multilingualism which are all suggesting that fears and concerns about multiple language knowledge and cognitive or language development should be put aside once and for all.

In summary, this was the background presented to DIT students with the intent to motivate them to engage in the project with a definite purpose in mind. By presenting our students with this programme of actual myth-busting, we were doing something like what Davis calls “interdisciplinary research and teaching at its best, presenting students with real-world problems in need of solutions” (Davis, 2013, p. 17). Of course, there was also a wider purpose in encouraging student journalists to think of published scientific and academic research as a potential source of stories, beyond the few, select papers that get mainstream media coverage because their originating institutions or corporate backers are happy to

support them in the form of Public Relations (PR). On this occasion, journalists and scientists would be cooperating to bring stories to a general audience, and make them interesting and relevant to parents, teachers and others, without the help of PR promotions.

What Do Journalism Students "Know"?

Much of the research that students were being asked to understand and write about was nothing if not intimidating, especially to journalism students who were not, by their own testimony, very devoted to science and maths in their previous studies, and who have not in their college-level studies had much exposure to high-level scientific research. There was no way that the whole group could be taught to master all of the diverse theoretical and methodological material that was presented in this recent peer-reviewed linguistics research; instead, the idea of the collaboration was that journalism students would each learn on a need-to-know basis, mastering the material presented to them in the specific research randomly assigned to them, with the help of their collaborator. In order to underline, however, the equality of the collaborating partners and the importance of their contribution as journalism students, significant emphasis was put on the expertise that they themselves bring. In whatever circumstances, indeed, DIT undergraduate students might be expected to have some sense of inferiority when presented with a collaboration with PhD students from Trinity College Dublin, by some distance Ireland's most prestigious institution of higher education. There were issues too of age and status, a group of (almost exclusively) Irish working- and middle-class students, quite monocultural, faced with a highly cosmopolitan collection of relatively advanced researchers: some of the linguistic students' names were almost as challenging as the material itself.

All this was countered in part by presenting the project as something of a cry for help from the linguists – with, as noted above, De Angelis visiting the DIT class rather than vice versa; in the second year of the project, she brought three of the Trinity postgraduate students

with her on that initial visit. The group discussion that followed emphasised the knowledge base and communication skills of journalism as a vital input to the process.

It was emphasised, in this context, that the journalism students had expertise of their own, in turning difficult concepts into news. Those skills include: a sense of, and training in, communication with a general audience; an understanding that they should think of themselves as the first reader, so that they ask the relevant questions about what the story signifies; and a technique for selecting and emphasising important aspects of a story through the classic inverted-pyramid structure of newswriting.

It should also be said that the Trinity researchers were and are generally themselves challenged by the work they were being asked to summarise, peer-reviewed work that was itself something of a step up from anything most of them had yet completed. While the structure of the collaboration generally cast the Trinity linguistics students as the explainers, it was understood that part of the process was to see this role passed along to the journalists. It was emphasised again and again to the latter students, not for the first time but with added relevance given the complexity of the material: don't ever write, or put your name to, what you don't yourself understand.

The Collaboration in Practice

In the first year of the project, each DIT student (of 22) worked on two posts. This was scaled down to one post for each DIT student (26 participants) in the second year of the project. Some Trinity students, fewer in number, worked on as many four posts in the first year, changing to a maximum of two posts in the second year because of shifts in numbers. Browne met with the DIT journalism students every week for about five weeks of work on this project, in a computer lab so that work could be reviewed and revised in class time. This hands-on, face-to-face aspect of the work was, however, somewhat subordinate to

the online collaboration. For the DIT students this was a graded class assignment; the Trinity students, all volunteers, were not so formally organised and were not assessed.

The collaborations were structured one-to-one: each prospective post had one DIT author and one Trinity author. By using a series of Google Drive folders and files to host the collaborative work, each one "owned" (to use the Google terminology) by Browne and shared only with De Angelis and the relevant students, the instructors have been able to monitor students' progress, address issues as they arise, and assess the contributions of each student to the finished blog-posts. Students were not discouraged from meeting face to face or consulting by email, but they were positively encouraged to use Google Docs, and the comment facility within that application, to discuss issues with the blog-posts while they were being drafted. The comments, along with the ease with which the revision history of a document can be viewed within the Google Docs application, mean that there is a rich and easily interpreted textual record of the collaboration that can be consulted both by the instructors and by the students themselves. This comprises a record not only of writing and revision, but also, in the comments, a record of debate and exchange of ideas between the collaborators.

The posts, once completed to deadline by the students, are subject to further editorial work by both instructors before they appear online – the revisions by Browne, as effectively an editor, forming part of the journalism students' assessment feedback. Again Google Docs offers advantages as a teaching tool, allowing those editorial revisions to be easily viewed by students.

Conclusion: Student Feedback

Ultimately the work is a prestigious-looking publication for these students, appearing on a rather serious looking blog hosted by Trinity College Dublin. In this, the second year of the collaboration, the blog has been brightened up with illustrations, sourced or supplied by

the journalism students – taking or finding copyright-appropriate images is itself an increasingly important skill for journalists in the online age.

We are in the early stages of evaluating the collaboration and the only written student feedback thus far has come in the form of DIT students' anonymous end-of-term feedback on the module as a whole, part of the institute's quality-assurance procedure. While linguistics students at Trinity did not provide written feedback as they were all volunteers, whenever they encountered a problem they offered occasional oral feedback to De Angelis. Two main issues were reported by the graduate research students from Trinity. The first related to DIT students' choice of emphasis in the blog entry. DIT students typically chose to focus on one or two aspects of the article assigned, and linguistics students argued this was insufficient to summarise the authors' work. As linguistics MPhil and PhD students, they are used to discussing the literature taking into consideration all the main factors or variables of a study rather than only some of them. It gave them a sense of incompleteness which they found hard to deal with. De Angelis often explained that a blog is meant to provide a general overview, or even a highlight, of a research study rather than a thorough summary of it. Students understood, but still found blog entries imposed too many limitations for dissemination purposes. Another query that often arose related to terminological accuracy. Linguistics students are trained to report linguistics information with accuracy and are not used to describe linguistic phenomena using terminology everyone understands. For example, they felt they were being inaccurate when using "people" instead of "subjects" or when writing "ability to distinguish sounds" instead of "phonemic discrimination." DIT students' feedback, on the other hand, was overwhelmingly positive, and it is striking that despite the high level of participation and drafting by the Trinity students, as evidenced by the Google Docs history, the feedback indicates a strong sense of ownership by the DIT journalism students:

by its nature writing stories is, in the end, their work. You would hardly know in this feedback that these blogposts were jointly bylined. One DIT student wrote:

> A lot of the words in the PDF scientific article for the 1st assignment were hard to understand at first as everyday language wasn't used in most of the writing. Also the graphs in the PDF were difficult to understand the first few times I tried to study them. Eventually, after explanations from both the lecturer and my collaborator on these things, I was able to understand them well.

Another was equally prone to the first-person singular:

> I liked the process in terms of the 1st assignment of using a PDF scientific article to write an article in my own words so to make the PDF simpler and easier to understand for most readers. I learnt the meaning of words I had never really heard of before through analyzing and summarising the article. Also a collaborator from Trinity College from a Linguistics course was helpful to discuss the article and decide what was the most important information. This made it easier to ultimately write my news article.

As a marked assessment, the project is formally more important to the journalism students than to the linguistics students, and this fact, so important in student life and mentality, may be reflected in this sense of ownership. For the (third-year undergraduate) journalism students, for whom this is a curricular project, the process of collaborating for "The Multilingual Times" is a critical introduction to the world of cutting-edge research in a socially relevant but little covered field. It is also an opportunity for them to develop collaborative best-practice and learn to ask the right questions of the right people when working on difficult material as journalists. For the (masters and PhD level) linguistic students, who work on the project as volunteers, it demands a capacity to transcend disciplinary jargon and to learn the conventions of reportorial communication.

For the institutions involved, this innovative scheme is a way to go beyond some of the limitations of field and competency that each experiences: students get the opportunity to develop ideas and skills that are not available within the confines of their own schools.

References

Baker, C. and Jones, S. (1998) *Encyclopedia of Bilingualism and Bilingual Education*. Clevedon: Multilingual Matters.

Cantoni, G. P. (1997) Keeping minority languages alive: the school's responsibility. In J. Reyhner, (Ed.). *Teaching Indigenous Languages.* Flagstaff, AZ: Northern Arizona University.

Davis, C. (2013). Transformation Involves Collaboration. *AEJMC News*, *46*(5), 17–17.

De Angelis, G. (2011). Teachers' Beliefs about the Role of Prior Language Knowledge in Learning and How These Influence Teaching Practices. *International Journal of Multilingualism*, *8*(3), 216–234.

De Angelis, G., Jessner, U. and Kresić, M (2015) *Crosslinguistic influence and crosslinguistic interaction in multilingual language learning*. London: Bloomsbury. Pp.i-x, 1-259.

Edwards, V. (2004) Foundations of bilingualism. In T. K. Bhatia and W. C. Ritchie (eds.) *The Handbook of Bilingualism.* Blackwell Publishing, 7-31.

Goodenough, F. (1926) Racial differences in the intelligence of school children. *Journal of Experimental Psychology*, 9, 388-97.

Hakuta, K. (1986) *Mirror of language*. New York: Basic Books.

Kavanagh, L., & Cokley, J. (2011). A learning collaboration between Engineering and Journalism undergraduate students prompts interdisciplinary behavior. *WSEAS Transactions on Advances in Engineering Education*, *2*(3), 1–22.

Lee, P. (1996) Cognitive development in bilingual children: a case for bilingual instruction in early childhood education. *The Bilingual Research Journal*, 20: 3 &4, 499-522.

O'Sullivan, E. (2008). *Journalism in absentia: reporting medical research in the Irish print media*. Unpublished MA dissertation, Dublin Institute of Technology.

Otwinowska, A & De Angelis, G. (2014) (Eds) *Teaching and learning in multilingual contexts: sociolinguistic and educational perspectives*. Bristol: Multilingual Matters. Pp 1-264.

Peal, E. and Lambert, W. E. (1962) The relation of bilingualism to intelligence. *Psychological Monographs,* 76 (27), 1-23.

Rehman, J. (2013, May 16). The need for critical science journalism. *The Guardian*. Retrieved from http://www.theguardian.com/science/blog/2013/may/16/need-for-critical-science-journalism

Stone, S., Ekman, E., English, D., & Fujimori, S. (2008). Teaching notes: Collaboration among social work and journalism students and faculty: an instructional model. *Journal of Social Work Education*, *44*(1), 163–172.

Treise, D., Baralt, C., Birnbrauer, K., Krieger, J., & Neil, J. (2016, May). Establishing the need for health communication research: best practices model for building transdisciplinary collaborations. *Journal of Applied Communication Research*. http://doi.org/10.1080/00909882.2016.1155729