### EDUCATIONAL PSYCHOLOGY AND R&D&I: A STRATEGIC ACTION PROGRAMME FOR THE TWENTY-FIRST CENTURY

#### Jesús de la Fuente Arias<sup>1</sup> and Manuel Mariano Vera Martínez<sup>2</sup>

<sup>1</sup>University of Almería. <sup>2</sup>University of Granada

Current academic and professional reality in Psychology has brought the pursuit of undergraduate and graduate qualifications to an important crossroads. The objective of this study is to explain the need to adopt an integrated approach, both academic and professional, in order to construct a single scientific/technological model that underpins work in psychology in today's knowledge-based society. First, through a consideration of the academic and professional changes affecting the field of psychology, we identify the current parameters of Educational Psychology, giving special emphasis to scientific/technological factors. Next, we review the different professional areas of Educational Psychology, and propose R&D&I activity as an element that should represent a common theme running throughout Educational and School Psychology for the 21st century. Finally, we offer examples of the components of this new area of work in Educational Psychology, which link it with the classical fields of the discipline. We conclude by pointing out the need to analyze today's reality, in its scientific-technological, academic and professional aspects, with a view to making R&D&I an integral part of Psychology in general and of Educational Psychology in particular. To this end, we postulate a Strategic Action Programme to meet the challenges facing Psychology as a science and as a profession.

Key words: Research & Development & Innovation, Psychology, Education, Programme, Strategic Action.

La realidad académica y profesional de la Psicología ha convertido el proceso de realización de Grados, Másteres y Doctorados, en una encrucijada importante. El objetivo de este trabajo es justificar la necesidad de asumir un enfoque integrado, académico y profesional, para la construcción de un modelo científico-tecnológico unitario que sustente la acción psicológica en la sociedad del conocimiento del siglo XXI. En primer lugar, partiendo de los cambios académicos y profesionales que afectan al estatus de la Psicología, se fundamentan los parámetros actuales de la Psicología de la Educación, con especial énfasis en los factores científico-tecnológicos. Después, se repasan los ámbitos profesionales de la Psicología de la Educación, para proponer la actividad en I+D+i como elemento transversal de la Psicología (Escolar y Educativa) para el siglo XXI. Finalmente, se ejemplifican los elementos de esta nueva área de trabajo, en el ámbito de la Psicología Educativa. Se concluye enfatizando la necesidad de un análisis de la realidad, científico-tecnológica, académica y profesional actual, para la integración de la I+D+i en el status académico y profesional de la Psicología, en general, y la Psicología Educativa, en particular. Para ello, se postula un Programa de Acción Estratégica que articule los retos de la Psicología, como ciencia y como profesión.

Palabras clave: Investigación + Desarrollo + Innovación, Psicología, Educación, Programa, Acción estratégica.

iven the current scientific-technological, academic and professional reality of Educational Psychology, both as a science and as a professional field, degrees, masters and doctorates in Psychology stand at a significant crossroads. The complexity of this situation is due to a series of interacting factors, which can be summarized as follows:

1) The changes deriving from the process of conver-

gence within the European Higher Education Area (Benítez, Berbén, Justicia, & De la Fuente, 2006; Lucas, 2007) provide a golden opportunity to reconsider, at least, and indeed to reformulate the way we view Psychological Science, as well as its contributions to the field of professional application.

2) The rapidly changing scene in the labour market and systems of production should lead us to at least reappraise the contribution of Educational Psychology to the scientific and technological system, as well its role in the current context of scientific and technological innovation. In the Knowledge-Based Society of the 21st century, in which Europe aims to position

Correspondence: Jesús de la Fuente Arias. Departamento de Psicología Evolutiva y de la Educación. Facultad de Psicología. Universidad de Almería. Carretera de Sacramento s/n. 04120 La Cañada de San Urbano. Almería. España. E-mail: jfuente@ual.es

itself as a leader in the production of knowledge, goods and services, to renounce the spirit of innovation is to lose ground and influence in the labour market (EIS, 2009).

 Finally, the consideration of Psychology as a Health Science means the reconstruction of the relations between this discipline and this professional field with other areas.

In such a context, depending on our capacity for analysis of the scientific-technological, academic and professional reality, the current process of design of Masters and PhD courses can constitute a significant step forward or can merely update, in bureaucratic fashion, the old, obsolete designs of specialization in which academic and professional knowledge, far from forming an integrated whole, were isolated from one another; such designs, while legitimate, are woefully inadequate for tackling the scientific and technological challenges of the 21st century (De la Fuente, 2003). Hence the need, in our view, for a *Unitary Strategic Action Programme* to meet the challenges of Psychology (both general and educational) as a science and as a profession.

#### CURRENT PARAMETERS OF EDUCATIONAL PSYCHOLOGY AS A SCIENCE AND A PROFESSION

An analysis of the current context can provide some clues to the parameters of the Psychology of Education.

#### The legislative context

According to the regulations governing professional practice, although in the qualification awarded on completion of the Masters course there is no specific regulation of professional practice, the qualification that gives access to the Masters ("Degree in Psychology") is indeed regulated by the current legislation.

Royal Decree 1754/1998, of 31st July – which enshrines in Spanish law Directives 95/43/CE and 97/38/CE and modifies the annexes of Royal Decrees 1665/1991 (25th October) and 1396/1995 (4th August) relating to the general system of recognition of qualifications and professional training in EU member states and other signatories of the European Economic Area agreement – in its Annexe A, Sector on Health, maintains the inclusion of "Psychologist" (p. 26928 of BOE<sup>1</sup> nº 188, 7th August 1998) in relation to Regulated Professions in Spain.

Royal Decree 1428/1990, of 26th October, made provision for the official university qualification of Degree in Psychology and set down the General Guidelines for the study programmes leading to its award, in accordance with the 1983 University Reform Act (Ley Orgánica de Reforma Universitaria 11/1983, de 25 de Agosto, LRU). That legislation, still in force at the time, had given the government, following a proposal by the Council of Universities, the responsibility for approving all qualifications with official validity throughout the country, as well as the general guidelines for study programmes leading to their award. Recognized as equivalent to the Degree in Psychology (by Royal Decree 1954/1994, of 30th September, on the Convalidation of awards with those in the catalogue of Official University Qualifications, created by Royal Decree 1497/1987, of 27th November) were the Degree in Philosophy and Sciences of Education, Psychology Section, in all its specializations, and the Degree in Humanities (Filosofía y Letras), Philosophy and Sciences of Education Division, Psychology Section.

In accordance with long-standing Spanish legislation (*Ley 43/1979* and *Ley 2/1974*), the profession of psychologist is open only to those with the following qualifications: Degree or PhD in Psychology; Degree or PhD in Humanities (*Filosofía y Letras*), Psychology Section, and Degree or PhD in Philosophy and Sciences of Education, Psychology Section. Moreover, it is necessary to be a member of one of Spain's regional Psychological Associations (*Colegios Oficiales*).

Thus, access to this profession and its practice is regulated in Spain by these acts of parliament – a sufficient condition for its being considered a "regulated profession", as defined in Directive 2005/36/CE and in Royal Decree 1665/1991, both currently in force. The profession of psychologist, then, is subject to the aforementioned Directive, and this should be taken into account on assimilating that Directive into the Spanish legal system.

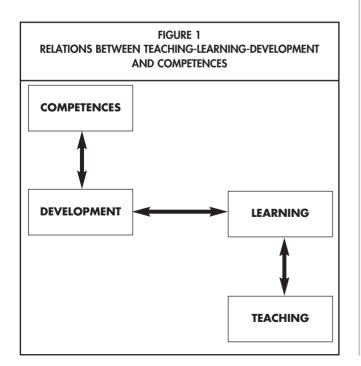
On the basis of the above analysis, any Masters qualification involves specialization in a professional field, but none capacitates the person for the exercise of the profession, for which the Degree in Psychology is an essential requirement.

<sup>&</sup>lt;sup>1</sup> The *Boletín Oficial del Estado* (BOE), Spanish for Official Bulletin of the State, is the official gazette of the Government of Spain. It publishes the laws of the Cortes Generales (the nation's legislature, comprising the Senate and the Congress of Deputies) and the dispositions of the Autonomous Communities. Also, judicial rulings, royal decrees, and decrees of the Council of Ministers are published in it.

#### The epistemological context

The social, economic, cultural and technological changes that occurred over the final decades of the 20th century in all developed societies gave rise to new educational scenarios and contexts, and in turn to new areas and groups for psychological intervention in education. Hence, there are increasing numbers of psychology researchers and professionals that practice and intervene in educational scenarios other than the traditional ones of family and school, that work with groups no longer confined to the age range of children and young people, and that use technological formats other than that of faceto-face.

From a psychoeducational point of view, education can be seen as an overall *process*, realized in actions, involving the design and development of teaching processes that bring about learning processes, in three types of context – formal (institutions of systematized influence), non-formal (family, direct context of nonsystematic influence) and informal (diverse, with asystematic influence) – in such a way that they impact on individuals' developmental process, in its different dimensions (physical, personal, social-moral, cognitive and linguistic), to eventually make them competent in the personal sphere (autonomy and learning), in interactions (with the physical and social environment) and in their communication (from the linguistic, mathematical, information/communications technological and cultural



points of view). This model contributes novel and incontrovertible elements to the analysis of the psychological dimension of educational processes. See Figure 1.

- Development (as a consolidation of abilities) can occur without the individual becoming competent. Being competent implies the involvement of competence sub-levels, namely knowing (concepts and principles), knowing how (executive and control capacities) and wanting to (attitudes, values and habits), and the capacity to apply them to any reallife situation.
- 2) Educational teaching-learning processes take place in formal, non-formal and informal contexts, with different formats and effects. Thus, they are the object of psychoeducational study, assessment and intervention. In fact, although the public authorities direct their efforts to formulating and regulating the first type of context, the greatest impact and effect probably occurs in non-formal and educational contexts, more difficult to legislate for and to regulate.
- 3) The very concept of basic competences in citizens, as recognized by the European Union (Eurydice, 2002), requires educational practices that permit their construction in the three educational contexts mentioned above, and in a coordinated and noncontradictory way. The formal context is, quite simply, insufficient if we take into account that any human learning needs to be established and generalized in other learning contexts. Indeed, depending on the competences in question, it could be considered that basic learning takes place initially in both non-formal and informal contexts.

#### The vocational context

According to the preamble of the 2006 Education Act (*Ley Orgánica de Educación de 3 de Mayo de 2006*, LOE), the concern within Spain's education system to respond to the changing needs and demands of individuals and social groups is nothing new. In article 1 of that Act, on the principles of education, section f, educational and vocational guidance is referred to as a necessary means of achieving a personalized education that prioritizes an integrated combination of knowledge, skills and values. Moreover, article 91.d refers to educational, academic and vocational guidance for students as one of the functions of teachers, in collaboration with specialist services or departments where appropriate.

In the Spanish region of Andalucía, the Order of 15th May 2006 (BOJA<sup>2</sup>, 6th June 2006) – which sets the conditions for the regulation of grants for educational innovation projects in public schools in the Region under the auspices of its Education Department (calling for applications for that same year) – interprets *innovation* as the set of ideas, processes and strategies for the introduction and consolidation of changes in educational practices, and considers it a basic and essential factor for improving the quality of schools (Peralta, 2005).

#### The scientific-technological context

The emergence of this context within the framework of the knowledge-based society of 21st-century Europe, and of concepts such as innovation, technological development and the transfer of knowledge, is unquestionable. The academic and professional macro-competences of generating research + development + innovation must be seen not in isolation, but as a pressing need for any field of knowledge (De la Fuente, 2008). Indeed, it could be said that they are even more important for health science and social science professionals - such as psychologists -, given the scope for their development in this applied professional field. In a study published by the Andalusian Institute of Statistics (Instituto Andaluz de Estadística), the R&D activity of large businesses in the Social Services sector accounted for just 3% (Román, Grávalos, & Palacios, 2001), and this tendency is also found at a national level in Spain (INE, 2008)

## PROFESSIONAL FIELDS ASSOCIATED WITH THE EDUCATIONAL PSYCHOLOGY DISCIPLINE

In the context described, we can consider two broad areas of professional practice, both closely associated with education, for psychologists.

#### The field of School and Academic intervention

School Psychology is the foremost professional and applied field of the Psychology of Education, covering the institutional sphere of education, though strictly speaking it is not confined to that context, but rather includes the study of all those factors somehow involved in processes of the development, learning and teaching of individuals in educational contexts. School Psychology covers, therefore, the analysis, understanding and explanation of all aspects and conditions related to educational processes in school and academic contexts, as well as the corresponding intervention based on them.

As a field of study, it includes psychological assessment, the study of human nature and behaviour, research on all phenomena related to behaviour in formal or institutional educational situations, epidemiological studies, the development of preventive programmes, psychoeducational assessment, and above all, a wide range of intervention procedures, from guidance and counselling (with individuals or groups) to psychoeducational treatment in all its applications and forms.

As a field of work within Psychology, it has considerable potential in terms of academic and professional demand. Looking at the findings published in the White Paper on the Degree in Psychology (2005), despite the fact that in faculties in which there are strictly defined professional syllabuses the figure for students choosing the Clinical Psychology syllabus is 40% to 50%, the percentage that ends up working in this specialized field is considerably smaller. Large numbers of graduates take up employment in organizations and institutions in which, directly or indirectly, they will carry out tasks characteristic of the School Psychologist's work, either separately or in combination with their clinical practice.

Moreover, the social relevance of psychoeducational attention has increased spectacularly in recent decades. Today, the areas in which school psychologists provide services has extended to practically all the professional activities related to education: guidance in the optimization of development, learning and teaching, preventive family counselling for psychological or behavioural problems in childhood and adolescence, attention to students with specific educational support needs, academic and/or vocational course counselling, training processes for teaching staff, and so on.

In sum, there is strong academic and social demand, and the interest of future professionals certainly suggests that psychological training for intervention in educationrelated problems arising in formal contexts will facilitate the access of Psychology graduates to the labour market, making it a form of investment in the future.

<sup>&</sup>lt;sup>2</sup> The Boletín Oficial de la Junta de Andalucía (BOJA) is the official gazette of the Regional Government of Andalucía.

#### The field of Socioeducational intervention

The fundamental purpose of professional intervention by Educational Psychologists in non-formal and informal settings (or socioeducational intervention) is the analysis and solution of the complex educational problems arising in relation to development, learning and teaching in broader and less structured contexts. Specifically, psychoeducational intervention in non-school contexts (non-formal and informal) involves preventive work to develop the skills and competences necessary in individuals, groups and communities for improving their integral development, as well as the teaching/learning processes that take place in this particular setting. Although the complexity of the objectives involved necessitates an interdisciplinary approach, this is an intervention context in which psychologists have played and continue to play a fundamental role.

Psychologists working in the field of educational intervention in non-formal and informal contexts will address what might be called, generically, "broad educational problems". Thus, psychoeducational intervention in non-formal and informal settings is an eminently applied professional field that attempts to offer solutions for educational problems arising in the broadest contexts. Psychoeducational intervention is particularly important at times of profound and rapid transformation, such as those in which we have been living in this country and throughout the world in recent years (e.g., changes in family structure, changing gender roles, relativization of educational criteria and standards, the emergence of new technologies that generate teaching/learning processes which impact on individuals' development, maladaptive violent behaviours among peers, new educational competences, etc.). Therefore, educational psychologists working in non-school contexts must be equipped, both scientifically and professionally, to respond to a diversity of programmes, services and institutions targeting a wide variety of groups and individuals.

Moreover, the social, economic, technological and cultural context in which professionals working in social intervention are involved demands more of them. The educational psychologist specializing in non-formal contexts must be equipped for psychological intervention in new and innovatory educational contexts: Information and Communications Technology contexts, leisure contexts, associative contexts, organizational contexts, and so on – all quite distinct from the school and academic contexts, which are more institutional and formal.

#### R&D&I ACTIVITY AS A UNIVERSAL ELEMENT IN SCHOOL AND EDUCATIONAL PSYCHOLOGY FOR THE TWENTY-FIRST CENTURY

## Professional demands in formal, non-formal and informal contexts

Educational practice should be understood as a continuous process of reflection and analysis with regard to a specific school-related reality and to the teaching and learning processes that take place within it. In this sense, curricular development and educational innovation can be considered as related and complementary aspects.

In the formal context, for example, the autonomy of schools is advocated as a principle that permits, through adaptation of the curriculum, responses tailored to the diversity of the student body and particular school contexts. It is therefore essential to incorporate the relevant processes into the practice of teaching and counselling. The aforementioned Order of 15th May 2006, article 2, and the Order of 21st July 2006 (BOJA 3rd August 2006), article 4, set down the requisite characteristics of educational innovation projects:

- ✓ To propose innovatory changes to the practice of teaching at the school or to school life with a view to improving its results and educational processes, be they of an academic, organizational or functional nature.
- To address problems or issues relevant to one or more schools.
- To promote feedback and teamwork among the teaching staff, as well as their involvement and active participation in the identification, adoption and consolidation of innovatory practices.
- ✓ To consider, at the planning stage, goals and actions in line with the needs and the diversity of learning situations of the students, and on the basis of a realistic assessment of the school's potential resources.
- ✓ To be based on processes of reflection, inquiry and/or research by teaching staff in relation to their own professional practice.
- ✓ To incorporate procedures for assessment of the scope and effectiveness of the changes and of the improvements expected.

Given the essential requirement of a psychoeducational training background for guidance and counselling professionals, which will necessarily involve tasks for promoting innovation, their participation in innovation projects is crucial.

While innovation projects are important, they should be complemented by educational research processes (Education Dept. Order of 15th May 2006, which sets down the bases for promoting educational research in public schools within the Andalucía Region and under the jurisdiction of its Education Department) (BOJA nº 113, 14th June 2006). Educational research has constituted one of the principles underlying the quality and improvement of the education system, as acknowledged in the 1990 General Regulation of the Education System Act (Ley de Ordenación General del Sistema Educativo, 1/1990, de 3 de diciembre, LOGSE), in its article 55.d. Likewise, Decree 110/2003, which regulates the Andalusian System of In-Service Teacher Training, stipulates that the purpose of that System is to promote the professional development of teaching staff and the improvement of educational practice. It is understood that such educational research processes make it possible to undertake the necessary changes in more depth than through innovation processes.

Contributing to the same goal is the II Andalusian In-Service Teacher Training Plan, which sets out to improve teaching practice focusing on higher quality of student learning and to raise awareness in relation to diversity, innovation and rigorous experimentation. The goal of this plan is to offer encouragement and support to groups of teachers involved in educational research and experimentation projects and all types of training initiatives. Educational research is essential to the improvement of professional practice, linking it to the study of teaching-learning processes in the contexts where they occur and with the people involved in them. Research and innovation often go hand in hand, but have different significance. In this sense, research compares the theoretical-practical assumptions underpinning educational action with what actually occurs, facilitating progress in the knowledge, understanding and improvement of the quality of educational processes.

It should also be noted that a considerable percentage of the research carried out in Andalusian universities has involved the participation of teachers and schools at the different educational levels. In this regard, the Order of 15th May 2006, in its article 2.b, refers to Research Training for teachers. Article 4 identifies different forms of research (cases studies, biographies, observation, interviews and research-action), establishing as priority areas a range of case types related to homeroom teaching and guidance activity (gender perspective, instrumental material, information technologies, diversity and cross-cultural aspects, harmonious interaction, teaching methods, and so on).

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## The area of R&D&I in School and Educational Psychology for the twenty-first century

Research + Development + Innovation (R&D&I) activity refers to the connection between three activities, traditionally independent: research focused on basic or applied knowledge or problems (R), the generation or improvement of processes, products and services (D), and innovatory application to real situations or demands (I). The application of this idea, to the formal context – with the possibility of extrapolation to other contexts both nonformal and informal –, can bring about important changes in the classical relationships between science and technology within the context of psychology.

Given these considerations, and based on professional experience, it is necessary to provide psychological guidance and intervention with a new field, cutting across the three traditional ones, which gives consistency to the work of professionals involved in guidance and counselling. Thus, in Andalucía, the Order of 27th July 2006, regulating certain aspects relative to the Plan for Guidance and Homeroom Teaching in Secondary Schools, defines in its article 5 the elements of the Plan for Guidance and Homeroom Teaching: a) Homeroom Teaching; b) Academic and Vocational Guidance, and c) Attention to Diversity.

### CONCLUSIONS: A PROPOSED MODEL AND FUTURE PROSPECTS

The field of R&D&I, which runs through the three classical ones, should constitute a central theme of the academic and professional practice of Psychology in the 21st century. With this in mind, we define the dimensions of R&D&I in School and Educational Psychology. The proposal is structured around the following Areas of Activity, as already put forward by De la Fuente, Justicia and cols. (2007) in Education & Psychology R&D&I (2007a, 2007b).

#### 1) Sub-area of Psychoeducational Research:

Rationale:

This area of work relates to the need for professionals to act as advisers to educational *research practice*, in relation to both processes and products of the Organization and of the Guidance Department itself. This will involve the need for these professionals to be

competent in the process of research decision-making (De la Fuente, 2003, 2006; De la Fuente, Justicia, Casanova, & Trianes, 2005).

Competences:

- To assimilate theoretical models for Applied Research on Processes and Products (Professional Assessment and Intervention) in relation to the Problem in question.
- 2. To carry out literature searches and establish criteria for decision-making in those searches.
- 3. To draw up Research Designs for the real-life situation in question.
- 4. To apply Models of Instruments and Tools for Research and/or Assessment in relation to the problem or situation in question.
- 5. Implementation of the Research and Professional Intervention Design.
- 6. Data Analysis and Processing.
- 7. Drawing of Conclusions.
- 8. Writing of Research Reports.
- 9. Publication/Dissemination of Results.
- 10. Familiarity with recent professional research. *Services and tools:* 
  - 1. Sub-area of Homeroom Teaching: Assessment, research and improvement in relation to processes of development, learning and teaching.
  - 2. Sub-area of Attention to Diversity and Specific Needs for Support: Assessment and research in relation to developmental and learning disabilities.
  - 3. Sub-area of Academic and Vocational Guidance: Assessment and Research in relation to Academic and Professional Guidance.

Examples of Activity:

- 1. Research-based approach to the identification and assessment of psychoeducational problems and the corresponding intervention.
- 2. Structuring and implementation of Applied Research Projects.
- 3. Application for research funding in collaboration with Researchers and Universities.
- Application of relevant Scientific-Technological advances in the area of knowledge, based on the evidence of regional, national and international R&D Projects.
- 5. Presentation of Scientific-Professional reports to the relevant community, institution or organization, providing evidence of the effects and cost-effectiveness of the actions carried out.

#### 2) Sub-area of Psychoeducational Development: Rationale:

This area involves reconceptualzing the psychoeducational task, as an essential agent of quality and scientific-technological development of new products for guidance work, especially those concerning assessment and psychopedagogical intervention. Of particular relevance in this context is the development of Information and Communications Technologies (ICTs), as applied to professional practice.

Competences:

- 1. To detect needs in educational practice and needs for the advisory role itself.
- To develop models and tools or assimilate those already existing – backed up by evidence from professional practice and Research Projects that are effective and provide responses to relevant problems found in the course of professional practice.
- To generate a synergy between scientific-technological development in the university context and its application to professional knowledge and problems.
- To propose tools and technological developments in ICT formats for responding to psychopedagogical problems.
- 5. To create R&D consortia based on collaboration between universities and professional institutions.

Services and tools:

- 1. Sub-area of Homeroom Teaching: Development and validation of Programs and Tools for Assessment and Intervention in processes of development, learning and teaching.
- 2. Sub-area of Attention to Diversity and Specific Needs for Support: Development and validation of Programs and Tools for Assessment and Intervention in developmental and learning disabilities.
- 3. Sub-area of Academic and Vocational Guidance: Development and validation of Programs and Tools for Assessment and Intervention in Academic and Professional Guidance.

Examples of Activity:

- 1. To propose the development of utilities to scientific-technological organizations and businesses in the sector.
- 2. To participate in the development and validation of such utilities.

- To disseminate a culture of scientific-technological enterprise among professionals working in education and in psychoeducational and psychopedagogical guidance.
- To collaborate in the design and development of new applications and knowledge in relation to ICTs, within the field of education and counselling.
- 5. To create new tools for assessment, intervention and the organization of information and knowledge in this professional field.
- 3) Sub-area of Psychoeducational Innovation: Rationale:

This professional field concerns the essential dynamizing and innovatory role of the Educational Guidance Dept. in any area of educational practice. It involves the improvement of quality and educational action at all levels, especially those corresponding to intervention for the prevention of problems or the promotion of educational innovation experiences.

Competences:

- 1. To innovate in educational and psychopedagogical practice, on the basis of experience and of researched and validated tools.
- 2. To promote innovation as a tool for professional and personal growth, generating scientific-technological settings in the professional field.
- 3. To integrate and generalize ICTs within the field of education and psychopedagogical counselling and guidance.

Services and tools:

- 1. Sub-area of Homeroom Teaching: Innovation in the use of ICTs, tools for assessment and programs for intervention in processes of development, learning and teaching.
- 2. Sub-area of Attention to Diversity and Specific Needs for Support: Innovation in the use of ICTs, tools for assessment and programs for intervention in developmental and learning disabilities.
- 3. Sub-area of Academic and Vocational Guidance: Innovation in the use of ICTs, tools for assessment and programs for intervention in Academic and Professional Guidance.

Examples of Activity:

- 1. To innovate in the use of ICTs in the different fields of guidance.
- 2. To set up virtual communities.
- 3. To incorporate ICTs into the management of Guidance Dept. processes and products.

4. To work online with academic and professional counsellors and experts.

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5. To innovate in everyday psychoeducational and psychopedagogical practice.

The incorporation of the *scientific-technological philosophy of R&D&I* into Psychology in general, and the field of School and Educational Psychology in particular, as a new Strategic Agenda, would give an unprecedented boost to this professional field, especially in relation to the functions and activities of School Psychologists and Educational Psychologists. Moreover, it would have a unique and positive effect on the quest for professional excellence, the prestige and the scientific-technological foundations of psychoeducational counselling and guidance, bringing them more into line with current European trends and philosophy in the area of scientific-technological innovation.

If we succeed in understanding – and assimilating – the chain linking R (researchers) & D (technologists and professionals) & I (businesses and applied practice) within our professional field, the Psychology of the twenty-first century shall have the place it deserves in relation to the fields of Health and Education.

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#### REFERENCES

- Benítez, J.L., Berbén, A.B.G, Justicia, F., & De la Fuente, J. (2006). La Universidad ante el reto del Espacio Europeo de Educación Superior: Investigaciones Recientes [The university facing the challenge of the European Higher Education Area: Recent research]. Madrid: EOS
- Education & Psychology I+D+i (2007a). Servicios, Herramientas y Acciones para el Asesoramiento Psicoeducativo y Psicopedagógico. Empresa Spin-Off de Base Tecnológica [Services, tools and actions for psychoeducational and psychopedagogical guidance. A technology-based spin-off business]. Universidad de Almería. www.education-psychology.com.
- Education & Psychology I+D+i (2007b). Empresas con pedigrí [Businesses with pedigree]. Andalucía Investiga, 43, 4-23.

- Eurydice (2002). *Key competencies in Europe*. Brussels: Office of the European Union.
- Decreto 110/2003, de 22 de abril, por el que se regula el *Sistema Andaluz de Formación Permanente del profesorado* [Decree for the regulation of the Andalusian Andalusian System of In-Service Teacher Training] (BOJA 25-4-03)
- De la Fuente, J. (2003). ¿Por qué los alumnos no construyen un conocimiento académico y profesional integrado? Reflexiones para una investigación necesaria [Why do students not construct integrated academic and professional knowledge? Reflections for necessary research]. *Papeles del Psicólogo, 86, 37-52*.
- De la Fuente, J. (2005). La construcción de las competencias-académico-profesionales para el asesoramiento educativo [The construction of academic/professional competencies for educational advising]. In C. Monereo & J.I. Pozo (Eds.), La práctica del asesoramiento educativo a examen [The practice of educational guidance examined] (pp. 205-220). Barcelona: Graó.
- De la Fuente, J. (Coord.) (2008). El Área de I+D+i como elemento emergente en el Asesoramiento Psicoeducativo [The area of R&D&I as an emerging element in psychoeducational guidance]. Symposium presented at the V International Congress of Psychology and Education. Oviedo, 23-25 April.
- De la Fuente, J., Justicia, F., Casanova, P.F., & Trianes, M.V (2005). Percepción sobre la construcción de competencias académicas y profesionales en Psicólogos [Perceptions about the construction of academic and professional competencies in psychologists]. Electronic Journal of Research in Educational Psychology, 3(1), 3-34.
- EIS (2009). European innovation scoreboard. Consulted 07/01/2009 at www.proinno-europe.eu/asmin/ uploaded\_documents/European\_Innovation
- INE (2008). Encuesta I+D 2008 [R&D Survey 2008]. Madrid: Instituto Nacional de Estadística.
- Ley Orgánica 1/1990, de 3 de diciembre, de Ordenación General del Sistema Educativo [1990 General Regulation of the Education System Act] (BOE. de 4 de Octubre de 1990).
- Ley Orgánica 2/2006, de 3 de mayo, de *Educación* [*2006 Education Act*] (BOE Nº 106, de 4 de mayo de 2006).

Lucas, S. (2007). Desarrollo de competencias desde la

enseñanza universitaria [Developing competencies in university education]. *Electronic Journal of Research in Educational Psychology, 5*(1),125-158.

- Orden de la Consejería de Educación de 15 de mayo de 2006 establece las bases para impulsar la *investigación educativa* en los centros docentes públicos de la comunidad autónoma de Andalucía dependientes de la Consejería de Educación [Order setting down the bases for promoting *educational research* in public schools within the Andalucía Region and under the jurisdiction of its Education Department] (BOJA nº 113, 14 de junio 2006).
- Orden de 15 de mayo de 2006, por la que se establecen las bases reguladoras de la concesión de subvenciones para la realización de proyectos de *innovación educativa* en centros educativos públicos de Andalucía, dependientes de la Consejería de Educación, y se efectúa su convocatoria para el año 2006 [Order setting the conditions for the regulation of grants for *educational innovation* projects in public schools in the Andalucía Region under the auspices of its Education Department (calling for applications for that same year)] (BOJA de 6 de junio de 2006).
- Orden de 27 de julio de 2006, por la que se regulan determinados aspectos referidos al *Plan de Orientación y Acción Tutorial* en los Institutos de Educación Secundaria [Order regulating certain aspects relative to the *Plan for Guidance and Homeroom Teaching* in Secondary Schools] (BOJA nº 175, de 8 de septiembre de 2006).
- Orden de 27 de julio de 2006, por la que se regulan determinados aspectos referidos a la organización y funcionamiento del departamento de orientación en los Institutos de Educación Secundaria [Order regulating certain aspects of the organization and functioning of guidance departments in Secondary Schools] (BOJA nº 175, de 8 de septiembre de 2006).
- Peralta, F.J. (2005). Hacia un desarrollo profesional convergente de la orientación escolar [Toward converging professional preparation for school guidance]. *Electronic Journal of Research in Educational Psychology, 3*(1), 205-226.
- Román, C. (Dir.) Grávalos, E., & Palacios, C. (2005). Características y empleo en actividades I+D en Andalucía [Characteristics and employment in R&D activities in Andalusia]. Sevilla: Consejería de Empleo. Instituto de Desarrollo Regional.