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Career decision-making skills of primary education students in Greece: planning of career guidance activities throughout the curriculum

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Abstract

The purpose of this study was to construct a theoretically driven and psychometrically sound career decision making skills questionnaire to measure the dimensions that contribute to career decision-making of 6th grade primary education students. Principal components analyses indicated the presence of three empirically derived components that contribute to career decision making of primary education students and call for demands to develop educational activities throughout the curriculum. These career guidance activities have three main goals: (a) investigation of the world of work in relation with students' self awareness, (b) development of simple strategies of decision making and problem solving, (c) awareness of the relationships among variables such as personal characteristics, school attendance, and life preparation. These activities can be used in school settings and have a strong effect on students' understanding of how choices and planning affect their future.

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Introduction

Although life span theories acknowledge the importance of career development throughout life, career development research lacks an explicit focus on children (Stroeher, 1994; Wood, & Kaszubowski, 2008). There are relatively few data regarding occupational knowledge of elementary school students (Walls, 2000), despite the theorists' general agreement that career development begins in childhood and continues throughout the life span. The 21st-century workforce requires individuals who are flexible thinkers, effective problem solvers, and lifelong learners. Consequently, it is imperative to gain a better understanding of childhood decision making processes and to facilitate the development of decision making skills to better prepare children for their life in the future. In other words, it is important for them to develop decision making skills and to gain a meaningful understanding for their future career choices.

Career guidance in the elementary school is not intended to force children to make premature choices but to avoid premature closure of future options. Early choices may be unwise in the sense that abilities, competences, and values are not fixed, and choices may be based on highly inaccurate assessments of competence (Sprinthall, & Collins, 1984). As researchers emphasize, career related learning in the elementary school should "focus on students' awareness of educational, occupational and other choices that will be available as they proceed through school and into the adult world, of ways to anticipate and plan for them; and of the relation between work habits, abilities and interests, and related characteristics" (Herr, Crammer, & Niles, 2004, pp. 334). To accomplish these goals it is essential that career guidance activities in the elementary school become an integral part of school academic planning and transition process. Such activities might benefit from incorporating approaches such as the support of student's career development and career decision making and the understanding of how current choices and planning affect their future (Wonacott, 2002).

In Greece career guidance programmes in elementary school are not based on classroom instruction but mostly on curriculum infusion techniques and on group activities. Attention is paid by teachers to career relevant learning; they use a wide variety of

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activities which help children to develop an awareness of themselves and the world of work.

The aim of the present study is to examine the view of the 6th grade students about a number of dimensions related to career decision- making. Based on the results of this research we suggest a few techniques which represent examples of career guidance activities that might facilitate the development of students' career decision- making skills.

Career development in childhood

Super (1980) identified the ages before 14 as the tentative period in which children start thinking about careers and themselves. According to Ginzberg (1972) children in the early school years use fantasy in their play and act out in a variety of adult roles without any risk and have fun doing it. Between ages 9 and 13 children enter into a second phase of circumscription in which they begin to rule out occupations requiring effort beyond their view of their general ability level (Gottfredson, 2002). Children begin to develop their vocational self-concept, their career values and, up to the age of 12, most of the children are able to make some pilot career choices and justify these choices (Seligman, 1994). Social cognitive career theory (SCCT) (Lent et al., 1994) emphasizes the importance of learning in childhood's interest development. Work by Lent and others provide the value of repeated practice, modelling, and feedback based on significant others that foster children to "develop skills, adopt personal standards, estimate their abilities, and form beliefs about likely outcomes of performing certain tasks" (p.89).

Career guidance counsellors should take into consideration children's developmental stages, in order to be more effective (Seligman, 1994). According to Havighurst (1972) the elementary school years encompass developmental tasks, which include (a) achieving personal independence, (b) developing fundamental skills toward achieving in school, (c) becoming concerned about the future, learning to plan for the future, developing a scale of values and positive attitudes toward social group and work. According to Seligman (1980), the six goals associated with accomplishment of required tasks for the career development of elementary students are: (a) to develop a broad, flexible, and satisfying sex role identity, (b) to develop attitudes that are conducive to competence, cooperation, and achievement, (c) to develop self-awareness and a positive self-concept, (d) to acquire

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knowledge about workers, their roles, and the value of work, (e) to develop some understanding of the relationship of interests and values to occupational choice, (f) to develop an awareness and appreciation of one's interests, values, abilities, and personal qualities (Drummond & Ryuan, 1995, p.79).

Consequently, the elementary school years encompass developmental tasks associated to the career development (Schultheiss, & Stead, 2004), as students become able to develop a clear concept regarding occupations and to gain a meaningful understanding of career significance in social life.

Career guidance in the elementary school

Career education is most typically thought of in conjunction with middle and high school curriculum and less often within the scope of primary education. Yet critical components of career education--self-knowledge, and awareness of the larger community and world in which one lives--are emphasized in many ways to younger children in their classrooms. Freeman (1994) has stressed that career guidance in elementary school is associated with basic skills and attitudes that children should acquire to deal effectively with daily life, to make the transition into the middle/junior high school and to start developing an educational plan to insure their academic growth and continuing career development. Therefore career guidance in elementary school should be considered as a dynamic and creative process that can be incorporated in various courses of the curriculum. The elements of vocational exploration (e.g. curiosity, information, exploration, planning) are the top career development needs for the philosophy and practice of career guidance in elementary school. Research findings suggest that the goals of career guidance activities in elementary school include objectives related to career exploration, knowledge of the world of work, awareness of self, decision making skills, understanding the meaning of various concepts relevant to the labor market, and awareness of competencies needed as building blocks for positive career development (Bobo, Hildreth & Durodoye, 1998; Campbell & Dahir, 1997; Flum & Blustein, 2000).

Elementary school teachers play a significant role in the implementation of career guidance activities. Recent research in Greece outlined that teachers in primary education schools should aim at: (a) developing students' career awareness and facilitating the

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formation of values, attitudes, and interests (Argyropoulou, Papaioannou, & Touloumakos, 2005. Sidiropoulou-Dimakakou, Krassas, & Touloumakos, 2005); (b) developing students' skills for understanding and using career information; (c) introducing to children the basic concepts of labour market and helping them to realize that each profession requires different abilities and skills (Kassotakis, 2002). It is, also, stated that teachers should: (a) provide opportunities for students to express their beliefs about themselves in relation to various occupations (Magnuson & Starr, 2000); and (b) facilitate children's understanding of how to make decisions and choose alternatives related to tentative educational and career goals (Freeman, 1994). Lessons, written exercises, journals and on-line Internet sources may be utilized by teachers in order to help students articulate the development of a vocational self and career goals (Lapan, 2004; Silverstein, 2005).

Parental support is of great importance as well. Parents can collaborate with teachers and contribute to career guidance programs, provide opportunities and experiences for their children to develop decision-making skills, and help their children to develop an interest in career awareness (Isaacson & Brown, 2000; Sidiropoulou-Dimakakou, Mylonas, & Argyropoulou, 2003).

Infusion of career guidance activities throughout the curriculum

The development of new school curricula and textbooks in Primary Education in Greece was accompanied with a systematic care to highlight elements that provide opportunities for students' to deal with career guidance activities (Pedagogical Institute, 2006)[1]. Elementary school teachers "map" themes to be reinforced across the curriculum (Herr, Cramer, & Niles, 2004). In this context they may introduce career related themes to help students acquiring critical thinking and independence, develop life skills (self-presentation, team spirit, responsibility), and learn how school experiences can be used to explore and prepare for the future. Throughout the curriculum students may: 1) gather and process career information, 2) understand the importance of occupations for the fulfilment of human needs, 3) acquire knowledge regarding occupations that no longer

[1] **http://www.pi-schools.gr**

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exist, 4) understand the meaning, the content and the style of a curriculum vitae by identifying the difficulties and the working conditions of the various occupations, 5) understand basic concepts of the world of work, and 6) identify gender equality issues in the labour market (Sidiropoulou-Dimakakou, Argyropoulou & Papaioannou, 2009).

The "Health Education" and "Environmental Education" programs help the elementary school students to start thinking about the way in which work is associated with their personal needs and characteristics and increase the curiosity about career fields. They, also, contribute to the understanding of the relationships between work habits developed in the elementary school and work behaviour in adulthood. Finally, they involve systematic provision of skills throughout the curriculum and continuous cooperation of teachers and students. These programs can be realized in the frame of the "Flexible Zone"[2], which is a part of the curriculum.

The present study

The present study aims to address three questions: (1) what are the underlying dimensions that contribute to career decision making of Greek primary education students? According to theory and prior research in career decision making (Chartrand et al., 1990) we expected a factor structure that describes both the cognitive deficits and affective interference of career choice. (2) What is the extent of these dimensions that the primary education students share? Differences are expected to emerge in their decision-making status. (3) Are there any differences at the extent of career decision-making dimensions as an effect of the demographic variables (e.g. gender, parents' educational level)?

The findings of the present study should be regarded as a first stage exploratory attempt. We believe that the results may contribute to the understanding of childhood career development and decision-making process and have practice implications for the design of career guidance activities which focus on the needs of elementary school children.

[2] **Flexible Zone is part of the primary school curriculum. Its main purpose is the integration of school knowledge, students' interests and life situations, and for this reason it embodies various "trans-subject" creative activities (http://www.pi-schools.gr).**

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Methods

Participants

The sample consisted of 531 6th grade students in the region of Attica, Greece. The particular class was selected because in the Greek educational system 6th grade is the last class of the elementary school and has a transitional character. This is also a period of life when students become able to make some pilot career choices and justify them.. Participants were 266 (50.1%) male, while 265 (49.9%) are female.

Instrumentation

Career decision making skills were assessed by the Career Decision-making Skills Questionnaire (CDSQ), which is consisted of 40 items (Sidiropoulou, Mylonas, Argyropoulou, 2008). CDSQ assesses the view of primary education students about issues relevant to career decision-making process such as self-awareness, career information, affective interference, and coping. Responses are recorded on a 2-point scale of *YES* and *NO*.

Factor analyses indicated three general factors: a) Concerns/ fears regarding career future (8 items), b) Investment in decision making process (13 items), and c) Knowledge of the World of Work (6 items). Regarding the scale's content validity, CDSQ is based on a well established theoretical model of career decision-making theory concerning cognitive deficits and affective interference (Chartrand et al., 1990). The estimated internal consistency coefficients of the aforementioned categories of CDSQ in this study were .69, .62, and .61 respectively.

Results

Exploratory factor analysis was conducted to categorize the questionnaire's items into larger homogeneous groups, in order to better describe the internal structure of the students' responses. Factor analysis included 40 items for the 531 students. Principal Component Analysis with varimax rotation was used as extraction method. Through repeated iterations, it was decided to dismiss 13 items that did not fulfill the statistical conditions to be included in the factorial structure. The final solution for the 27 remaining items (having as the cut point loading the 0.35) revealed three (3) factors, to which 27.51% of the variance can be attributed. For this analysis KMO=0.72, χ^2 for the

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Bartlett's test of sphericity = 1.783E3 (df=351, p<.001). All loadings of the measurements in the three factors based on this solution are presented in table 1.

Table 1: Results of the factor analysis for the 27 items of the Career Decision-making Skills Questionnaire

	Factors		
	1	2	3
4. When I think of my future job, I feel concerned.	**,670**	,045	,019
35. When I think of my future job, I feel fear.	**,647**	-,043	-,104
32. When I think of my future job, I feel calm.	**-,629**	,038	,187
29. When I think of my future job, I feel confident.	**-,608**	,045	,179
24. When I think of my future job, I feel that I need help.	**,568**	,156	,004
11. It is difficult for me to think of my future job.	**,506**	,027	-,209
7. It is easy for me to remain concentrated on my targets and to realize my plans.	**-,366**	,026	,168
6. Many of the problems that I face are very complicated and I cannot solve them.	**,347**	-,130	,074
5. School provides me knowledge that will prepare me for my future education.	,034	**,531**	-,002
40. Before choosing an occupation, I need to know my skills and interest, in order to understand what kind of job would suit me better.	,091	**,524**	-,013
37. To succeed in my future job I need good grades at school.	,149	**,448**	-,050
30. Before choosing an occupation I need to think hard in order to understand what kind of job I would like to have.	,162	**,440**	,063
23. To make career choices I have to know in which subjects I am good.	-,061	**,440**	-,115
13. School knowledge prepares me for my future job.	-,094	**,433**	,040
9. To solve a problem I have first to define what exactly the problem is.	,017	**,405**	,074
17. To choose my future job I have to gather much information.	,144	**,396**	,072
18. When facing a problem I think of many alternative solutions, in order to choose the best one.	-,144	**,392**	-,110
10. I know my parents' occupations.	-,157	**,384**	-,015
21. Having spare time is very important for me.	-,008	**,382**	,130
38. I can achieve better grades at school by trying more.	-,185	**,378**	,192
16. In school I learn useful thing for my future job.	-,129	**,371**	,012
31. I know the various different occupations.	-,062	-,005	**,726**
27. I know the various occupations where people have to work with machines.	,001	-,076	**,675**
19. I know the places where each job is conducted.	-,130	,081	**,629**
15. I know the various occupations that require cooperation with other people.	-,086	,003	**,571**
20. I can describe the reasons for which people choose their job.	-,088	,001	**,394**

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22. I am able to solve even hard life problems.	-,139	,171	**,359**
Variance explained (total: 27.51%)	10.04 %	9.16 %	8.30 %
Internal Consistency Coefficients	.69	.62	.61

The three factors can be described as following:

1) *Concerns/ fears regarding career future:* This factor refers to the feelings of uncertainty and fear that student experiences when thinking of his/her career future.

2) *Investment in decision making process:* This factor refers to the understanding of the career decision making process stages (e.g. gathering information about oneself and about the occupations, producing alternative solutions, and understanding of the relevance that school-based learning has to a future career).

3) *Knowledge of the World of Work:* This factor refers to the level of knowledge that students believe they have about various occupations and their working conditions.

Subsequently, we calculated the means scores and standard deviations of the three decision making categories (Table 2). The minimum possible score in each category is 0 and represents low level of the factor while the maximum possible score is 1 and represents high level of the factor. The highest score was on "Investment in decision-making process" (mean=.89, SD=.13). Subsequently, a quite high score was achieved in "Knowledge of the World of Work" (mean=.64, SD=.27). Finally, the lowest score was on "Concerns/ fears regarding career future" (mean=.33, SD.=.26).

Table 2: Mean scores and standard deviations for the 3 factors of the Career Decision-making Skills Questionnaire

Factors	N	Min	Max	Mean*	SD	Variance
Concerns/ fears regarding career future	531	,00	1,00	,33	,26	,069
Investment in decision making process	531	,31	1,00	,89	,13	,017
Knowledge of the World of Work	531	,00	1,00	,64	,27	,075

*0 = No (low level), 1 = Yes (high level)

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The correlations matrix between the three career decision-making categories scores ("Concerns/ fears regarding career future", "Investment in decision making process", and "Knowledge of the world of work") and parents' educational level are displayed in table 3. "Concerns/ fears regarding career future" is negatively correlated with father's and mother's educational level ($r = -.12$, $p < .01$, and $r = -.14$, $p < .01$ respectively), but the correlation is extremely low. "Knowledge of the World of Work" is positively correlated with students' father's and mother's educational level ($r = .18$, $p < .01$, and $r = .11$, $p < .05$ respectively), but the correlation is extremely low as well. Finally, "Investment in decision making process" is not correlated to parents' educational level.

"Concerns/ fears regarding career future" has a low but significant negative correlation with "Knowledge of the World of Work" ($r = -.28$, $p < .01$). There is no other correlation between the three decision-making categories.

Table 3: Pearson Correlations Coefficients of the 3 factors of Career Decision- making Skills Questionnaire and of parents' educational level for the 531 6th grade students

Factors	1	2	3	4	5
1. Concerns/ fears regarding career future	1	-,02	-,28**	-,12**	-,14**
2. Investment in decision making process		1	,08	-,01	,02
3. Knowledge of World of Work			1	,18**	,11*
4. Father's educational level (0=Elementary School, 1=Junior High School, 2= Senior High School, 3= University)				1	,59**
5. Mother's educational level (0=Elementary School, 1=Junior High School, 2= Senior High School, 3= University)					1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

One-way ANOVA were performed to determine whether there are gender differences at the level of career decision making factors. Significant differences were found in "Investment in decision making process" as a function of gender [$F(1,529) = 6.69$, $p < .01$]. Male students had significantly lower scores (mean=.87, s.d.=.13) than female

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students (mean=.90, s.d.=13). Table 4 presents the means scores and standard deviations of career decision making factors for the male and female students.

Table 4: Mean scores and standard deviations for the 3 factors of the Career Decision-making Skills Questionnaire for male and female students

Factors	Gender	N	Mean	SD
Concerns/ fears regarding career future	Males	266	,32	,252
	Females	265	,33	,273
Investment in decision making process	Males	266	,87	,13
	Females	265	,90	,13
Knowledge of World of Work	Males	266	,64	,28
	Females	265	,63	,27

Discussion

The results of this study show that students of our sample seem to have a rather low level of uncertainty and fear regarding their future career. Moreover, they report a very high level of understanding about the career decision- making process stages, and, finally, they believe that they are informed about the various occupations and their working conditions.

The results of the analysis provide support for the reliability of the CDSQ as they confirm the theoretical background concerning cognitive deficits and affective interference (Chartrand et al., 1990) which address the issues of career development (Drummond & Ryan, 1995). In addition, the scores of the CDSQ conduct the social desirability, a fact which is obliged mainly to the age of the students and to the type of the questions.

Although the low level of uncertainty has a positive impact in children's development, yet questions are raised regarding its cause. Current economic crisis creates concerns and fears about people's career future; however children seem to remain uninfluenced by this fact. Probably, this lack of concerns derives from an unrealistic point of view. It is possible that parents and/or teachers avoid talking in front of their children about their economic situation and problems, believing that this way they are "protecting" them.

Primary education students, also, seem to believe that they have adequate knowledge of the various occupations, their working conditions and the criteria for choosing an

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occupation. It would be very interesting to investigate whether children in Greece do actually have accurate knowledge of the occupations or they just think they do. Walls (2000) explored the occupational knowledge in elementary school and found that although occupational knowledge improved from the third to twelve grade, students continued to hold inaccurate views of the availability of jobs. Further, students seemed to have the least accurate information about occupations at the extreme ends of the spectrum on dimensions such as preparation time, earnings, cognitive requirements, and status. This could be the topic of a future study.

The extremely high level of understanding of the career decision- making process stages is a very interesting finding. It shows that children have realized the importance of identifying their interests, skills, and values. They seem to understand the interference between school-based learning and future career, and value the knowledge they receive in school.

Students' gender and parents' educational level do not seem to have a great impact on these dimensions of decision-making. This result may mean that the variance of students' scores should be attributed to other variables such as the social and school environment, their parents' behaviour style etc. Students of that age spent the majority of their time at home or at school. This indicates that school might be a strong contributor to developing career decision making skills; and maximizes the school's responsibility for providing high level career guidance services.

Examples of career guidance activities

Career Counselling Research and Assessment Centre (CCRAC) of the University of Athens has developed a number of career guidance activities aiming at facilitating primary education students' career development and career decision-making process.. These educational activities can be implemented in the frame of the "Flexible Zone" and they have three main goals: (a) investigation of the world of work in relation with students' self awareness, (b) development of simple strategies of decision-making and problem-solving, (c) awareness of the relationships among variables such as personal characteristics, school attendance, and life preparation. The activities promote the learning process and contribute to the development of career planning skills. The

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activities have five (5) most specific objectives and functions: (a) increasing self-understanding, (b) increasing self-appraisal, (c) acquiring knowledge of world of work, (d) becoming more "prepared" for the future career, and (e) developing entrepreneurship skills. For each one of these objectives CCRAC has designed 5-6 different activities (career games), in order for the teacher to be able to choose the one that corresponds better to his/ her students' special characteristics and needs. The career guidance activities can be implemented by the teacher in groups of 10-14 sixth grade students.

A more detailed description of these objectives and functions, and examples of the career games that serve each objective are included in the following paragraphs.

The career games are specially designed to increase each student's:

- **Self- understanding:** These activities are designed to help students understand the meaning of the concepts "personality, interests, skills, work values", and to realize that their opinion regarding themselves might be different from the opinion of others.
  Activity: *The iceberg*

The teacher presents a list of 25-35 personality characteristics to the students and provides them a picture of an iceberg (Picture 1). Subsequently, each student has to choose 6 characteristics that describe him/her best and to "put" them on his/her personal iceberg. Characteristics that are visible to others will "be" on the top of the iceberg while the less visible ones will be near or even under the sea. Then, the teacher encourages a discussion about each student's iceberg. Finally, each student has to dismiss one by one all the characteristics that he/she had on his/her iceberg. In every step of this process students' personality and feelings are discussed. The following questions are very useful for the students to express their thoughts and increase their self- awareness:

- *How do you feel now?*
- *What do you think of yourself now?*
- *Which characteristics you want back?*

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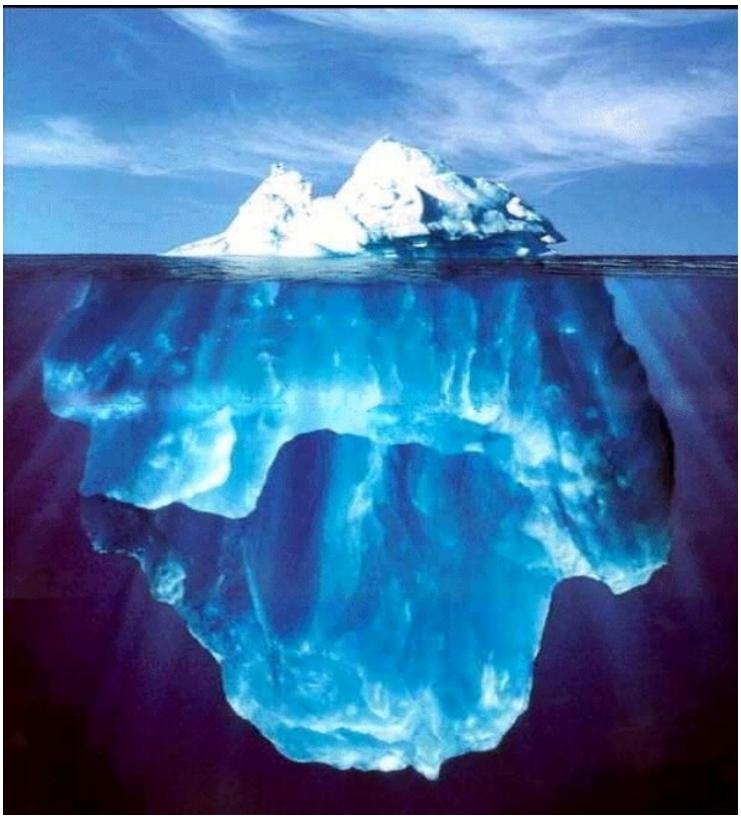

Picture 1. My Iceberg.

- **Self-appraisal:** These activities are designed to increase students' self-confidence, self- acceptance and self-respect.

  Activity" *My medals*

Each student has to prepare medals for his/her achievements (any achievements not only academic ones). Then, the teacher encourages a discussion about each student's medals. The following questions are very useful to encourage students to express their thoughts and increase their self-confidence and self-esteem:

- *How do you feel rewarding yourself?*
- *How do you feel letting the others know your achievements?*
- *What do you think regarding the medals of your classmates?*

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Picture 2. My medals.

- **Knowledge of the World of Work:** The objective of these activities is to help students in understanding that each profession requires specific personal characteristics and skills, and that the world of work is not stable. Students may also understand better the interaction between skills, interests and school life, and the effect of stereotypes in career choices.

  Activity*: Interviews*

  Each student has to interview a number of adults from different occupations about their careers. Each student has to prepare the questions for the interviews and explore the different aspects of these occupations. Finally, the interviews are presented and discussed in the classroom.

- **Career preparation:** These activities facilitate the development of students' career decision-making skills, and help them to identify the variables that influence educational and career choices.

  Activity*: My own video-clip*

  Students are divided in smaller groups of 4-5 children. Each group has to prepare an advertisement for all the members of the group. The advertisement has to highlight each student's stronger points. The teacher provides the necessary equipment such as

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cameras, musical instruments, etc. Finally, each advertisement is presented and discussed in the classroom.

- **Entrepreneurship:** Through these activities students will understand the meaning of various concepts regarding entrepreneurship, and they will have a first contact with the concepts of economy and enterprises.

  Activity: *New ideas*

  Students are divided in smaller groups of 4-5 students. The teacher presents pictures of various products (Picture 3) and each group has to choose one of these pictures. Subsequently, they start a discussion regarding how the particular product was an innovation that improved our life quality. The teacher has to facilitate the discussion by asking questions.

The Career Counselling Research and Assessment Centre is currently involved in a pilot implementation of these activities in 6th grade students at several primary education schools in the region of Attica, Greece. The feedback we are receiving by the teachers who implement the activities is very positive. The evaluation of the activities will help us improve them or dismiss the least effective of them. It is our belief that career guidance activities can be an integral part of school academic planning and of school life in general, and may have a strong influence on students' development by increasing their self-knowledge, self-esteem, decision-making skills, and their understanding of how choices and planning affect their future. Career guidance and career development and choice activities may be a source of increased access to career opportunities and ultimately to greater social justice (Irving & Malik, 2005).

More research is necessary to guide early developmental and preventive career intervention efforts for children. Although this study involved 6th grade students, it seems appropriate to focus on younger students as well. Future research should focus on identifying discrepancies in career development among subgroups of students as means of beginning to address inequities. Similarly, studies on educationally vulnerable groups could lead to educational approaches that assist in ameliorating gaps in academic

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achievement. According to Gordon (1999) career guidance provides a fundamental means of equal opportunity and educational equity. For that reason it is critical to add the conceptual knowledge regarding career development through an educational improvement process.

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