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Reference Model for a European Curriculum in W&O Psychology

Revised version

European Network of Organizational and Work Psychologists (ENOP)

MAISON DES SCIENCES DE L'HOMME

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PREFACE

In the context of an ENOP-project aiming at clarifying the state of affairs with regard to the training in Work & Organizational psychology in Europe and at preparing the grounds for harmonization, a model has been designed that could serve as a common frame of reference for W&O psychologists from different countries and backgrounds. This so-called 'Reference Model' was discussed in ENOP at its Symposium on February 25-27, 1993, and in a special session at the 6th European Congress of Work & Organizational Psychology (Alicante, April 14-17, 1993). Further comments have been solicited from associations and interests groups in the various countries of Europe, as well as from readers of 'The European Work and Organizational Psychologist'.

A revised text was discussed and accepted at the ENOP Symposium of March 10-12, 1994. It was decided that with some slight modifications, meant to clarify certain aspects, the revised model will be the basis for a survey of the actual situation with regard to the teaching of W&O psychology in Europe. This survey will make it possible to identify which parts of the model are (and are not) present in the curricula of the various European universities, thereby identifying discrepancies between the model and current reality. The model and/or the recommendations regarding the way in which it should be used may be revised on the basis of the findings of the survey. The present document contains the latest version of the Reference Model. It is the subject of a survey among the European universities represented within ENOP that is conducted in the Summer of 1994.

This paper describes the structure and contents of a specialized university curriculum that provides the necessary and sufficient qualifications for him/her who wants to work as a 'W&O psychologist' in Europe. The occupational title 'W&O psychologist' refers to a specialism within general occupational category of 'psychologist', that includes both professional work and research.

It should be acknowledged that the curriculum does only provide a basic training for these types of occupational activity, and thereby only covers only a part of the activities by which W&O psychologists acquire and maintain their qualifications. In most European countries there is some system of continued education for those who have graduated from the university. For professional work such ongoing education typically includes post academic training courses, supervised practice and accreditation. For research work there are advanced training courses and workshops, Ph.D. programmes etc.

The model is confined to what can be considered to be a 'common core' of qualifications needed for W&O psychology, i.e. the knowledges, skills, attitudes, and competencies that in the mind of European experts 'define' W&O psychology. As will become clear when discussing the adaptation of curricula to the specific situations that exist in a particular country or at a particular university, some qualifications may not be required while other qualifications are needed for those who want to find employment after graduation.

The curriculum described in the model is supposed to be part of a university based training programme in psychology. This means that certain knowledges and skills are assumed to have been acquired before the W&O curriculum starts. As entrance requirement a general training in psychology of 2 to 3 years with the following content is supposed:

- general psychology
- developmental psychology
- personality psychology (& individual differences)
- social psychology
- human physiology

- psychopathology
- psychological assessment
- research methodology (design and data analysis)

Such content areas may be dealt with in parallel, as well.

The study of psychology typically consists of three cycles: a first cycle up to the Propaedeutic or Bachelors Degree, a second cycle up to the Master's Degree, and a third cycle up to the Doctor's Degree. The first two cycles are normally considered to be sufficient for becoming a psychologist (in some countries only after a special examination). Depending on the total duration of the study during the first two cycles and the room for specialization, the W&O curriculum outlined here, which itself requires 2 years or more, may fit in this study either completely or partially. It would fit completely in programmes that formally offer a possibility for specialization into such directions as work & organizational, educational, and clinical psychology, like seems to be the case in e.g. the United Kingdom, France, Croatia, and the Netherlands. It would fit only partially in cases were specialization is supposed to take place after graduation. In such cases the larger part of the W&O curriculum would fall into the third cycle. This situation appears to be typical in Belgium, Germany, Switzerland, Austria, Hungary, Finland, and other countries.

As it has been designed for curriculum development and harmonization with regard to the training of W&O psychologists in a strict sense, the Reference Model does not apply directly to training programmes for related specialities of professions, even though such programmes may contain elements from W&O psychology, and those who studied W&O psychology are among those who practice such specialties or professions. Thus, the model does not pertain to the training in Engineering Psychology, Traffic Psychology, Managerial Psychology, Consumer Psychology or Health Psychology, nor to the training in Ergonomics, Cognitive Engineering Human Resource Management, Business Administration, Industrial Relations, and the like. Nevertheless, as will be outlined below, the model could be used in verifying and improving the content of training programmes in such fields.

The starting point for the development of the Reference Model has been a view of 'what W&O psychology' *is* both as a discipline and a professional speciality, rather than the state of affairs at the labour market for work

experts with a background in the behavioral sciences. It is recognized that the labour market is of great importance, but it is held inappropriate to let the highly variable and changeable conditions of supply and demand for professionals, and the underlying economic mechanisms, define the boundaries and content of the training of W&O psychologists. A consequence of this choice is that the model offers a balance between theory and methodology on the one hand, and practical skills and competencies on the other hand.

The following sections of this paper describe the structure and content of the model. Next, it will be discussed how the model may be used in actual curriculum (re)design, and how it could be further developed in the future.

STRUCTURE OF THE MODEL

The structure of the Reference Model is defined by four dimensions, each of which relates to an important distinction. The first dimension relates to educational objectives, the second to content areas, the third to the type of science involved, i.e. explanatory vs. technological science, and the fourth to depth-of-specialization.

I. Educational objectives

Generally speaking three sets of educational objectives can be distinguished:

a. the acquisition of knowledge
b. the acquisition of skills
c. the acquisition of competencies for professional activity
d. the acquisition of competencies for scientific research.

The term knowledge is used here to refer to theories and concepts on work and organizational phenomena, methods and techniques to study of influence them, and empirical data. Knowledge should be conceived in a broad way. It is intended to include the awareness of different approaches, the relationships between theories, etc. The term skills denotes the ability

to apply knowledge and to effectively use methods and techniques. Professional competencies are complex sets of knowledge and skills by which problems encountered in professional practice can be solved. And research competencies are similar sets of knowledge and skills needed in designing and conducting research studies.

Although the dimension of Educational objectives is of a general nature it is used in the Reference Model to refer to knowledges, skills, and problems that are typical for the world of work and organization. General research methods and strategies, although certainly important, are supposed to be dealt with in the context of the psychology curriculum as a whole, and hence be left out of consideration.

II. Content areas

It is generally recognized that the discipline of W&O Psychology covers three content areas, each of which focuses on different parts and aspects of human work activity. These areas are:

- work psychology
- personnel psychology
- organizational psychology.

Work psychology concerns people's work activity, i.e. the way in which people deal with their tasks. Persons are seen as workers who have to perform tasks that are derived from the work processes taking place in the organization. Important subjects are: tasks, work environment, time arrangements, performance, error, effort, load, fatigue, task design, tool design (cf. ergonomics), etc.

Personnel psychology concerns the relationship between persons and the organization, in particular he establishment of the relationship, its development, and termination. Persons are seen as 'employees' with whom the organization has a temporal relationship. Important subjects are: choice processes of individuals and organizations, abilities and capabilities, needs and need fulfilment, commitment, methods of selection, career development, appraisal, pay, training, etc.

Organizational psychology concerns the (collective) behaviour of people in relation to shaping and the functioning of socio-technical arrangements that are designated as organizations. People are involved in this arrangement as 'members'. Important subjects are: communication, decision making, power, leadership, participation, cooperation, conflict, organizational culture, organizational structure, technology, organizational change, etc.

It should be noted that in some countries different notions have been in use, sometimes referring to combinations or cross-sections of the three areas mentioned here. Examples are: Industrial psychology, Occupational psychology, and so on. The three content areas have been chosen because they can be differentiated from one another rather well, in both scientific and professional respect. Although there definitely is an area overlap there are differences in terms of object of study and research methods on the one hand, and diagnostic and intervention methods on the other hand.

The relative development and importance of the areas vis a vis one another are rather different in the various European countries. In some countries only there is a single dominant area (e.g. work psychology in France, or in some Eastern European countries), in other countries one finds that two main areas have emerged (e.g. work psychology and organizational psychology in Sweden, or personnel psychology and organizational psychology in Spain), and so on. In other cases one finds a more balanced situation with a more or less equal position of the thee areas (e.g. in Germany and the Netherlands). This is not only the case at the level of scientific research and teaching, but also at the level of professional activity.

III. Type of science

A commonly made distinction that seems useful in the present context is that between explanatory science, or science that tries to understand existing reality. on the one hand, and technological or change-oriented science, that aims at changing reality on the other hand. While some disciplines are characterized by the prevalence of one of these types of sciences, this is certainly not true for W&O psychology. As this discipline deals with a reality that is by its very nature created and modified by man, it contains strong components of both technological and explanatory science. E.g. one finds both theory on work performance and on performance optimization, on workers' abilities and personnel selection, or on

organizational analysis and organizational design. The relative accent that is placed on either type of science varies from country to country, though.

The distinction between science and technology referred to here, should not be confused with that between fundamental research and application. Both explanatory science and technology have their fundamental research, and both can be applied by practitioners to singular problems of people or organizations. Research on principles of selection can be considered as an example of fundamental technological research. The explanation of a particular state of conflict that a client organization is in, a case of organizational diagnosis, can be represents an example of applied explanatory science. And so on.

IV. Level of specialization

Theories and methods of W&O Psychology can be dealt with at various levels, differing in breadth of scope and degree of detail. It is assumed that in general three levels can be distinguished: (a) the level of systematic introduction, covering principles, methods and facts of a certain subject area, (b) the level of focused study of problems and methods, and (c) the level of detailed study of a particular issue. Between countries and universities there seems to be a moderate degree of congruence at the first level. At the higher levels there are marked differences in the profile of the programmes offered. Moreover one can identify narrow-scope high-level programmes as well wide-scope low-level programmes.

Depicting the model

By crossing the four dimensions mentioned above a multidimensional matrix is obtained that constitutes the frame of the proposed reference model. For the purpose of graphic presentation the first three dimensions (educational objectives, content areas and type of science) are selected and arranged in a two-dimensional layout in the figure below. The fourth dimension (level of specialization) is not displayed. It should be kept in mind that it applies to each of the cells in figure.

WORK	PERSONNEL	ORGANIZATION	objective / type of science
General courses (G)			Orientation
W1	P1	O1	Knowledge of theories (explanatory)
W2	P2	O2	Knowledge of theory (technological)
W3	P3	O3	Diagnostic skills (explanatory)
W4	P4	O4	Intervention skills (technological)
Professional training (e.g. stage, ethics course)			Professional competencies
Research training (e.g. research project, advanced method courses)			Research competencies

CONTENT OF THE MODEL

Underneath a brief description of the model's content is given. First, a more detailed description of the educational objectives is presented (following the rows of the model). Consequently, an exemplary list of courses is presented which covers all cells of the matrix, including as well as the stage and the research project. The list contains codes that refer to the cells of the matrix (see the Table). E.g. the introductory course on Work Psychol-

ogy refers to cell W1 ('explanatory theory of work psychology'), the course on course on 'Job analysis' refers to cell P3 ('diagnostic skills in personnel psychology'), etc. The list includes some examples of courses that differ in level of specialization (designated as level 1 = introductory, level 2 = focused study, level 3 = detailed study), and a number of integrated courses that relate to multiple cells and hence contain multiple reference codes.

Objectives

1. Orientation
Orientation means the acquisition of (meta)knowledge about W&O psychology is, the context in which it is developed and practised, both at a national scale and in Europe, the general methods of research and application etc.

2. Knowledge of explanatory theory
The knowledge to be obtained includes empirical knowledge about psychological phenomena related to work, employment relations and the functioning of organizations, and knowledge of theories by which such phenomena can be ordered and explained. It also includes meta-knowledge like the awareness of different approaches, the relationships between theories, etc.

3. Knowledge of technological theory
Technological knowledge or 'know-how' concerns the ways in which the empirical reality of work and the psychological phenomena related to it can be influenced. It includes knowledge of the possibilities for the design of work, personnel management systems, and organizations, and the ways by which they can be changed. It includes meta-knowledge about different technological paradigms (e.g. selection, training, development) and their relationships.

4. Diagnostic skills (explanatory)

These skills relate to the use of methods, techniques and instruments by which psychological phenomena can be assessed, including tests, interviews, job analysis instruments etc.

5. Intervention skills (technological)
These skills concern the (re)design of tasks and tools, personnel management programmes (especially selection and training), or organizational arrangements and the implementation thereof. Skills in training and participative intervention may be included as well.

6. Professional competencies
These competencies include intake, diagnosis, planning, intervention, evaluation, reporting, and documentation with regard to a particular type of problem posed by an individual or organizational client. Communication, client participation, and professional ethics are aspects that deserve special attention.

7. Research competencies
Competencies meant relate to the formulating a research problem, making a research design, sampling, getting access to respondents, data collection, analysis, reporting and documentation.

Courses

The exemplary list of courses presented below contains as series of 'pure' courses which deal with a particular subject falling within a single cell of the model and a number of 'integrative' (or 'mixed') courses, covering two or more cells. Some of the 'pure' courses have been differentiated in terms of level of specialization. In a good curriculum both types of courses should be present. Pure courses offer a basis for a systematic development of declarative or procedural knowledge, while integrative courses help to make connections between various elements and domains of knowledge. Favourite bases for integration are: a problem, a theme and a professional role. Integration can also take place along specific dimensions of the model, e.g. from theory to skills (dimension I), across content areas (dimension II), from existing reality to change (dimension III). Moreover, integration can be achieved on the basis of a theoretical or methodological approach (e.g. cognitive theories, or qualitative methods). The examples chosen represent courses that are typically found in present-day W&O curricula. Other courses exhibiting a different orientation in terms of subject matter (e.g. new types of work) or epistemology (e.g. constructivism) might be included as well.

The number of courses in the model has not been fixed; in a later version of the model this might be the case, however. The size of courses has not yet been standardized either. It is proposed to choose a standard unit of 1 week of study (study load) of 40 hours, which is equivalent to 12 or 13 lecture hours. For this unit 1 credit point might be awarded.

The list presented here is not intended to be exhaustive or final. The descriptions should be considered as examples that are prototypical for courses given on the respective subjects . Most examples come from programmes mentioned in the ENOP survey of 1989. (Courses that have a connection with subject areas outside W&O psychology , like e.g. technology, personnel administration, management, are not included for the reason mentioned in the Introduction).

Stage (apprenticeship)

The general aim of the stage is to familiarize the student with the professional setting and activity of W&O psychologists, and to acquire basic professional competencies as described above. This is achieved by involving the student in a professional activity that brings him into contact with a client (organization) and a typical problem . Typically the student learns to work independently while being supervised by an expert. Different types of stages can be distinguished, like e.g.:

1. Orientation type: familiarization to a certain professional setting
2. Safari type: temporary presence in the setting for a particular purpose (e.g. the collection of data)
3. Rotation type: systematic familiarization with different parts of an organization, different roles, etc.
4. Role type: learning to fulfill a particular professional role
5. Project type: performing a project (individually or in a team) defined by a company or the university.

Course	Cell	Level
General courses		
1 Introduction to W&O psychology		
2 Research methodology of W&O psychology		
Courses on Work Psychology		
3 Work Psychology (Introduction)	W1	1
4 Work motivation	W1	2
5 Work and Health	W2	1
6 Work Analysis	W3	1
7 Task & Job Design	W4	1
8 Ergonomics	W4	1
9 Stress Management	W4	1
Courses on Personnel Psychology		
11 Personnel Psychology (introduction)	P1	1
11 Career Development Theory	P1	2
12 Theory of Individual Differences	P1	2
13 Selection and Assessment	P2	1
14 Diagnostic Systems for Personnel Management	P2	2
15 Selection Utility Analysis	P2	3
16 Job Analysis	P3	1
17 Assessment Centers	P4	1
Courses on Organizational Psychology		
18 Organizational Psychology (introduction)	O1	1
19 Management and Leadership in Organizations	O1	2
20 Decision making in organizations	O2	2
21 Interorganizational processes	O2	2
22 Organizational Structuring and Structure	O2	1
23 Organizational Diagnosis	O3	1
24 Organizational Design and Change	O4	1
Integrated Courses		
25 Work Groups in Organization	O12	
26 Organizational Change and Development	O24	
27 Task Analysis and Task Design	W34	
28 Theories in Work and Organizational Psychology	W13,O13	
29 Comparable Worth, Job Evaluation and Unbiased Wage Systems	P14,O4	
30 Organizational Aspects of New Technologies	WPO1234	

Research project

The general aim of the research project is to develop research competencies as were described above, by setting up and executing a research study under supervision by an experienced researcher. Projects can use a variety of methods, and include field experiments. Field studies, case studies, surveys, laboratory studies, and so on.
They can be performed in companies as well as in university settings.
Typically research projects include a study of the literature on a certain issue.

DIDACTICS

Didactical methods are of great importance for the training of W&O psychology. Particularly important is that methods are used that confront the students with the reality of work and organization, as it exists in Europe, both in the classromm setting and outside of it. The professional and research competencies deserve special attention as well, as they have some unique features not found in other fields of study. There is a need to share the best didactic methods in order to improve the general effectiveness and efficiency of training.

The next version of the Reference Model with contain an Appendix with a taxonomic list of didactical methods. The list will include active and passive methods for the acquisition of knowledge and skills, as well as methods for formative and summative assessment. In the description of the contents of the model, which is given in the preceding section, it will be indicated which array of didactic methods is available for each row (or cell) of the model, and which methods are supposed to be the best. The actual choice of didactic methods will, of course, depend on the particular circumstances of teaching (cf. groupe size, level of knowledge in target group), which cannot be specified in the model.

USE OF THE MODEL

It is proposed that the model be used as a conceptual tool in the process of curriculum (re)design. The model may help to develop more balanced programmes for the teaching of W&O psychology at different universities across Europe, and stimulate the process of course innovation. At the same time it can help to achieve a certain convergence of curricula in terms of overall structure and contents. It is expected that in this way a basis can be laid for the harmonization of teaching at a European level, which may facilitate future cooperation and exchange programmes. The model could, in addition, be used for promotional activities and help to make the profile of European W&O psychology and its distinctions to other professions (and to W&O psychology in other continents) better understood.

The reference model should not be conceived of as a rigid structure to be imposed on existing university curricula. Instead, curriculum designers may find it useful to select those parts of it that are most appropriate to the particular situation at their university, both in terms of differentiation and level of specialization. Yet it would be desirable to take the architectural lines of the model as a point of departure, and to include at least those elements that can be considered to belong to the 'core' of a W&O curriculum.
A major problem in applying the model is that the context of the training in W&O psychology differs substantially across countries and universities. There appear to be three important dimensions along which such differences exist:

a. the system of training
   differences relate to the overall structure of university training in terms of phases; the degree of specialization within psychology; the particular forms of specialization (which may include W&O psychology as such, or rather fields which include parts of W&O psychology); the presence of W&O psychology in curricula of other disciplines; all kinds of regulations regarding admission and examination of students, the size of courses, forms of teaching, and the like; the structure and

content of training given in post-academic programmes by both universities and non-university institutions.

b. the occupational system
differences exist in types of occupations, the definitions of competencies and prerogatives of each, the boundaries between them, their status and legal recognition, etc.; these determine whether W&O psychology is a distinct occupational category, and how it compares to related occupations.

c. the labour market
there are significant differences in the supply and demand for W&O psychology and related occupations, which, in addition, may change considerably over time; both an elevated demand for other occupations (like e.g. human resource management) and a surplus at the supply side may force W&O psychologists to choose for other occupations.

One can say that as a consequence there are large differences in the need for W&O psychologists, the opportunity to be employed as a W&O psychology and the actual supply of W&O psychologists. All these differences will influence the way in which curricula are designed. Thereby they define the space within which the Reference Model for W&O psychology can be applied.

Below a flexible approach is presented, which makes it possible to account for contextual differences in curriculum design and at the same time promotes harmonization. This approach takes the Reference Model as a starting point for curriculum design in different settings and provides for feedback by which the Reference Model can be adjusted iteratively over time.

1. A *survey* is held among European universities in order to find out to what degree the actual curricula in W&O psychology match the Reference Model. Discrepancies are identified and evaluated. The Reference Model is reconsidered, adjusted as far as needed, and distributed again among the universities.

2. On the basis of Reference Model a so-called *'Local Model'* may be designed which defines the curriculum that seems best for the training in W&O psychology at the particular university at the given time. The Local Model may be found by comparing the actual curriculum with

the Reference Model, identifying the discrepancies, and deciding which discrepancies to keep and to abandon. Discrepancies may be 'deficiencies' and/or 'extra's' needed in order to accommodate local needs. The use of Local Models should be considered as optional. Moreover, in making a Local Model it should be tried to approach the Reference Model as closely as possible. On the basis of the Local Model a new curriculum is designed.

3. After some years a *new survey* is held among the universities, and it is assessed to which degree the Reference Model has been implemented. Discrepancies are identified and evaluated against the background of the socio-economic and political conditions in Europe as well as the developments within the discipline. If held desirable, the Reference Model is adjusted, and disseminated again for use in further curriculum design. And so on.

The second step could be modified in order to achieve congruence at the national level. One could first develop a description of the typical curriculum for W&O psychology in the country, and compare this to Reference Model, and next define a Local Model for the country as a whole. This Local Model could than be taken as an input for curriculum design at the level of the universities. In this case the survey mentioned in step 3 could still take place among the separate universities.