THE REFERENCE MODEL 2020

Update of the ENOP-EAWOP Reference Model for W&O psychology
June 2019

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1. Introduction

This document presents an update of the ENOP-EAWOP Reference Model for academic curricula in Work and Organisational psychology. The ENOP reference model provides guidance for the education and training as Work & Organisational Psychologist. The model was first introduced in 1993 (presented at the EAWOP conference in Alicante), and the latest version (labelled "ENOP-EAWOP Model") was discussed at the ENOP Business Meeting in 2008, and presented at the General Assembly of EAWOP during the 2009 EAWOP congress. EAWOP's General Assembly approved the Reference Model for the purpose of the European Specialized Certificate of W&O Psychology. The Reference Model has been instrumental in guiding the development, and to some extent harmonizing, of curricula in Work & Organisational Psychology across European universities.

This model reflects the view of a large number of experts in the domain of W&O psychology, and it is therefore called a 'reference model' in order to make clear that the model is meant to provide a point of reference, and can be used as a guideline when (re)designing a curriculum in W&O psychology. The Model is not a 'prescriptive' model that one is obliged to follow. Universities are free to make their own decisions as to what topics to include in their curriculum. In European countries the educational systems vary to some extent, nevertheless, each should be able to use the 'Reference Model' to design curricula that fit in their systems.

In 2017 the Reference Model was discussed within ENOP and it was concluded that an update and revision was pertinent. This Memo briefly summarizes the main characteristics of the Reference Model *(§ 2)*, and the main reasons for reviewing and updating the Model (*§ 3)*. These are the starting points for an updated Model as presented in *§ 5*.

2. The Reference Model: in a nutshell

The Reference Model contains four main dimensions: educational objectives, fields of study, type of science, and depth-of-specialization, which are depicted below in Table 1. A fifth transversal dimension concerns the co-presence of content and methodology in each dimension.

There were four sets of **educational objectives**, concerning the acquisition of: a) knowledge; b) skills; c) competences for professional activity (intervention and development); and d) competences for scientific research.

Although in some countries different notions and/or labels are used, it is generally recognized that the discipline of W&O Psychology covers three **fields of study**: a) work psychology; b) personnel psychology; c) organisational psychology.

A third distinction relates to the **types of science** involved. W&O psychology is intrinsically interested in both *explanatory science* (that tries to understand and explain existing reality), and *technological or change-oriented science* (that aims to change and improve reality).

Finally, three levels regarding **depth-of-specialization** were assumed: 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.

By crossing the four educational objectives (knowledge, skills, professional and research competences) by fields of study mentioned above, a multidimensional matrix resulted that shows the structure of the curriculum. For the purpose of graphic presentation only the first three dimensions (educational objectives, fields of study and type of science) were selected and arranged in a two-dimensional layout (see Table 1). The fourth dimension (depth of specialization) and the fifth one (methodology always mixed with contents) were not displayed, since they did play a minor role in setting the Minimum Standards.

Table 1: *The Reference Model as presented in 1993*

WORK	PERSONNEL	ORGANIZATION	objective /type of science
General course (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 and design skills *(technological)*
Professional training (e.g. stage, ethics course)			Professional competences
Research training (e.g. research project, method courses)			Research competences

3. Where we are now

During the last 25 years our society has changed, and is still changing rapidly, and this applies to the domain of work and organisation as well. Organizations are experiencing the consequences of socioeconomic, socio-political, demographic, technological changes, which have an effect on people's attitudes, values and motivation, but also changes their jobs and actual behaviour. Technology has led towards an increased digitalization. This has affected the way work is organized, how people communicate (social media) and cooperate in organisations, and has introduced various new concepts: distance work, 'flex work', 'crowd working', 'virtual teams', 'flexicurity', 'gig economy' and 'gig work', etc. Socio-economic changes have led to an increase of temporary work. In addition, cultural changes have been facilitated by globalization, immigration, and new cultural values by new generations. Since there are hardly any jobs left in which people do not have to work with these digital tools, the implication is that digital competences have become part of today's professional competences. Citizens of the modern world need to be digital savvy. However, there are also specific technological developments that influence the profession of W&O psychologists, and the services they offer. As everything is digitalized, the implication is that everything is 'data', and hence we see new strategies emerging of looking at data: the use of 'big data'. This has generated new ways of dealing with data, like making use of algorithms for personnel selection purposes (i.e. using 'robot technology'), and machine learning and other applications of Artificial Intelligence (AI). It has also stimulated using augmented or virtual reality, and so on. W&O psychologists need to be up-to-date regarding these new developments both to understand and change the reality of work and organisations as well as to use these new

digital developments in research and practice of the profession. Thus, W&O Psychologists need to be able to assess the value and psychological implications of these new services and developments.

3.1. How our discipline is changing

Apart from socio-economical changes that affect the domain of work and organisations, another development relates to the fact that there is a movement within EAWOP, SIOP, and IAAP that calls for increased relevance for the research that we do. To some extent, this implies a greater awareness for addressing societal topics in our research. However, societal problems cannot only be addressed with (W&O) psychological knowledge exclusively, but this requires involvement and cooperation with other disciplines as well. Therefore, research will have to focus more and more focus on multidisciplinary cooperation. This also applies within the field of Psychology where we see increasingly more attention and focus on Neuroscience. W&O psychologists need to understand, and also be able to work with colleagues from that field. Furthermore, there is a tendency noticeable to look for topics where our discipline borders to adjacent disciplines like 'decision making', 'behavioural economics', business sciences, economics, medical sciences, technology. Psychologists should strive for societal relevance in their research, and help address problems that emerge in society. This implies that they will have to work with scientists and professionals from other disciplines, understand their language and working methods. It also means that they will have to communicate their own ideas and findings in an understandable way to others. This implies that students need an 'open orientation' toward neighbouring disciplines, and understand the basic principles of neighbouring disciplines. At the same time, this also requires awareness and knowledge of how to communicate with, and possibly influence, politicians and policymakers.

The topic of 'ethics' has gained a lot of attention and importance in the past decade. Various cases of fraud regarding data collection, or 'sloppy science' and publication ethics (excessive self-citations) have been reported (not only within the psychology discipline) that have resulted in more attention and greater awareness for 'research ethics'. There is now more attention for 'responsible science', 'open science', and practices like 'data sharing', and 'pre-registration of studies'.

Furthermore, within ENOP we have had discussions concerning the development and positioning of the field of Work & Organisation Psychology, such as whether W&O psychology is moving from Psychology Departments to Business Schools, and what consequences this may have for the content of the discipline. Whereas psychology as a discipline is increasingly gravitating towards neuroscience, we see very little W&O psychology research making links with neuroscience, with a single exception. In order to remain linked with mainstream psychology W&O psychologists need to keep in touch with developments within the Psychology discipline.

A survey among ENOP members that was conducted a few years ago, concerning what ENOP members considered to be the 'evidence base' of our field, showed that there was a considerable variety of topics that ENOP members regarded as the knowledge base of our field. This also demonstrated that this knowledge base is closely related to the expertise of individuals, which at the same time demonstrates the wideness of the domain of work and organisation, and the specific angles that can be defined.

SIOP publishes annually the top 10 hot topics for Industrial and Organisational Psychology. For 2018 some new topics have emerged (i.e. the 'gig economy', which relates to the changed socio-economic conditions), next to the traditional topics that have always been in the centre of our field (i.e. leadership'). (http://www.siop.org/article_view.aspx?article=1766&utm_source=SIOP&utm_medium=Website&utm_campaign=SmarterWorkplace18&utm_content=SmarterWorkplace18). Yet, a fairly new development is that

SIOP emphasizes a 'practitioner approach' and suggests that becoming a practitioner also requires further education and training. SIOP now acknowledges the need for a doctoral (PhD) level for practitioners: a 'Practitioner doctorate'. Although this is not yet a general practice in Europe, we may anticipate on this development with a greater attention for professional skills in the curricula, like 'project management', and 'skills to communicate with stakeholders', development of a (research) proposal or proposition. The increased necessity to work in an international context (globalization) is also an element for which we need to prepare our students. All the above-mentioned aspects have an impact on the development of research and professional practice in W&O psychology.

A note of caution is in place here, in so far that these topics were mentioned by SIOP members, and thus primarily reflect developments in the USA. Although there is some similarity in economic and cultural developments, we cannot assume that trends are completely the same. In fact, if we look at practices in the field of W&O psychology there could be more attention for cultural diversity. In different regions of the world practices maybe different and inspired by local cultures and traditions. Leadership may be such an example: preferred (and effectiveness of) styles of leadership are different in the USA, in Europe, in Asia, Africa, Latin America.

The above mentioned issues should be reflected in the Reference Model, which is currently not the case. This has raised the question to what extent the current Reference Model is still adequate, and sufficiently reflects what we should teach current and future W&O psychologists. In the 2017 ENOP meeting a discussion was devoted to this question. The next paragraph resumes the outcome of this discussion, in order to continue the effort of an update of Reference Model.

4. The 2017 ENOP discussion

The discussion within ENOP provided input and suggestions for revising and improving the model. The following perspectives and suggestions have been brought forward:

a) Attention was given to the boundaries between the three areas (Work, Personnel, Organisational), and in particular for Personnel Psychology (in relation to Human Resources Management). Since we are dealing with people in relation to their roles in the organisation and their careers, and not necessarily with the economic consequences thereof, we think that Personnel Psychology is still an appropriate label, as we think that 'personnel' is an accepted term for 'people working in organisations'. W&O psychologists need to be competent in all three area's which justifies to label the fields as such.

b) The Reference Model is in principle a model for psychologists and meant to train W&O psychologists (as researchers and professionals); but it can also be used to organize the psychological components in other professional domains that require such components (e.g. HRM professionals, Occupational Health professionals, Human Factor professionals).

c) The prescriptive power of the Model: The model is formulated as a frame of reference, so it has no prescriptive power. The model is essentially for the education of W&O psychologists, and therefore contains topics and elements that we think should not miss in a curriculum for W&O psychology. Since the model is endorsed by ENOP it has the authority of a communal group of professors from a large number of EU countries. The model has guided training and education programs in Universities in a large number of EU countries for more than 25 years, and thus contributed to the harmonization of the education of W&O psychologists across Europe. The model has also been endorsed by EAWOP.

d) Methodological issues are very important and have changed considerably (diary methods, innovative methods for data collection, use of mixed-methods, cross-cultural research). In addition, the scientist-practitioner model requires solid methodological competences, and in particular, competences regarding designing and evaluating interventions have become increasingly important. For these reasons, a column has explicitly been included in the model concerning 'methodology'.

e) In addition, interdisciplinary cooperation has become important, and this means that students should also be aware of contents from disciplines other than Psychology. However, also within the Psychology discipline are other subdisciplines that have overlap with W&O psychology, think of 'Social psychology', 'consumer psychology', 'business psychology', and its applications, like 'marketing', and 'management'. Students should be aware of this, and for that reason, an extra column for 'interdisciplinary study' has been inserted.

f) The updated model makes explicit reference towards "professional attitudes and values" as part of the professional competences (c.f. Bartram & Roe (2005), and also for internships the EuroPsy list of competences have been included and can be used as a benchmark for designing, assessing professional training.

Based on developments and discussions mentioned above and suggestions within ENOP, we are proposing an update of the reference model both in structure and regarding content. Table 2 presents a proposed new structure, and in the next § suggestions for updating the content will be presented. Regarding the structure, the New Model is an extension of the 'Old' Model in such that the structure has been extended with two additional columns, and additional rows.

Next to the columns for (sub)disciplines (W, O, and P): columns for 'Methods' and for 'Interdisciplinary' have been added. Adding these topics reflects the emphasis and importance regarding methods and interventions in the field, and the importance to be able to work in interdisciplinary settings and teams. The landscape of available methods has extended considerably. Whereas traditionally students were taught about designing experiments or surveys, today the assortment of methods and techniques have expanded. This not only applies to statistical methods and techniques, but also concerns other ways of collecting data and information (think of diary studies, and relevant techniques do to this). In particular, evaluating interventions requires specific techniques, and students need to be aware of the appropriate techniques. Increasingly large organisations have their Research and Development unit, which also pertains to HR related aspects. W&O psychologists therefore need to be knowledgeable about a broad range of methods and techniques ranging from basic research to research and development, including qualitative research, translational research, innovation research, and non-standard consultancy. In addition, the 'valorisation' of research findings has gained importance. This justifies extending the model with a column dedicated to 'methods'. Moreover, working with professionals from other disciplines might require insight in their ways of thinking, and basic assumptions and the various techniques to collect information: think of techniques for knowledge elicitation.

W&O psychology is a discipline in which new knowledge is developed, but the discipline also aims at using that knowledge to change or improve suboptimal situations in organisations. This generally requires intervening in organisations, and W&O psychologists should know how to do this. This 'knowing how' requires knowledge about intervention models, methods, techniques (i.e. the theory), but also how to apply them (skills). This in fact acknowledges the 'applied' character of the discipline. However, changing and intervening in situations is never a matter of merely 'applying knowledge', because every situation/organisation differs from the other. Application requires assessing situations, making an inventory of appropriate steps, and subsequently proposing a course of action. Therefore, we propose to use the term 'technological' as it

focuses on the knowledge and skills that are needed to change situations (knowing how), which is in fact a technological aspect. In addition, new interventions, products and solutions for existing and/or upcoming problems could be designed, that also require knowledge concerning 'how to'. For that reason two rows were added: one for the knowledge regarding how to make changes; and one for the accompanying skills. Internship for research and practice evidently relates to all five areas, and should reflect the integration of previous knowledge.

Table 2 – A new frame of reference

	Work Psychology	Organisational Psychology	Personnel Psychology	Methods	Interdisciplinary
Orientation					
Explanatory Knowledge					
Technological Knowledge					
Diagnostic Skills					
Intervention Skills					
Professional Attitudes & Values					
Research (project and report)					
Practical Internship or practicum (linked to the Europsy competences): Primary competences and Enabling competences, and Research competences (see appendix 'x')					

The EuroPsy diploma requires for the Basic level (up to MSc) 300 ECTS of study (equivalent of 5 years of study), of which sufficient time is devoted to the specific content of various specializations. Although this is not further specified in ECTS, there are global indications that courses helping to orient to the field (orientation) should be given, and courses with an 'explanatory' orientation, and with a 'technological' orientation.

The next section aims to provide descriptions for updated content of each cell in the Table, particularly for the sub-disciplines. It should be noted that it is possible to combine various cells from the above table in one course. This makes curriculum building more flexible.

5. Content of the curriculum

The requirements concerning the content of the curriculum are described in terms of the specific objectives to be reached and areas (cells of the matrix) to be covered. For each of the curriculum components (cells of the matrix) the objectives and contents are defined. Below in this section we describe a generic and comprehensive account of the content that should ideally be covered in a W&O Psychology curriculum. A description is given of different curriculum components (cells) organized in terms of fields, type of knowledge and education objectives. We have tried to take the developments, as mentioned above, into account as much as possible. However, as noted before, this model is a *reference* model, and not a prescriptive model. This means it can be used as a guideline when developing new curricula or revising existing curricula. We have not specified the amount of ECTS for each column or row is advisable, that depends on the signature of each program. The EuroPsy diploma prescribes the total amount of ECTS should be obtained in the domain of W&O psychology (see *§ 7.4)*.

In evaluating the curricula that applicants have studied, certain coverage of this content is required. Although, there are considerable degrees of freedom regarding the make-up of their curricula, there are certain minimum requirements to be fulfilled. This applies to both the basic and the advanced level.

5.1. Orientation course

The orientation course must enable the student to acquire general knowledge about Work & Organisational psychology as a discipline and professional field, its object of study, typical problems addressed, main theoretical approaches, some typical concepts and methods, forms of practice, ethical and legal aspects of the profession. The course must devote attention to the relationship between work and other domains of human life and activity, as well as to the relationship between W&O psychology and adjacent fields of science (i.e. other disciplines dealing with work and organization, and other fields of psychology), both with special reference to the European context. Awareness of new societal demands should be raised, and the role of W&O psychologists, regarding new opportunities it may contain. New demands may be: globalisation, sustainability of employment, digitalization, unemployment, alternative work arrangements, technological developments, new services.

5.2 Courses on explanatory theory

Work Psychology: 'Explanatory knowledge'. Courses in Work psychology should enable the student to obtain knowledge about the main psychological theories on work as an individual and collective activity. Attention should be devoted to the mental, physical and social processes involved in goal-directed activities and the regulation thereof. Performance (including errors) and its outcomes (for individual and organisation), and adaptation, as well as the various personal and situational conditions and concomitants should be considered. Among the important topics with respect to the person are: knowledge, skills, & competences and its diversity; motivation, and satisfaction; emotions, (mental) health (i.e. functional states, fatigue, stress), and with respect to the situation: working conditions, work processes, tasks, tools, information, alternative arrangements, hazards and risks, virtual environments. Other relevant issues are new forms of work (knowledge work, platform work, crowd work, gig economy) and its implications, entrepreneurship, sustainable employability should also be considered.

Personnel Psychology: 'Explanatory knowledge'. Courses on Personnel psychology should enable the student to obtain knowledge about the main psychological theories concerning work- life trajectories, life-cycle in the organisation, and various forms of employment relationships. Among the important topics are theories of continuous professional development both within a life-span perspective, and an organisational perspective (organisational socialization and its stages, the psychological contract, retirement). A third perspective is formed by theories on the psychological facets of human resources management and development as far as relating to the employment relationship, including recruitment, appraisal, selection, placement, training, performance management and reward systems. Attention must be given to contextual factors influencing employment relations, such as changes in the labour market, new organisational forms, and the intersection of work and other life roles. Also emerging topics related to digitalisation (like using social media, and algorithms in personnel selection) need to be addressed so that students are able to assess the value of these developments and the implication for the profession.

Organisational Psychology: 'Explanatory knowledge'. Courses on Organisational psychology should enable the student to obtain knowledge about the main psychological theories concerning organisational phenomena and the way in which they are influenced by and exert influence on psychological factors and processes (communication, leadership, power, decision making, participation) related to individual and group and organisational behaviour. The organisational phenomena include organisational structure, inter- and intra-group processes, organisational procedures, climate and culture, values, organisational learning, organisational performance, organisational justice, and inter-organisational relations. Attention should also be given to emerging topics, like the emergence of new organisational forms (internet-based platforms, network organisations and mobile virtual organisations), and cultural, gender and age diversity as implied by globalisation.

Methods: 'Explanatory knowledge'. These courses should provide students with knowledge about research and research methodology, including various research designs, such as experimental, longitudinal, correlational, and cross-cultural designs. Students should be able to decide what kind of approaches for data-collection are suitable for various problems, and what the strength and weaknesses are of various research designs. Also knowledge about the appropriate statistical analysis and psychometrics should be provided in these courses. Attention should also be given to the meaning and relevance of concepts like 'Big data', and 'HR Analytics'. Qualitative methodologies need also be considered. In addition the ethical principles underlying responsible conduct of research regarding human participants should be taught. Students should be able to detect and reflect upon ethical dilemmas.

Interdisciplinary: 'Explanatory knowledge'. Courses in this domain should provide students with basic understanding of concepts in adjacent fields: economy, business administration, law, technology assessment, and biology and health.

5.3. Courses on Technological Theory

Work psychology: 'Technological knowledge'. The courses should provide the student with knowledge and theories concerning interventions in the field of work, such as development of work contexts (job and task design, work process design, work time arrangements), the design and improvement of work methods and instruments, design of technology and software (with special attention to Human – ICT interfaces and cooperation), design of teams, as well as skill training and competence development. Attention has to be paid to the main theoretical approaches regarding the quality of work from a human perspective. Various perspectives regarding the use of technology should be presented. Among the topics deserving special attention are inclusion of people with diverse abilities, and the implications of digitalisation on work. Among the work outcomes (design criteria) to be considered are performance, effectiveness, satisfaction, work load, safety, and health aspects. Promoting entrepreneurship and green and sustainable jobs are also important aspects to be considered.

Personnel psychology: 'Technological knowledge'. The courses should provide the student with knowledge and theories on personnel recruitment and selection, performance evaluation and remuneration, various forms of careers and its development (from the perspectives of the individual and organisation), management development, skill training, competence development, man-power planning, organising employer-em-

ployee relations. Typical examples of techniques are 'assessment centres'. The students should be familiarized with the design of systems to fulfil these functions, and with various aspects of the professional role of the psychologist implementing these interventions. Special attention should be given to innovative processes of intervention (like using social media or 'big data' in selection processes and gamification in skill training and its implications).

Organisation psychology: 'Technological knowledge'. The courses should provide the student with knowledge and theories about psychosocial interventions in the field of organisations, both aiming at the (re)design of planned change of systems and at organisational transformation and development. Students should understand the interrelationships of specific interventions with organisational intervention paradigms and theories. Topics to be covered include: theories of organisational change and learning, approaches to organisational design and redesign and approaches to organisational intervention and development such as action research. Specific topics like leadership and participation with regard to organisational change, team development, conflict management and resistance to change should also be covered. New forms of organisations and organising processes (virtual organisation, network *organisations*, and cooperative work platforms) have also to be considered.

Methods: 'Technological knowledge'. These courses should teach students how to do research, encapsulating the entire process from literature search (including using packages for managing references), to formulating hypotheses and using the various tools that are needed to collect and analyse data, (i.e. various statistical packages) both for qualitative and quantitative data analysis. Furthermore students should know how to conduct diary studies, meta-analysis, network-analysis, and how the data files should be managed and analysed for each of these. Students should also be informed about techniques for data mining.

Interdisciplinary: 'Technological knowledge'. Students should be able to make a stakeholder analysis for a particular project and also see what the different angles/contributions of disciplines to various societal problems could be.

5.4. Diagnostic skill courses

Work psychology: 'Diagnostic knowledge'. The courses should give the student an overview of methods and instruments for assessing the characteristics of the people and the work context (cf. ICF-model), analysing the characteristics of tasks, activities, work processes, functional states and the individual's role behaviour interacting with tasks and (social) context, assessing the effects of work on performance and health aspects, and diagnosing the implication of impairments on performance capacity. Furthermore, students should be taught how to find more detailed information about particular methods and instruments, and provide the opportunity to select and apply such methods and instruments in at least two of the above mentioned domains. Relevant types of work analysis are: work process analysis, task and job analysis, work requirement analysis, activity analysis, analysis of human functional states (activation and effort, emotions, fatigue, boredom, stress, circadian rhythms, etc.), the analysis of performance and work outcomes, error diagnosis, the evaluation of working conditions, work risk analysis, analysis of work group interdependencies, analysis of social interaction and cooperative work. Among the topics that have to be considered are analysis of social interactions and cooperative work. Among the methods to be covered are: use of secondary data observation techniques, psychophysiological measurements, rating scales, interviews, questionnaires, qualitative methods.

Personnel psychology: 'Diagnostic knowledge'. The courses should give the student an overview of methods and instruments for assessing individual characteristics for staffing organisations. Student should also be able to find more detailed information about particular methods and instruments for the assessment of people's training needs, cognitions, emotions, interests, values, life goals, and career objectives, as well as abilities, skills, competences and performance. The student should learn to compose a procedure for career development, selection, performance evaluation, remuneration or training, incorporating such methods. Moreover, the student should learn to use qualitative and quantitative techniques, which may include topics like 'HR analytics'.

Organisation psychology: 'Diagnostic knowledge'. The courses should give the student an overview of methods and instruments to capture the main organisational processes (communication, leadership, power, decision making, and participation). Furthermore, students should learn how to find more detailed information about particular methods and instruments for the diagnosis of organisational states and processes, and the assessment of organisational parameters and outcomes. The student should be given the opportunity to select and use two or more of such methods and instruments to measure the organisational characteristics. Among the methods to be covered are: observation techniques, document analysis, survey techniques, work flow analysis, communication analysis, network analysis, safety and quality audits, analysis of organisational climate and culture, and organisational structure analysis, stakeholder analysis, analysis of the context of the organisation.

Methods: 'Diagnostic knowledge'. In this course students should be taught how to plan and set a diagnosis given a particular organisational situation, or a request from a client, in order to develop an adequate intervention, or trainings program. Part of the course should be the various options for data collection techniques, and learning how to manage the relationship with various stakeholders. The Research project at the final stage of the study should include also demonstration of these skills.

Interdisciplinary: 'Diagnostic knowledge'. Students should acquire knowledge about multiple approaches to diagnostic processes, as professionals in other disciplines might use different methods.

5.5. Intervention skills courses

Work psychology: 'Intervention skills'. The courses should give the student an overview of strategies, methods and techniques for interventions relating to the (re)design of work and the optimisation of human work activity, and learn how to find more detailed information on particular methods. The student should be given the opportunity to select and apply two or more intervention methods. The intervention methods need to address techniques that facilitate changes in work processes, jobs or tasks, and teams with special attention to the interfaces with digital technologies. Skills have to be developed for recognizing the readiness for change, and potential resistance, planning and implementing, monitoring and evaluating the results of the change, and promote innovative processes. Techniques to be considered are team development, promoting job crafting, team building, work design, the design and improvement of work methods and tools, non-standard work arrangements, work teams, as well as skill training and competence development.

Personnel psychology: 'Intervention skills'. The courses should give the student an overview of strategies, methods and techniques for interventions relating to, selection, remuneration or training, career development, conflict and negotiations management, and show how to find more detailed information on particular methods. The students should be given the opportunity to select and apply two or more intervention methods (for example 'team development'), taking into account the results of relevant assessments. Applying the methods implies: organizing and conducting consulting sessions, providing feedback, guidance, advice, or training, communicating with employees, managers, and relevant others, effectively deal with resistance, conflicts and complaints, and implementing administrative measures. To be included are methods for the analysis of jobs, tests and other assessment techniques, methods for decision-making and utility assessment, as well as methods for career counselling and training (including training need analysis). Among the topics to be considered are diversity of contracts, implications for psychological contracts, managing cultural diversity of the work force, developing innovative trainings (gamification), setting up employee assistance programs.

Organisation psychology: 'Intervention skills'. The courses should give the student an overview of strategies, methods and techniques for organisational design and interventions in order to make organisations healthier and more productive, and show how to find more detailed information on particular methods. Examples are: 'appreciative inquiry', 'proto typing and simulations'. Psychologists have to learn skills that focus on dealing with other organisational agents for strategic organisational changes paying attention to the human aspects (i.e. downsizing, mergers, opening new markets, relocations, and setting up new organisations).The student should be given the opportunity to select and apply two or more intervention methods in a simulated setting. Relevant are: general approaches to organisational design and development, as well as specific methods such as group feedback analysis, and intervention methods related to the introduction of new technologies, quality control and assurance, conflict mediation, conflict management, team development, team building, communication system design, design of safety, health and environmental protection systems.

Methods: 'Intervention skills'. Students should be able to use the various data analysis techniques and advanced statistics that have been mentioned previously; setting up studies (diary studies, (quasi)-experimental studies, etc.), analyse the data using the appropriate techniques, and report the study adequately (academic writing skills). The Research project at the final stage of the study should be the demonstration of this skill.

Interdisciplinary: 'Intervention skills'. At this stage students should be trained to work in an interdisciplinary team. Ideally they should be given a societal problem and work with peers from adjacent disciplines to provide a solution, or a plan to get to a solution. This would entail stakeholders' analysis, developing a project plan, and use accompanying techniques (like making a Gantt chart) which facilitate project management and project evaluation. Project management should be part of skills training for every professional, even so for making a so-called SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis.

5.6. Apprenticeship
The apprenticeship (internship/stage) should give the student the opportunity to work on a particular type of problem posed by an individual or organisational client, while supervised by a qualified psychologist. This should help the student to develop competences such as: intake, diagnosis, planning, intervention, evaluation, reporting, and documentation. Special consideration should be given to communication, client participation, and professional ethics. Special attention should be paid to the professional competencies, both the core and enabling competencies, included in the Europsy Competence Framework. Apprenticeships should be performed on the basis of a plan and concluded with a report.

5.7. Research project

The research project should give the student the opportunity to answer a generic question in a scientifically valid way. This should help the student to develop research competences related to the formulating a research problem, retrieving and reviewing existing knowledge, making a research design, sampling, getting access to respondents, data collection, analysis, reporting and documentation. Research projects should be performed on the basis of a plan and concluded with a report.

6. Didactics

It is acknowledged that educational objectives can be achieved in very different ways. Since the results are considered to be more important than the ways in which they are achieved, these Minimum Standards do not pose requirements other than that the didactic methods be appropriate to achieve the educational objectives. It is considered desirable, though, that guidelines on didactics be developed in the near future and that 'good practice' examples are being disseminated.

7. USE OF THE REFERENCE MODEL AND MINIMUM STANDARDS

The Reference Model and the two sets of Minimum Standards can be used for various purposes. Its main functions are to serve as

1.   a guideline for curriculum design
2.   a standard for evaluating curricula
3.   an aid in promotional activities of the discipline and professional.
4.   a tool for the accreditation of psychologists
5.   a tool for harmonizing work & organisational psychology in Europe
6.   a reference for continuous professional development

These functions are specified below.

7.1. Curriculum design

The Reference Model and Minimum Standards for basic and advanced level should, first of all, be considered as a guideline to be followed by those who wish to provide a basic training in W&O psychology to psychology students or an advanced training for those aiming to achieve a specialized or expert qualification in the field. The model will help curriculum designers and teachers to give current W&O programmes the appropriate content and stimulate curriculum innovation, both at the basic and advanced level. A wide-scale use of the Reference Model will help to achieve convergence of curricula in terms of structure and contents, which enhances the opportunities for the harmonization of teaching in Europe, and indirectly facilitates future co-operation and exchange, as well as the mobility of professionals across Europe.

Several design options are possible to fulfil these requirements. One option could be to include all the educational requirements in a specialized Master (such as the Erasmus Mundus on Work, Organisational and Personnel Psychology: www.erasmuswop.org). Another option could be to organize Work and Organization Psychology education as post-master studies (such as Specialization training Program in W&O Psychology in

Finland: www.psykonet.fi). Other mixed alternatives are possible: it should be clearly intended that this Reference Model do not dictate any compulsory design option to reach the above mentioned educational goals.

7.2. Curriculum evaluation

ENOP and EAWOP will promote the use of the Reference Model and Minimum Standards as a standard for evaluation by installing an evaluation body, that will invite European universities and Institutions interested to submit their existing curricula for evaluation. Universities may also submit their curriculum upon their own initiative and ask for an evaluation. Curricula which satisfy all requirements will be recognized as conforming to the Reference Model. When a curriculum does not fully meet the criteria its deficiencies will be noted and recommendations for revision will be given.

7.3. Promotion of W&O psychology

Another use of the Reference Model and Minimum Standards will be to support promotional activities aiming at exhibiting the profile of European W&O psychology and its differences compared to other specialties in psychology as well as other professions.

7.4. Certification of psychologists

The Reference Model and the minimum standards presented here have been designed for the purpose of accreditation. They serve as a tool to establish whether a psychologist is qualified to
1) Enter into supervised practice in the field of W&O Psychology in the context of EuroPsy.
2) Obtain the Advanced European Certificate in W&O psychology.

It is recommended that this reference model and standards be used in connection with the EuroPsy Certification system as managed by EFPA and the awarding of the Advanced Certificate in W&O Psychology by EAWOP (see https://www.europsy.eu/quality-and-standards).