Knowledge transfer through the ages

*Project Coordinator **Professor Marina Bondi** and her co-collaborators, **Professor Maurizio Gotti**, **Professor Belinda Crawford**, **Professor Giuliana Garzone**, **Professor Rita Salvi** and **Professor Nicholas Brownlees**, explain the importance of knowledge transfer and the role of each research unit*

What is knowledge dissemination (KD) and why is it an important topic of research?

Knowledge dissemination is the transfer of knowledge within and across communication settings. The expectation is that the knowledge will be used by the receiver to change practices or viewpoints or for intellectual growth. Knowledge dissemination is a broad term for both public communication and discourse across specific fields of expertise. The field is highly relevant today to scientists, public institutions and teaching organisations. They need to know the best ways to transfer knowledge to other specialists and to the lay person, for instance on current phenomena like climate change or economic cycles.

Why is KD a central part of innovation in research and institutional change?

The process of research is that of increasing the stock of available knowledge by looking for solutions to problems. This requires research skills, but also the ability to communicate with other specialists both within and outside one's own field of expertise. Furthermore, when trying to effect institutional change, knowledge dissemination is a prerequisite of success.

What role do each of the institutions play in this project?

Professor Marina Bondi, University of Modena: We are investigating web-based media, with the aim of highlighting the features of emerging communication methods and the strategies used to communicate with audiences from different cultural backgrounds and age groups.

Professor Maurizio Gotti, University of Bergamo: Bergamo is investigating how, and to what extent, recent developments in technology have impacted on knowledge dissemination methods in the sciences and humanities. Journals now maintain an online presence and academics themselves are taking full advantage of new opportunities such as multimedia content and social networking platforms. Areas to be studied include academic online publishing, digital legal journals, electronic bulletins between researchers (using the European Organization for Nuclear Research (CERN) as a case study), and the evolution of medical academic posters.

Professor Belinda Crawford, University of Pisa: We are focused on the role of digital audio-visual resources in expert to non-expert knowledge dissemination, with particular attention to how these resources can be leveraged for teaching English for specific purposes in university settings. The sample material will be analysed and used to develop audio-visual materials that use different modes to help learners avoid the problems of understanding specialist jargon in a variety of communicative settings across media.

Professor Giuliana Garzone, University of Milan: Milan is focusing on the dissemination of knowledge regarding sensitive bioethical issues. Bioethics is strongly connected with human rights and fundamental freedoms. Therefore, it is essential that knowledge dissemination in this area is transparent and without ideological manipulation or slant.

Professor Rita Salvi, University of Rome-Sapienza: We are investigating the evolving processes of KD in specialised subject areas, the media employed in the fast changing technological landscape, and the relationship between the two. The fields of study include economics, business, law, politics and medicine, as well as institutional and academic discourse.

Professor Nicholas Brownlees, University of Florence: We aim to complement the analyses provided by the other units with an historical perspective, studying knowledge dissemination in both the public and the private spheres from the 17th century through to the early 20th century. We are focusing on the major themes of geographical discovery, exploration and settlement and our research will compare contemporary reporting on foreign places and cultures with the reporting of these themes in the past.

Guiding today's communicators

Knowledge Dissemination across Media in English is a wide ranging project which aims to map all aspects of knowledge dissemination, both historically and currently, in order to help today's teachers, researchers and public bodies most effectively transfer important information to target audiences

Six Italian universities are collaborating on an ambitious project entitled 'Knowledge Dissemination across Media in English' to quantitatively and qualitatively assess the field of knowledge dissemination, within different disciplines and over time. The three-year project, funded by the Italian Ministry of Education, has the ultimate goal of enabling today's researchers, teachers and other communicators to best transfer information to others, taking into account their audience's particular discipline, level of expertise, age and culture.

THE IMPORTANCE OF KNOWLEDGE TRANSFER

Project Coordinator Professor Marina Bondi from the University of Modena describes knowledge dissemination as 'the transfer of knowledge within and across communication settings'. She goes on to note: 'There is vast agreement on the fact that knowledge plays a key role in economic, social and political processes and is an invaluable resource at all levels of society. At a basic level, the skills and knowledge that individuals acquire will shape the way they live their life, what choices they make and what opportunities they embrace.' The transfer of knowledge is essential to expand the field of scientific research, encourage collaboration, introduce process and behavioural change and create awareness of major socioeconomic issues. Essential to bringing about institutional and organisational change, for example, is good communication of the importance of changes, to the people who are required to effect the change.

However, despite its importance, the language and medium of knowledge transfer is often less than optimum, and as Bondi observes: 'With respect to knowledge dissemination, the digital revolution has added new environments that present both further opportunities and challenges to today's communicators. For instance, Bondi explains: 'Researchers need to make their work available to a wider audience, but also need to be able to select the most reliable web-based media through which to get across their message.' Also, what the author says, and how it is said, will make a great difference to whether the information is read and believed. Subtle issues such as the author's attitude to the reader and whether she or he appears biased or selective in her or his reporting, will influence the reader's response. This is particularly important for public communication, which should be authentic, believable, authoritative and neutral.

The project is taking a '4D' approach to the subject of knowledge dissemination (KD) in that it is examining changes in KD over recent centuries (the 'time' element), throughout different subject areas, and between a range of authors and audiences. Thus, the work will include analysis of both expert to expert and expert to non-expert communication patterns. The former is important since, as Bondi points out, 'we have witnessed a radical change in the world of research – scientific communities are now always orientated to global collaboration'. She further notes that: 'Whilst communication within a closed circle is important, it is communication outside this circle that can spark interdisciplinary research and new perspectives.'

COLLECTING AND ANALYSING COMMUNICATIONS

In linguistics, the term 'genre' is used to describe different vehicles of communication, which could include videos, blogs, journals, novels and other written and verbal material, both digital and paper-based. The study will investigate all commonly used genres and characterise them according to their communicative purpose and also the stance taken by the author. For instance, were they merely reporting a discovery, providing evidence for a notion, trying to make a concept relevant to their audience, or something else? The material will also be analysed in terms of the form of language used. For this task, software tools performing corpus linguistic analysis will be used to detect language patterns and commonly used tropes.

The project will take three approaches: theoretical examination of the literature relating to KD; a descriptive evaluation of knowledge dissemination material; and, finally, an applied analysis of the other two elements. According to Bondi, the project deliverables will include 'the definition of guidelines for document design and translation and the creation of simple teaching and learning materials for university students - specifically for those learning English as a foreign language'. The research will also advise on the appropriate modalities of communication. Bondi cites as an example the role of videos in surgery, stating: 'their importance can hardly be overestimated, and they have enormous potential to continue to spread knowledge on best practices in surgery.'

A vast databank of representative material is currently being assembled by the universities, each of which is concentrating on a different aspect of the research, as described by the six research leaders. The material being collated includes both direct and mediated dissemination media. Mediated information is that which is interpreted and re-presented by a third party, such as occurs in scientific and other forms of journalism. Common principles of material collection have been developed to ensure comparable results between research units and across genres and domains. Where possible, for instance, all communications on a particular study or by a specific author, have been collected. By assembling whole collections of related material, case studies can be developed and used as interpretation and teaching tools.

SHARING BEST PRACTICE
A further important element of the project's methodology is sharing of information and dissemination of the team's own findings and theories. Two major methodological workshops have already been held between the six universities, with distinguished philosophers and sociologists as participants. These workshops set protocols for the analysis of the corpus of material to be gathered by each university. Further

conferences and workshops are planned for 2017 and 2018, which will highlight early results to expert international audiences and invite comment. The events will focus on particular subjects including communication in contested subject areas, the historical language of discovery, exploration and settlement, and knowledge transfer and exchange in academia.

The results of the project are expected to have a broad impact on the way researchers in different fields, and also public institutions, select which communication methods to use when disseminating knowledge and public safety information, and also what form of language and associated visual aids to use. Clearly, what works when communicating within a particular discipline may be different to what will work best for communicating with other subject experts or with laypersons or policymakers.

The digital revolution has opened up enormous opportunities for communication but has also confused authors and audiences alike with its plethora of media types. In addition, the internet is largely open to all, which means that multiple different audiences may be accessing material which was aimed at only one subset of readers. This project's guidelines should help communicators navigate this maze of possibilities. Bondi also thinks innovation policy 'should support open, global and digital dissemination of research results by providing researchers with digital tools'.

To complement this project, Bondi would like to see 'future research on how the digital dimension is changing our reading habits, our cognition and our evaluation skills'. Bondi sees a major challenge in citizens being able to access so much information. 'Readers need to be able to identify, select and assess the reliability of information if we want to make sure that it is knowledge that is being disseminated and not fake news,' she explained.

> *With respect to knowledge dissemination, the digital revolution has added new environments that present both further opportunities and challenges*

Project Insights

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Professor Marina Bondi is Professor of English Linguistics at the University of Modena and Reggio Emilia, and Director of the CLAVIER centre (Corpus and Language Variation in English Research). Bondi has published extensively on the field of genre analysis, EAP and corpus linguistics. Her main interests are academic and corporate discourse, with special attention to language variation across genres, disciplines and cultures. She is author and editor of more than 20 books and has published over one hundred journal articles and book chapters. Bondi has published in international journals such as IEEE Transactions on Professional Communication, Pragmatics, Pragmatics and Society, Text and Talk, Nordic Journal of English Studies, JEAP and ESP.