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THE PHD DISSERTATION SUMMARY

**“COGNITIVE AND MOTIVATIONAL FACTORS
IN THE CAREER EDUCATION”**

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**THE PHD DISSERTATION SUMMARY ENTITLED
“COGNITIVE AND MOTIVATIONAL FACTORS IN THE CAREER EDUCATION”**

Key words: career, career education, career orientation, cognitive factors, motivational factors, career educational program.

The work conceived as a PhD dissertation entitled “Cognitive and motivational factors in the career education” represents a scientific research presented in 351 pages which spins round the concept of education for career, stressing the role which the cognitive and motivational factors have in this process.

The recent years have been marked by the paradigmatic changing in the field of career orientation, the educational programs focusing on the development of some abilities concerning the administration of self career’s development and on the formation of some cognitive and attitudinal structures that should be able to uphold the management of the career, for a long period of time. The approach of the career from the point of view of its lifelong development underlines the importance that the flexibility of the information, experimental studying, procedural and strategic knowledge have in solving the decisive problems. According to the current conception, the education for career refers to the formation of an active and positive attitude towards the self-knowledge, personal development, the exploration of educational and professional opportunities.

The research we initiated had in view and developed these aspects, both from the psychological and pedagogical point of view. The psychological point of view emphasizes, on one hand, the interaction between the psychical processes as cognitive definite factors in choosing the career and, on the other hand, the interaction between motivational factors as regulator factors in having a career decision. The pedagogical point of view offers methodological references concerning the development, the organization and the implementation of some efficient models in the career education.

In order to give continuity in the work unit and exposure, we organized it into two parts, each of them having many chapters, by which we intended to verify the established hypotheses and to present, from a pragmatic and logical approach, the studied materials. In addition, the conclusions part has the role to synthesize the main personal findings and appreciations of the work content, and the annexes and the bibliography we used represent a real testimony of the approaches we realized.

The first part, **section A: Theoretical background**, is made of three distinct chapters which present a few theoretical references in understanding the current problem of career education, by the explanation of specific terminology, diachronic approach to the concept and by identification and presentation of the main categories of cognitive and motivational factors detached from the major theoretical approaches. We also considered adequate the marking of some references referring to the implementation of specific features of career education at secondary level.

In **the first chapter**, entitled “**The Education for career- concept and conceptualization**”, there are presented conceptual delimitations referring to the career and correlative terms, useful in understanding the exposed contents during the work, there is made an approach of the concept of career from its evolution point of view, underlining the present-day national and international career educational trends. We also considered adequate to emphasize a few specific particularities of career conciliation, generally and of career education particularly, in this chapter. These particularly refer to the specific principles and objectives of the area, which we must take into consideration as specialists and to the steps the children must follow in the process of choosing their career.

The second chapter, entitled “**Current explanatory theories of development and the career management**” is dedicated to the presentation of the main theories viewed from the point of view of the factors which influence the process of career education. A relevant factors’ typology for our purpose, is made according to the localization of the influential sources in the process of choosing the career. So, we opted to present theories that highlight the role of the personal factors (internal) and contextual (external) in career choice. We consider that the presentation of the theoretical approaches according to this distinction, allows an understanding and comprehensive classification of the factors implied in the career choice, giving us the opportunity of synthesizing, at the end of this chapter, from a personal view, an integrative theoretical model for conceptualizing cognitive and motivational factors affecting the choice of a career.

The third chapter, Features of high-school career education, refers to the aspects linked to the role of the psychologist in career education, methodological particularities of career education, the main fields in which pupils should develop their skills after following a career education program, a few important approaches concerning the development of the teenager with reference to his or her vocational identity and with specific reference to his thinking in relation to career decision. What we propose in the last part of this chapter is a model of a program for career education, invented and experienced by us, whose efficiency

has been proved by its results. The elaboration of this formative program, based on synthesizing the most relevant research in this area and on the empirical data obtained through finding phase of the research, gave us the opportunity of **structural relevance** assurance of the program, by selecting certain content relevant fields for the vocational development for high-school pupils and of the **functional relevance**, by involving children in solving tasks that promote the development of procedural and strategic knowledge.

The second part of our work, **section B: The experiment and its problem**, contains the following three chapters, which describe the stages of the experimental approach undertaken in order to validate the established hypothesis.

The purpose of the explorative approach made and presented in the 4th chapter, **The observant stage of the investigation**, was gathering diagnostic information concerning the specific necessities for career education of our target group, making up in an essential needs analysis for projecting and implementing the formative intervention. The approach we realized was the essential bases for delimiting the sample of subjects and the sample of content, for the clarification and the explanation of the methodology we used.

During this investigating stage, after delimiting the sample of subjects, there has been administrated the *pre-test*, both for the experimental samples and for the checking ones, in order to establish the starting level that existed at the beginning of the formative experiment, and in order to know the stage in which the teenagers are and the difficulties they face in choosing their career. The investigations that have been made during this stage, with the help of many methods and instruments, also revealed poor elements in implementing career educational programs in school, underlining at the same time the main categories of cognitive and motivational factors that are considered important by teenagers in their career decision. In the context of this approach, the working definition of cognitive factors included those internal factors that acted at the individual level such as knowledge, abilities and capacities. By motivational factors I understood all internal and external factors that operate on an individual as definite reasons in choosing an educational and professional path. During the work I caught the **interconnection relation** that exists between the two factors, revealing the most efficient strategies of optimizing their impact upon teenagers and the role of each category in realizing a qualitative career education in high-school. There can also be found, in this chapter, details about the results of the observant stage of investigation, a way of pre-test administration, its results and a set of conclusions which include the results in a form that permits a very coherent representation of the actual situation concerning the features of the career choice by adolescents.

The 5th chapter, Experiment on the effectiveness of implementation programs for career education in high-school, contains theoretical and methodological explanations regarding the formative experiment, the hypothesis and the objectives of the research, the particularities of the sample of subjects and of the content, the system research methods used and the specification stages about how to conduct the experiment.

The hypothesis we started from in realizing the experimental approach was: the implementation of a formative career education program, focused on student's implication in activities which have into consideration the acquiring of theoretical and practical knowledge specific to each level of the pyramid information processing, increases students' level training concerning their career decisions, by growing the capacity of solving tasks and reflections on career.

In other words, we focused, in this research, on the optimization of those students' knowledge that were implied in the experiment taking into consideration their career decisions by the increasing capacity to solve specific tasks, by optimizing their thoughts associated to the career decision and by the development of a positive attitude towards the specific career activities. It was possible by the implementation of a career educational program, created by us, in order to optimize the influence the previously identified cognitive and motivational factors have, in career choice.

The experimental sample consisted of high-school students in the 9th grade that was selected from eight high-schools from Sălaj. The choice of this people category is based on special studies about career, which show that students who are about to graduate (in the 11th and 12th grade) are more motivated to involve in getting theoretical and procedural knowledge about an efficient career choice. Therefore, for realizing the experimental investigation, we selected according to the discussions we had with the masters and the psychologists and according to the applying of the evidence from the pre-test, a number of eight experimental classes and eight control classes.

In selecting the specific contents for our career educational program, we kept those content fields that were in agreement with our purpose, from the structural point of view, the methodology used and the activities organization forms.

For succeeding in achieving the objectives we described at the beginning of our approach we considered necessarily to select the most relevant researching instruments in this respect. Consequently, we resorted both to the translation and to the adjustment of some of them (the inventory career thoughts) and to their elaboration (the questionnaire of career decision; semi structured group interviews; the evaluation record for the program "Choose

your career!"). The using of the inventory career thoughts, an instrument that we translated and adapted, offered us the possibility to identify the main dysfunctional thoughts categories which acts like barriers in solving the career problems. After we identified these obstacles, by the help of the contents used in the formative program, we could interfere in the main categories of cognitive factors which influence the quality and the efficiency of the specific career educational approaches. All activities were also made in order to promote the action optimization of the main motivational factors of adolescents in their career choice.

We thus consider, that the varied methodology which has been used in this approach serves the initially purpose, that of realizing a formative intervention, first of all useful for the students who are about to have a career decision.

As we wanted to obtain a very complex efficient intervention, we involved in our experiment both the students – who are the main beneficiaries of the program, and their parents, masters and psychologists. We believe that for realizing such an approach it is suitable that all curricular and extracurricular activities should be congruent, and the actors involved should have the same intentions and means.

The importance and the impact of our research are highlighted in the 6th chapter, **The analysis and interpretation of experimental research data**. The chapter includes the analysis and the interpretation of the data obtained through the research methods and instruments which were used for checking the efficiency of the experimental intervention, providing relevant information about the evolution of the experimental group, as compared to the students from the control group, in the post-test but also in the re-test. The conclusions we can mention as a result of the assessment of students' thoughts failure referring to the career choice and to the importance of this process, by the career inventory thoughts and by the career choice questionnaire, underline and capitalize the main aspects identified during the experiment.

The differences of the global averages between the experimental group and the control one are significant, thus proving that the failure thoughts level referring to career choice is significantly lower, and the importance given to the process of the career choice is higher in the experimental group as compared to the level of the control group which remained at almost the same level as it was in the pre-test. Consequently, we consider that the experimental factor, the formative program for career education in our case, influenced in a significant and positive way students' abilities about their career choice, the control group having a lower failure thoughts level and the experimental group demonstrating a higher interest for the decisive process. In other words, we succeeded in optimizing the influence

which the main categories of cognitive and motivational factors have upon a teenager who is in the position to make a career choice.

As much as the control group is concerned, the results between the pre-test and the post-test reflect insignificant differences, proving that without a comprehensive and systematic intervention based on formative activities and exercises specific for each field, the subjects don't develop skills related to the career choice. Although the raw data indicate a certain progress for students from the control group, as they recorded a development between the pre-test and the post-test, the progresses are low and statistically insignificant, their evolution being considered natural for this period of their development.

The analysis of internal distribution of scores on the areas highlighted progress, from the point of view of experimental group, for all content areas of career inventory thoughts. The following content areas had significant progress: the career decision, the exploration of the educational and occupational path, personal marketing. Also, in the case of the questionnaire of career decision, the experimental group had better results referring to the importance given to their involvement in the specific activities of the decisive process. These results confirm us the quality of the contents by which the students' motivational aspect has been improved. We believe that these results represent the effect of a proper student involvement in the specific tasks for each area, of interactive and practical activities and of a low degree of complexity associated with specific procedural knowledge of these areas. Moreover, the obtained data are the proof that these areas are easier to be modeled within some didactic activities such as the prevention educational programs about the career indecision. In the case of inventory's career thoughts, the lowest progresses, but statistically significant, have been recorded for the subscales which correspond to the content areas about Self-knowledge and the Career plan, these areas requiring a high level of abstraction of associated knowledge and a high level of complexity of the proposed activities. The students' vocational certainty assessed through the questionnaire of career decision, didn't have significant changing after the implementation of the formative program, which means that in order to modify and to influence the students' way of thinking about career, we need, except the new activities, other specific activities too, such as individual counseling for the students who face such difficulties. From this point of view, we consider that for obtaining significant results in the areas where there weren't any essential progresses, there must be done specific activities of individual counseling and there is the need for a complex approach of the problem that can't be modeled through group teaching.

Summarizing the established aspects, we can observe the significant differences between the experimental group and the control one in most of the already discussed cases, the differences which **underline the positive impact of our intervention** on the experimental group. Another very important aspect which must be taken into consideration is that both groups understood the importance of collaboration and the share with others their ideas and decisions about career, the data gathered confirming us that the students usually discuss with important persons of their lives when they have to take an important decision.

The data analysis according to the revealed profile study for children enrolled in the actual profile and service profile, revealed a lower level of their thoughts' failure in relation with their career choice. The statistic analyses didn't indicate significant differences between the children from human and technical profiles, which prove the same effect that the experimental factor had upon the students enrolled in these two studying profiles. In the case of the Questionnaire about career decision, the results proved differences only referring to the importance given by students to the career choice, differences that appeared in human-services and human-technical profiles only, they being in favor of students enrolled in the human profile from the experimental group. As a consequence of these results, we can say that the students of the human profile succeeded in a better understanding of the usefulness of early involvement in specific activities for career education, and it has helped to give greater emphases to the career choice. These results confirm the influence optimization of motivational factors on students enrolled in this profile.

The data analysis obtained in terms of correlation between the researches variables highlights a link between the subscales of the two used instruments, fact that underlines once more the efficiency of our intervention. In other words, even if the strength of links between the variables isn't a very strong one, it also remains significant and it supports our theory according to which a very low failure thoughts level of children about a career choice tends to be associated with their greater involvement in the specific activities referred to the career choice.

The data interpretation proceeded from the analysis of summery sheets completed by students at the end of each thematic area of the program has provided us with valuable information on areas assessed by students as the most attractive and they gave them the most important occasions of some knowledge assimilation useful for optimizing decision-making. Thus, we can note the high students' performances which they proved in relation with the personal promoting skills, information on career exploration and decision-making status. On the other hand, the lowest performances have been obtained at the specific skills about self-

knowledge and career planning, which can be explained by the difficulty of processing the information about these areas, their variety and the relatively short time the students had to deal with the specific tasks of these areas.

The data analysis about the efficiency of the formative career educational program, reveal us its positive impact on the beneficiaries, but also on the involved teachers. More concrete, most students use to characterize the project activities as interesting, useful and rich in information. The usefulness, the wealth and the way of presenting the information by students during the career educational program were, thus, the main motivational factors that finally led to the objectives that we proposed. The most attractive modules of this program were, in students view, those of self-knowledge and of taking a career decision. The percentages for the other modules are quite close, and important differences about the attractiveness perception between the establishing of a career plan, the exploration of educational and professional pathways and personal promotion don't exist. If we make a comparison between these results and the areas where there took place significant progresses, we get a real areas superposition, and this shows us the balanced structure of the activities performed content. The references made by the teachers involved in the project support the student's assertions concerning the usefulness and the wealth of the transmitted information, especially underlining the effective and innovative nature of the methodology used.

The stability of the results over time and especially the efficiency of the career educational program implemented at the high-school level were also confirmed by the results obtained by students in the re-test phase.

The last part of the work is dedicated to the **Conclusions'** presentation and to personal assessments about the findings made during the research. The end of the work is reserved to the consulted bibliography list and to the presentation of an annexe set which contain the instruments we used in every stage of the research.

The feature of the proposed activities was mainly practical because the efficiency of these activities has been demonstrated through the research made in other countries too. Moreover, there has been underlined the importance that the merged activities have in developing the motivational and cognitive dimensions of students. Doing so, we managed to balance our involvement in the relationship between the cognitive and motivational factors which have an impact on the career education. Between the two categories of factors there is establishing a relationships of interdependence, relationship that we emphasized during our research.

As it is shown from the hypotheses formulation and from the variables of the research, our experimental approach was organized on two main action directions: on one hand, the practicing of some procedural strategies specific for the important areas in taking a career decision and in optimizing the career's thoughts, and on the other hand, it increases the desired career decision, the ability of solving career problems and the increasing of a positive attitude towards career education and towards taking a career decision. These two research directions were simultaneously followed, being characterized by complementarity.

Through this research I made a systematic contemporary approach regarding the career education, offering a **logical and coherent picture** on theoretical fundamentals, of the main theories referring to the development and career management, identifying and stressing the promoting features of an efficient high-school career education.

Taking into consideration these aspects, we also elaborated and proposed a **model of good practice** for high-school career education. This model, was realised in the form of an intervention program whose aim was to develop the specific skills for the cognitive and motivational-affective dimension of the vocational development, identified as being poor. The arguments which advocate for such a program were extremely varied, focusing primarily on the following present day elements unsatisfied by society and especially by school:

- The career education must be present throughout the educational journey.
- To optimize the process of career choice means previously to develop two categories of skills: those specific to the cognitive dimension and those specific to the motivational-affective dimension of the vocational development.
- The needs for a career education, for involving students in activities and tasks which require the optimization of procedural and strategic knowledge related to career choice and to ensure their functionality in solving the difficulties appeared in connection with their career, represent an important condition for increasing the socio-professional insertion of students in their final school years.
- Offering a coherent perspective on their educational and vocational journey helps the student in his or her career decision process.

The efficiency of this category of activity can be proved, if during such programs, the approached content areas follow the specific theme for the different categories of cognitive and motivational factors which are representative for teenagers' career development. In our approach, we tried to make a balance between cognitive and motivational by involving children in making a set of practical and experimental activities, selected on logical sequence of specific stages of decision making, in order to practice some procedural strategies specific

for each area. Throughout the program, we tried to insert in the activities we made, both aspects to develop skills and cognitive abilities involved in choosing a career (self-knowledge, information exploration skills, making decision and solving problems, personal planning and promoting) and motivational aspects by which we aimed the students' increasing interest towards the activities suggested, the degree of decision on the educational and professional journey, and the importance given to this kind of activities. The diversity and the presentation of the addressed theme, the varied methodology and the opportunity given to the students to involve in extra-curricular activities in order to increase their motivation for establishing purposes according to their personality characteristics, were just some of the intervention strategies to the motivational level. The results and the enthusiasm declared by students at the end of the implemented formative program in school, were the main proves for optimizing the attitude towards this kind of activities. We consider that through the proposed contents we managed to positive the impact of the internal motivational factors (academic performances, the personal values, the purposes based on performance, the aims of personal and profesional development), so that, the students should engage very early in activities structured on career management. During the topic we talked about, we presented the ways that students can optimize the influence that these factors have on them, and the most efficient carer management strategies they can use in the future. In order to underline the role of the external motivational factors, we chose the presentation of some relevant case studyings, which revealed situations in which their situation was favorable or not. We managed thus to highlight the most efficient strategies through which the teenagers can control the action of these factors on them. The main external reasons (external motivational factors) delimited by our research subjects, that determine a cereer choice were their career exemples (parents, brothers, friends, stars, and so on); the financial perspective and the social status offered by the desired job; the existing opportunities for eduaction and for labour market when they have their career choice.

Therefore, the pragmatic aspect of this approach is to structure the relevant information, to achieve specific career education in high-school, to offer a type of an efficient program of intervention to this area, to develop, translate and adapt some specific tools of research for this age. The work, as a whole, supports the psychologists and the masters, providing a theoretical and especially practical framework based on a great scientific ground.

As a conclusion, through this research we intended to offer:

- ✓ An **integrative approach** for the concept of career education and for and its annexes.

- ✓ A **comprehensive synthesis** of the main relevant studies and theories in the field of career education, and of the cognitive and motivational factors that influence the career choice.
- ✓ An **applicative educational perspective**, regarding the formative educational approaches efficient in optimizing the development of career management.
- ✓ A **comprehensive image** of students' needs for training and information and of teachers regarding career education.
- ✓ A complex and coherent **career educational program** made to meet the students' needs;
- ✓ A **set of learning situations** which require the development and the practice of specific skills implied in the process of career choice by students' involvement in activities where they acquire declarative, procedural and strategic knowledge;
- ✓ Various and adequate **techniques and tools** for determining objectively the students progress in terms of managing their own career.

With many examples of teenagers who face difficulties in terms of career I considered absolutely necessary an approach from the cognitive and motivational factors relevant for choosing a career. The importance of the identification and the analysis about how the cognitive and motivational factors act in the career choice is even greater, as in the Romanian literature, there aren't many references to this issue, those interested in these topics being force to undergo numerous references, inaccessible in Romanian.

To summarize, our research tried to offer a conceptual model of an effective and systematic educational intervention in order to optimize the high-school students preparation for their career choices.