From the Psychology Student to the Professional.

The various ways in which psychology students can move from the realm of cognitive content to theory-based professionalism are explored here. Students in an undergraduate psychology class were told to formulate a behavior plan for graduation. It is believed that the cognitive "content" of the psychology student can be used to facilitate the student's adoption of the professional's theory-based viewpoint. The exercise outlined here is based on the idea that people use their "disposable plans" to formulate new behavioral strategies. Students must be made aware of the fact that their behavior plans should be professional, and that such plans should reflect specific competencies. To achieve this goal, the students are taught the use of the "lean technique," which is seen as useful in recovering behavior plans. The technique uses three stages in which the subject identifies the organization for which the subject works, outlines the basic units of the professional behavior plan in the organization, and then reconstructs the essentials of the expert's behavioral plans so that the subject may be prepared to replace the expert. It is hoped that the procedure here can be used to train psychology students in a theory-based professionalism. (RJM)
Introduction

The teaching of psychology is placed between theory and practice: actually, the problem goes beyond the boundaries of this discipline. Generally, it regards the undergraduate instruction and in particular the relationships between university and labour market. The matter of discussion is the undergraduate teaching of psychology in Italy; we refer to our experience inside Turin University, "Corso di Laurea in Psicologia" (see fig. 1: the educational system in Italy).

During the course of Work Psychology, kept by Ivar Oddone, the students were asked the task of reconstructing their behaviour plan. The request was this: "Write your behaviour plan for graduate".

The aim was to face the problem of using the cognitive "content" of the psychology student in order to turn his situation (a receptacle of psychological notions) into the situation of a theory based professional.

That is, we tried to make the passage from the situation of the psychology student to the situation of the work psychologist easy.

The "Corso di Laurea in Psicologia" provides for the attendance by the student of "Guided Practical Experiences" (GPE). The articles of the "Corso di Laurea in Psicologia" defines GPE as:

"a learning proposal with a double aim:
1. to allow the student, individually or in a group, under the expert's direction, to be brought into contact and/or to work in situations of professional psychological practice;
2. to offer the student the chance of analyse that practice in the light of theoretical knowledge taught in undergraduate courses.  

The GPE is not the apprenticeship, but is anticipates the former because its didactic aim is to allow the student to try his strength with both the difficulties and the richness characterising learning by experience processes."  

Usually the knowledge is taught in a "digital" way, that is through lessons, books and handbooks, while "professional skill is transmitted in 'analogical' way." [Re, 1990]  

The GPE generates a synthesis of both theoretical knowledge and skills elaborated by the student. This synthesis yields a "use model" different from its parts: it comprehends previous knowledge organised through experience.  

The search for a link between the psychology student and the professional psychologist has leaded us to recall a previous and similar experience.  

This experience was a training course about risks prevention in the motor works environment for inexperienced subjects.  

During this course the simulation of the right use of a motor cycle was deepened in order to teach the worker a correct way of using the machines.  

"In the beginning, the shaping of categories and strategies can be fostered by the analogy with machines or dangerous situations of everyday life.  

The use of protection means like gloves, helmet and glasses; the existing traffic signs; the fact that almost everyone has familiarity with cars in everyday life; the spreading of pollution diseases: all these analogic information (far from motor works life), can be very useful in making a protection model based on the relationship among man-machine-environment." [Oddone, Briante, Marri & Re, 1977]  

On these basis we have made four starting hypotheses:  

1. the student possesses a professional behaviour plan, that is the plan of the undergraduate student; usually this professional behaviour plan is not considered neither by the student nor by the teacher  

2. it does exist the possibility of using this plan as a meta model for the construction of the work psychologist's professional behaviour plan  

3. it's possible to recover the professional behaviour plan of the students and other subjects thanks to a technique allowing the passage from the student condition to the work psychologist condition  

4. the aim of the work psychology intervention is to increase both the productivity and the job satisfaction.
The practice suggested by Oddone during the course was to use the professional behaviour plan of the student as a meta model yielding the professional behaviour of the subject.

**Method**

During the course of Work Psychology the student were made the proposal of using the reconstruction of their behaviour plan in order to learn a professional competence.

This proposal is based on the planning of the past: new behavioural strategies are adopted by the persons using their disposable plans; these plans must be both appropriated and efficient for the reaching of the objective.

The first obstacle is to make the student aware of the fact that his activity is a professional one.

The first end is to make the student aware of the fact that his behaviour plan is a professional one. The task of the teacher is to persuade the student that his "job" is a professional activity involving specific abilities and competencies.

The request made at the beginning of the course was: "Reconstruct your behaviour plan for graduating".

The answer of the students has been guided in order:

1. to identify the objectives of the general plan and its subplans
2. to monitor the results through the teacher supervision.

P. e., the objective of the general plan is 'to have the degree', 'to have passed 26 examinations, each of these with a mark of 18/30 at least'.

In the whole about twenty behaviour plans were delivered, in some cases a hierarchical reconstruction of the actions made, less frequently the story of one's own experience as a student (a self interview), flow charts (see fig. 2: an example).

This rough plan (it corresponds to a general script) was completed with some elements characterising the plans of the students.

P. e., the subplan 'to read the textbooks' is composed by a number of subplans: 'to underline with a red pen the most difficult notions', 'to write the key words in the margin', etc.
The basic unit characterising the behaviour plan of the student is 'to study for an exam'. The students divided this plan in two parts:

A. 'to rewrite the topic in the mind'
B. 'to simulate the exam'.

The subplan A ("to rewrite the topic in the mind") is formed by further subplans:

1. 'to attend the lessons'
2. 'to study the books suggested by the teacher'
3. other subplans ('to use the memories', 'to make a glossary of the topic', 'to look for references', etc.).

'To attend the lessons' can be considered as composed by:

1.1. 'to take notes'
1.2. 'to compare notes and books after each lesson'
1.3. 'to use the notes just before the exam' ...

'To study the books suggested by the teacher' can be divided in:

2.1. 'to read the books'
2.2. 'to read and underline the books and to write a synthesis'
2.3. 'to read the books, to compare the book with other texts and the notes'...

The subplan B ('to simulate the exam') is composed by further subplans:

1. 'to get information by students having already passed the exam'
2. 'to use the memories of other examinations'
3. 'to take part in the exam and to make some observation on it'
4. 'to define a strategy for studying the topic'
5. 'to reconstruct the essential parts of the topic'.

It is useful to point out that the greatest difficulty for the student is 'to rewrite the topic in the mind'. This subplan involves the student to reconstruct what he has learnt by making inferences and logical links among the elements of the topic in order to say or to write the former by words.

The 'zero hypothesis' of the A.I. can help us in seeing the rewriting (texts, notes, lessons, experience, etc.) in the student mind as a set of script in his professional plan.

The 'zero hypothesis' derives from the assumption "that the machine does not share with us any knowledge concerning everyday life [...] so we have to study the intelligence considering all that allows us to act in the environment: all the obvious things and the expectation systems involved in our behaviour in the usual situations." [Re, 1995, p. 71]
The students has learnt the use of the 'lean technique' for the professional competence recovery, or '10 + 10 + 30 technique' (a university lesson lasts about 50 minutes); it is useful for recovering the behaviour plan of the experts.

During the course of Work Psychology the students have the possibility to try the 'lean technique' by interviewing subjects expert in different fields: a librarian, a reporter, a clinical psychologist, a workman, a syndacalist, an educator.

In order to make the students aware of the fact that they have got a professional plan, also a student of the Work Psychology course has been interviewed like an expert.

An expert is a subject gifted of a particular skill derived both by knowledge and experience, an expertise that he don't share with other subjects.

This technique is applied in three stages.

First stage: 10 minutes.

In the first stage you identify the organisation in which the subject works. This involves the definition of the objective of the organisation, that is the products or the services provided.

Second stage: 10 minutes.

The second stage involves the identification of the basic units of the professional behaviour plan of the expert. It consists in the repetition in a sequence of a basic unit that occupies a precise period of time.

The basic unit of the clinical psychologist is the single case; it is made of a number of single visits (each of them lasts an hour). The visits regard more than one client and they are managed in a parallel way by the psychologist.

The basic unit of a workman at the assembly line lasts few minutes; it is repeated just in sequence.

The basic unit of the student is the exam (choice, training and performance).

Third stage: 30 minutes.

The aim of the third stage is to reconstruct the essentials of the behavioural plans of the expert in order to make a script allowing the researcher to replace the expert himself.
In this stage the student is suggested to use the 'istruzioni al sosia' (instruction for the double) technique [Oddone & Re, 1994]. This technique consists of a question for the expert: "I pretend to be your double: what should I do if I want to replace you?"

This is the situation in which the researcher tries to simulate the professional plan of the expert.

The behaviour plan of the student has been the argument of a doctoral thesis [Parisi, 1995]; he has made an handbook, a rough prototype that will be refined.

The students handbook has been shaped in a hypertext; it gives the fresher a general behaviour plan of the student (to study, to take notes, to train for an exam) besides information about the topics.

Conclusion

This work has made explicit the passage from the student and the work psychologist.

The procedures and the theoretical basis of this experience are confirmed to be useful to train the psychology students (interested in work psychology) in a theory based professionalism and the aware use of techniques.

This is a way among the other for reaching this objective; it offers the advantage of being an example to use in the future. It will be useful during the work with experts in dominion unknown for the psychologist.

The acquisition of dominion specific knowledge structured in behaviour plans is leading for the work psychologist professionalism.

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Fig. 1 - THE EDUCATIONAL SYSTEM IN ITALY

**PRIMARY SCHOOL**
6 - 11 YEARS

**JUNIOR HIGH SCHOOL**
11 - 14 YEARS

**HIGH SCHOOL**
14 - 19 YEARS

**UNIVERSITY**
19 - 24 YEARS

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**Matriculation Examination**

**UNIVERSITY - PSYCHOLOGY**
(5 YEARS - 26 EXAMINATION)

**BIENNIOUM**
(12 examination)

- General Psychology
- Dynamic Psychology
- Personality Psychology
- Physiology
- Social Psychology
- Biology
- English
- Statistics
- Anatomy

+ 3 EXAMINATION to choose among:
- Anthropology
- Genetics
- Pedagogy
- Sociology
- History of Philosophy
- History of Psychology

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**CLINICAL PSYCHOLOGY**

- Research technique
- Community Psychology
- Group Dynamics
- Clinical Interview
- Dynamic Psychology II
- Psychophysiology
- Psychoterapy
- Test of Personality

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**WORK PSYCHOLOGY**

- Research Method
- Attitude Psychology
- Work Sociology
- Work Psychology
- Social Psychology II
- Organisational Psychology
- Interview & Questionnaires
- Professional Orientation

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+ 5 EXAMINATION TO CHOOSE AMONG 22
Fig. 2 - SUBPLAN: “TO STUDY THE BOOKS”

Operation: read the index

Operation: read chapter one, read chapter two, ...

Operation: second reading, underline with different colours ...

Operation: repeat the notion studied

Objective: to have in mind the most important notions

Objective: to have a wide sight of the topic

Objective: to put in evidence the most important notions

Objective: to have a first idea of the content of the book
Fig. 3 - BEHAVIOR PLAN FOR PASSING AN EXAMINATION.

PLAN FOR PASSING AN EXAMINATION

A: TO REWRITE THE TOPIC IN THE MIND

A.a. To attend the lesson

A.b. To study the books suggested by the teacher

A.c. Other subplan: to use the memory, to make a glossary of the topic, etc.

B: TO SIMULATE THE EXAM

B.a. To get information by student having already passed the examination

B.b. To use the memory of other examinations

B.c. To take part in the exam and to make some observation on it

B.d. To define a strategy for studying the topic

B.e. To reconstruct the essential parts of the topic
I. DOCUMENT IDENTIFICATION:

Title: FROM THE PSYCHOLOGY STUDENT TO THE PROFESSOR AC

Author(s): M. BARBONE, D. ACQUARDO, M. GRAGANO, R. PARISI

Corporate Source: TEACHING OF PSYCHOLOGY

Publication Date: AUGUST 1986

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Date: 28.01.97
I. DOCUMENT IDENTIFICATION:

Title: FROM THE PSYCHOLOGY STUDENT TO THE PROFESSIONAL

Author(s): M. Barisons, D. Acquabilio, Maran, & Graziano B. Parisi

Corporate Source: TEACHING OF PSYCHOLOGY

Publication Date: AUGUST '96

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APA 1996