

ANNEX II

The scientist-practitioner model for professional training in Work & Organizational Psychology

Application Form for Action 1: **ERASMUS MUNDUS MASTER COURSE:**

Master on Work, Organizational and Personnel Psychology

- University of Valencia (co-ordinating institution)
- University of Barcelona
- University of Coimbra
- University of Bologna
- University of Paris 5

ANNEX II

The scientist-practitioner model for professional training in Work & Organizational Psychology.

1. Introduction.

This document aims to describe the main foundations of the scientist practitioner model for the professional training of work and organizational psychologists. This model is a conceptual framework that allows designing the organization and structure of the Erasmus Mundus Master on Work and Organizational Psychology to achieve the highest standards for both professional practice and development of research. The contents and learning activities of this Master are organized following the logic and purposes established in such a model. Thus, the progression in acquiring the appropriate competencies is planned and the integration of every experience relevant to training professional psychologists is guaranteed.

2. The scientist-practitioner model for psychology training: origins and foundations.

Training for professional psychologists, as nowadays known, was developed mainly after the II World War in the USA. The increase of social demands asked to solve by Psychology and the growing number of institutions providing postgraduate training in different areas of Psychology, led to organize in Boulder (Colorado) at August 1949 a conference to debate and evaluate values, beliefs and practices in training programmes for professional psychology. As a result of the conference, the so-called “scientist-practitioner model” (sometimes mentioned as Boulder model, too) was elaborated, with a strong endorsement of the belief that the professional psychologist could and should be both researcher and practitioner (Baker & Benjamin, 2000). Firstly, main focus was in clinical psychology, but it progressively became extended for other areas and domains of professional psychology, including work and organizational psychology.

The main foundations of scientist-practitioner model refer to the necessity to train psychologists in research and practice skills, with equal emphasis on both. It implies that practice must rely on research, knowledge base and scientific validation of methods, theories and treatments. Moreover, research must to feed back knowledge to continue developing professional practices.

As Belar and Perry (1992) point out, the characteristics of the model are the following:

- it requires interlocking skills in science and practice
- its implementation is not an addition of parts, but integration of both, research and practice
- it provides the development of knowledge, skills and attitudes that encourage the scientific approach to practice

- it includes education and training in the conduct of scientific research as well as the application of products of psychological research.

So, the scientist-practitioner “is able to extend simultaneously the boundaries and applications of scientific knowledge and to adapt to the changing needs of professional practices”. Training in research allows the professional to “distinguish facts from opinions in applications, and permits it to innovate in existing theory and techniques” (Belar & Perry, 1992, p. 72). In this way, psychologists are educated and trained “to generate and integrate scientific and professional knowledge, attitudes and skills, so as to further psychological science, the professional practice of psychology and human welfare”. Graduates will be capable of functioning as an investigator and as a practitioner.

Integrating science and professional practice requires a sufficient knowledge base to formulate problems for assessment and intervention, including:

- knowledge of theories and scientific bases of psychological tests and measurement
- competence to design research **to evaluate** the applicability, reliability and validity of **existing tests and measurements**, and **to develop new ones**
- knowledge of theories and scientific bases of a representative sample of relevant assessment strategies in the student’s area of concentration
- theories and scientific bases of intervention
- competence to design research **to evaluate** applicability, reliability, validity and efficacy of **current interventions**, and **to develop new interventions**
- knowledge of theories and scientific bases of a representative sample of relevant interventions in the student’s area of concentration

The minimum didactic components of professional practice education derived of such a model are addressed to apply scientific thinking and behaviour to problem-solving and hypothesis-testing in practice, and to foster a unique process of case/problem conceptualisation that entails operational delineation of problems useful for planning of intervention. These constructions and interventions that flow from them are continuously refined through scientific validation. These components are, among others, the following:

- establishing working relationships, communication skills, interviewing techniques, and consultation skills
- case/problem conceptualisation grounded in valid assessment procedures and the scientific literature
- scientifically validated interventions derived from them
- ethical, legal and professional mandates to consider scientific evidence when choosing among alternative assessments and interventions
- socialization into the professional practice of psychology including the encouragement of appropriate scientific-professional affiliations.

Scientist-professional psychologists reflect a research orientation in their practice and a practice orientation in their research. There will be an experiential component that emphasizes integration of research and practice through a variety of

learning activities. The doctoral dissertations should be viewed as a learning experience that enhances the development of the scientist practitioner.

3. The scientist-practitioner model for W&O Psychologists' training.

In the specific domain of work and organizational psychology, the scientist-practitioner model has been formally adopted in the USA, and is considered as a primary foundation for the ENOP model around Europe. A book edited by K. R. Murphy and F. E. Saal (1990) discuss the relevance, problems and future directions of such a model in the context of W& O psychology. The authors propose two different forms to combine science and practice. The first is a one-way interaction between pure scientists and engineers, where scientists supply the principles and engineers supply the technology. The authors don't consider this model appropriate for work and organizational psychology. Although reasons are complex, "they include the facts that the technology is relatively primitive, organizations are living systems and that our scientific knowledge is not enough advanced to supply precise principles that can guide the development of useful technologies" (Banks & Murphy, 1985).

The second model features a two-way interaction between science and practice. Individuals are trained to both generate and apply knowledge: "Science informs practice by developing general principles that may apply to a particular situation. Practice informs science by identifying problems that need to be solved, as well as shortcomings in the current solutions that science has been able to provide in a particular situation" (Murphy & Saal, 1990, p. 2).

The scientist practitioner functions by experimenting, by applying the results to a real problem, and by using the outcomes to generate new experimentation. Without such a model, it is difficult to define the field of work and organizational psychology, because practice become mere technology and research becomes far away from real problems, irrelevant for final users.

Murphy and Saal (1990) argue that the integration of science and practice requires both of two orientations: a) different members of the field taking different roles along the continuum between pure scientists and pure practitioners, but interrelating among them; b) multiple roles that each member of the W&O psychology field takes on simultaneously. This second approach is needed in some degree, and it requires training and education for all W&O psychologists in both science and practice.

For doing so, W&O psychologists must be trained in both, skills and competencies for research and for professional practice. The Murphy and Saal's book details some of the dangers that could appear if science and practice are not well interlocked.

Lapointe (1990), from an academic point of view, remarks the importance that W&O psychologists attach to the role of consultant, in pursuit of improvement of organizational functioning. This means to get involved with significant organizational issues, to improve organizational functioning, and to experience organizational life first hand. The consultant role provides a bridge between a body

of knowledge and particular situations, problems or opportunities. It requires, in first place, a “practical attitude” consisting of emphasizing the client’s interest. But it requires a set of competencies that emphasize consultancy roles as strong self-concept, professional self-image, common understanding, personal influence, diagnostic skills, tactical planning, tactical flexibility and orientation to results, as the competence model of Cullen, Klemp and Rossini (1981) stated. Internship and other types of field experiences would be relevant to acquire them.

If practical and professional competencies are obvious requirements for W&O psychologists’ training, what about research competencies and skills? Applied fields of psychology require, to adequate progress and improvement, to develop research focused on real problems, applying theories to the characteristics of processes at particular settings, and advancing in provide answers for clients’ requirements more than academic and research questions. For doing so, it is very important that professional practitioners could involve themselves in conducting applied research and disseminating results of their own practice. So, postgraduate psychologists require training in research skills to contribute to improving knowledge on human behaviour in real settings. Nowadays, the most of psychological research is conducted by academicians, with little carried out by practitioners. This situation doesn’t contribute to the integration of science and practice, or the improvement of professional interventions.

But as important as practitioners’ contribution to applied research, is the fact that research competencies are needed for achieving professional practice standards. Two reasons explain this necessity.

First, when psychologists lack in theoretical knowledge and research competencies, there is a trend to use and apply psychological theories and techniques that have not been adequately tested, and the probability of knowledge obsolescence increases. Moreover, when professionals are more interested in “what works” than in “why works that and under what circumstances” (as Murphy, 1990, p. 172, suggests), they could design and use interventions in an inadequate way for a specific situation, but they lack criteria to select the best option to solve the problems presented and they could use instruments and techniques without adapting them to the particular characteristics of every case. Then, there is a risk for professionals to act as technicians that apply mechanically, without critical thinking, some “formulas” which don’t work under certain circumstances. Research competencies allow practitioners to be updated with respect to advances in the field and contingencies about validity of interventions, and to be well prepared to decide when and where to apply the different techniques and procedures to achieve the best results.

Second, in the real practice of most W&O psychologists, their professional roles require to design specific intervention tailored for solving the particular needs and demands of one client. This means that innovation, adaptation of previous methods and interventions and design of new products and services are usual requirement in the job of most W&O psychologists, in special those fulfilling consultancy roles.

The new requirements of organizations and the deep changes that organizational environment is experiencing in recent years increases the necessity of

long-life learning and continuous self-actualisation of professionals. Uncertainty and continuous transformations appear as characteristics of organizational life. So, W&O psychologists must be prepared to adapt their practice to the specificity of every client, and modify relevant features of psychological methods and instruments to fit with the changing demands of the field and idiosyncratic needs of clients.

W&O psychology professional practice requires competencies to design new products and services that could customize the changing needs of the field and the specificity of client's demands, avoiding replicating past practices and solutions for other companies without criticism or adequate adaptation. Those competencies are related to the development of applied research: selecting and administering instruments, products and services, identifying interested people and groups, designing and adapting instruments, products and services, following requirements and restrictions, contrasting and testing validity of instruments, products and services, including prototypes and pilot studies.

As Murphy and Saal (1990) stated, "the key to becoming better practitioner is first to become better scientist". (...) Practitioners must not only be aware of a broader range of research, they must also concentrate their efforts on developing applications of this research. Practitioners are more likely than researchers to be highly familiar with the organizational context and, therefore, more likely than researchers to identify useful and credible applications" (p. 62-63). They could help to identify organizational problems that might be addressed through psychological research. In the same sense, Levy-Leboyer (1988) noted that there is often a temptation to apply psychological theories that have not been adequately tested. Subsequent tests of the theories underlying these techniques have been far from encouraging, but practices based on these theories are ingrained in many organizations. These premature applications can damage the future credibility of psychologists and they don't contribute to the improvement of organizations.

4. Summary and conclusions.

Psychological practice is, by definition, based on the results of empirical research. Determining whether research is relevant for application is not an easy matter (Murphy and Saal, 1990). As scientist-practitioners, W&O psychologists have important things to offer organizations (McIntyre, 1990). "Showing a tolerance for ambiguity and a willingness to put up with frustration, they balance the urgency of workplace demands and the tenets of scientific investigation" (p. 33). So, a combined approach to practice and research is required to achieve the goals of W&O psychology professionals, the progress of work and organizations, and the improvement of the quality of working life and organizational processes.

In this document, we try to explain the basic assumptions for developing a model of competency-based training for professional practice in the W&O psychology, developed following the principles of the scientist-practitioner model. This approach is consistent with the proposals of the ENOP, and follows the directives of the EuroPsych project, recently carried out by a multinational research team, that points out future directions for the training of Psychology in the European context.

In summary, this model emphasizes the importance of training professional psychologists in both research and practice competencies, in a non-additive but integrative way. Professional psychologists need to bear a practical approach in mind, i.e. to put client's interests in the first place. To work well, they need to root their practice in empirical research and theory-driven knowledge. This implies research competencies that allow for professional decision-making when selecting the appropriate designs, techniques and interventions to solve client's demands, adapting existing programs, products and services to specific purposes and conditions that are different to those in what they are designed, and developing new products, services and interventions to face new demands and problems for improving professional performance and social welfare.

5. References.

- Baker, D. B. & Benjamin, L. T. Jr. (2000). The affirmation of the Scientist-Practitioner. A look back at Boulder. *American Psychologist*, **55**, 2, 241-247.
- Banks, C. G. and Murphy, K.R. (1985). Toward narrowing the research-practice gap in performance appraisal. *Personnel Psychology*, **38**, 335-345.
- Belar, C. D. and Perry, N. W. (1992). National Conference on Scientist-Practitioner Education and Training for the Professional Practice of Psychology. *American Psychologist*, **47**, 1, 71-75
- Cullen, B. J.; Klemp, G. O. Jr. and Rossini, L. A. (1981). *Competencies for organizational effectiveness consultants in the U.S. Army*. Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, Research Note 83-13.
- Lapointe, J. (1990). Industrial/Organizational Psychology: A view from the field. In K. R. Murphy and F. E. Saal (Eds.): *Psychology in Organizations: Integrating Science and Practice*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Levy-Leboyer, C. (1988). Success and failure in applying psychology. *American Psychologist*, **43**, 779-785.
- McIntyre, R. M. (1990). Our science–practice: The ghost of Industrial-Organizational Psychology yet to come. In K. R. Murphy and F. E. Saal (Eds.): *Psychology in Organizations: Integrating Science and Practice*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Murphy, K. R. (1990). Job performance and productivity. In K. R. Murphy and F. E. Saal (Eds.): *Psychology in Organizations: Integrating Science and Practice*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Murphy, K. R. and Saal, F. E. (1990). *Psychology in Organizations: Integrating Science and Practice*. Hillsdale, NJ: Lawrence Erlbaum Associates
- Murphy, K. R. and Saal, F. E. (1990). What should we expect from scientist-practitioners?. In K. R. Murphy and F. E. Saal (Eds.): *Psychology in Organizations: Integrating Science and Practice*. Hillsdale, NJ: Lawrence Erlbaum Associates.