

NEWS MEDIA RELEASE

Re: The Contribution of Multilingualism to Creativity – Science Report

For: European Year of Creativity & Innovation 2009

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Focus: Knowledge of more than one language (multilingualism) realising potential for enhanced creativity and innovation.

Overview: This macro study examined scientific evidence which reveals benefits of multilingualism for the brain and subsequent human performance.

Multilingualism is the ability of societies, groups and individuals to engage, on a regular basis, with more than one language in their day-to-day lives.

The study reports six major benefits:

- **Enhanced Learning Capacity (The Learning Mind)**

Knowledge of languages can lead to superior memory function, especially short-term 'working' memory. This enables the brain to hold information for longer whilst the thinking processes are engaged. Enhanced memory can have a profound impact on cognitive function. One implication is the positive impact of languages on the learning of other subjects in education.

- **Enhanced Mental Flexibility (The Flexible Mind)**

Seeing the world through 'different lenses' opens up pathways to more options and avenues for thought. Knowledge of more than one language leads to added value which goes beyond language itself, and which enables the development of special multi-competences. This may be significant for developing certain types of skills in thinking and communication (digital literacy) for the Information Age.

- **Enhanced Problem Solving Capability (The Problem-solving Mind)**

Superior performance in problem solving that is cognitively demanding, including abstract thinking skills, higher concept formation skills, and creative hypothesis formulation. These build people's capacity to identify, understand and solve problems.

A key skill in problem solving is the ability to ignore distracting and irrelevant information. This form of inhibitory control, acts like a filter enabling the individual to focus on a given task. This can be considered a 'key competence enabler' when handling information-rich internet environments and gaming.

- **Enhanced Interpersonal Ability (The Interpersonal Mind)**

Multilingualism can enhance interpersonal communication awareness and skills through helping people to better perceive the communicative needs of others; to be more insightful in 'reading' situations through contextual sensitivity; and to develop interactional multi-skills in communication. A superior potential for social communication can be a powerful ingredient in enhancing personal creativity.

- **Expanded Metalinguistic Ability (The Metalinguistic Mind)**

Metalinguistic ability leads to greater understanding of how language is used to achieve specific goals in life, and how to achieve deeper understanding of how language functions. Multilingualism promotes a deeper understanding of 'how to go beyond the words', enriching the use of any language, and helps the person become a more skilled communicator.

- **Reduced Age-related Mental Diminishment (The Ageing Mind)**

Multilingualism is linked to a slowdown of age-related mental diminishment such as certain forms of dementia. It appears to slow down the rate of decline of certain cognitive processes as a person ages, by helping the brain to tolerate pathologies.

The multilingual mind's ability to resist neuropathological damage is considered to be in the range of 2-4 years. Delays in mental decline of even up to six months are viewed as having considerable implications for public health and for society. The link to creativity is the greater potential for cognitive health amongst the older age groups.

Potential Headliners:

Languages nourish the brain

Realising creative potential through languages

Languages lead to greater potential for creativity

Multilingualism leads to enhanced cognitive abilities

Bilinguals have a competitive edge

The multilingual mind differs to the monolingual mind

Multilingualism as a lever to enhance knowledge-based economies

Why knowing languages isn't just about communication

Building competences for the new age through multilingualism

Sharpening the brain

Maintaining the leading edge through languages

Brainwaves and languages

Giving children the cutting edge through language education
The added value of languages

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Science Report Summary (English)

http://eacea.ec.europa.eu/llp/studies/documents/study_on_the_contribution_of_multilingualism_to_creativity/compendium_part_1_en.pdf

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PRESS RELEASE

The Added Value of Knowing Languages

For over 2 000 years people have been asking if knowing and using more than one language has a positive impact on thinking and the brain. In the last year an increasing number of studies from across the world have appeared arguing that the benefits of being able to use more than one language may be considerable.

Now a 2009 European Commission research study 'The contribution of Multilingualism to Creativity' has carried out the first known 'macro' analysis of the available evidence. This involved searching through diverse studies for common findings. Particular attention was given to recent research on the brain.

" Being able to look inside the brain using neuroimaging techniques is now enabling a breakthrough in understanding what happens when a person learns or uses more than one language" comments David Marsh (University of Jyväskylä, Finland) who coordinated the international research team behind the study. "What we found is that research in the neurosciences is increasingly giving hard evidence to support the view that languages really are good for you".

The findings identify six main areas where knowledge of languages can lead to changes in the brain and possibly positive gains for individuals. One of these is superior memory function, especially in the short-term memory which we rely on when thinking, learning and making decisions. "It is obvious that enhanced memory can have a profound impact on cognitive function" says David Marsh, and this may be one reason why the

multilingual shows superior performance in handling complex and demanding problem-solving tasks when compared to monolinguals – they seem to be able to have an advantage in being handling certain thinking processes.”

“The report is particularly interesting in relation to life and work in the information age” observes Gisella Langé (Italy), “because some of the findings relate directly to the types of skills and competences we need in our societies. For example a stronger ability to ignore distracting and irrelevant information, and enhanced mental flexibility are both qualities we need to nurture in this age of information-rich Internet environments.”

Another expert involved, Hugo Baetens Beardsmore (Belgium), comments that the advantages of knowing more than one language may go far beyond being able to use the language itself. “If you ask people why we teach and learn languages they will usually answer that it is to be able to communicate with other people. But what this research reveals is that languages appear to nourish the mind and that the positive benefits go beyond being able to communicate in different languages. This takes us back to why some countries introduced Greek and Latin into the curriculum – amongst other reasons was the belief that learning one of these language helps to sharpen the brain and strengthen the person.”

The report argues that there are six main benefits involving learning in general, complex thinking and creativity, mental flexibility, interpersonal and communication skills, and even a possible delay in the onset of age-related mental diminishment later in life. “The consequences of a 2-4 year delay in the onset of dementia is very significant for individuals, their families and friends, and for national health care services and budgets”, says researcher Peeter Mehisto (UK).

“Languages may be a major competence-builder which we have not adequately recognized”, comments María Jesús Frigols (Spain) “All in all, it is increasingly looking as if monolinguals are at a distinct disadvantage in the modern age, and that if we want to really build a strong and prosperous Europe which can compete with the newly emerging economic giants in Asia and elsewhere, then we need to ensure broad access to successful language learning.”

Dieter Wolff (Germany) observes that the implications of this report have bearing on when and how we teach languages because, quoting Donald Hebb, ‘neurons that fire together, wire together’, and not enough of our language education is spent encouraging children to engage in higher order thinking about meaningful content that fires up the brain. Learning a language strictly as a separate subject in the curriculum does not work as effectively for a broad range of young people as compared to embedding second language learning into other subjects. The same is true of mathematics but then ‘thinking about numbers’ does figure naturally in a lot of school learning, and in real life outside the school. The same may not always be true of languages.

Building on this point, David Marsh adds “We used to assume that differences in the brain would only occur if a person is bi- or trilingual, that is with a very high command of different languages. But now we see research which suggests that changes in the brain’s electrical activity may occur much earlier when we learn an additional language than previously thought. This is inspirational for anyone who has an opportunity to learn, or otherwise keep an additional language active in their lives.”

It is true that many myths are associated with multilingualism and that wild claims have been made over the years relating to what is reported on the brain. This study argues that although we have not yet reached that *Eureka!* moment where we can prove beyond a doubt that there is a direct causal link between languages and specific advantages for multilingual speakers, the evidence is building up fast and looking increasingly positive that there is such a link.

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