Current Psychology
https://doi.org/10.1007/s12144-020-00973-0

Exploring the impact of a career guidance intervention program in schools: Effects on knowledge and skills as self-assessed by students

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Abstract
The study aimed to test the impact of a career counselling intervention program (JOBS - Job Orientation. Training in business and schools) intended to improve students' knowledge and skills related to employability' preconditions. The intervention program was implemented as an optional subject for lower secondary and secondary education. Data were collected using a Solomon design from 1737 students, distributed in intervention and control groups, with and without pre-test, over one school year. The results showed no interaction between treatment and pre-test when self-assessed skills were tested and a small significant effect in case of self-assessed knowledge, but pre-test simple effect was not significant. Two conclusions emerged: intervention was effective, and pre-test did not improve the results by itself. The intervention program had significant effects on enhancing students' knowledge and skills that are useful in career decisions. Taken outside the classroom, a career counselling intervention could offer more valid research data, but it also might have a smaller impact on student ability to cope with the requirements of social and work environment.

Keywords Career management skills · Self-assessment of skills · Self-assessment of knowledge · Vocational guidance · Solomon design

One of the major developmental challenges that adolescents face is to orientate themselves in the world of professions and to take major-impact decisions about their future. They can deal with it by developing competencies, within and outside school (Albisser et al. 2011). Competencies play a vital role in orientating and asserting in the world of professions, in overseeing the demands and expectations of society (Keller-Schneider et al. 2018) but the development of such wide-array competencies is a challenge by itself. Competencies as a cognitive and affective latent potential, that enables individuals to take decisions and deal with challenging tasks (Blömeke et al. 2015) is more complex than factual or explicit knowledge necessary for understanding a situation. Competence development emerge from dealing with the requirements of any-given specific situations (Neuweg 2014; Keller-Schneider 2010), if an individual gets involved himself in working on challenging tasks and requirements (Keller-Schneider 2014, 2016). Factual knowledge can easily be taught and assessed in school as a learning outcome, but other components of competencies (such as beliefs or attitudes) could also be approached as learning outcomes in school though challenging tasks aiming on more complex goals (Anderson and Krathwohl 2001).

The present article examines the effects of a vocational guidance intervention program implemented in lower secondary and upper secondary schools in Romania on students' career management skills. There is a broad domain of career competencies which include subject-specific skills, generic skills, self-management skills, and career-building skills (Bridgstock 2009). In the current study, we took under analysis students' career management skills, more specific their knowledge and skills related to exploring and orientating in the professional world.

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Published online: 29 July 2020

Development of Career Management Skills: The Case of the Romanian Educational System

Despite the multiple meanings the concept caries, a broader understanding of career management skills refers to those competencies which provide individuals with structured ways to collect and use information about the self, about the educational and occupational opportunities, and to make and implement career decisions (Sultana 2012). The competence is seen as a holistic concept that integrates knowledge, skills and attitudes, having a situated and contextual nature (Mulder 2011; Kurunsaari et al. 2018). Career competencies include knowledge (e.g., knowledge about the self, about the world of professions, about specific jobs, about companies in surroundings, about wages), skills (e.g., asking questions, presenting important information or collecting information about a company), attitudes and beliefs (Keller-Schneider et al. 2018). These competencies are considered to be under a continuous process of development and highly relevant in understanding the work, both at individual and group level (Bound and Lin 2013). From this point of view, education focused on developing competencies (i.e. competence-based education) strongly contributes to the development of students' personal and professional identity and to their paths towards becoming competent professionals (Sturing et al. 2011).

Development of career management skills (CMS) within schools varies across countries. In some countries, they are taught as a separate subject, in others the subject is optional for particular age groups. In several countries, courses for the development of these skills are offered as stand-alone courses, usually at higher education level (Sultana 2012). For example, Hungary has a CMS policy conception in compulsory education; Germany has a CMS policy in several sectors: schools, VET, higher education, employment, and social inclusion; Portugal has CMS policies in place in higher education and in the employment sector (Gravina and Lovsin 2012). In the European context, Romania seems to be a particular case. Development of CMS is regulated by the Law of Education (1/2011) as being provided chiefly by the school counselling and guidance services. The counselling and guidance activities are taking place either as a distinct school subject included in the National Curriculum or within school counselling offices (Euroguidance 2019). Counselling is part of the curriculum for the lower secondary cycle – grades five to eight as a specific subject called Counselling and personal development, starting with the 2017–2018 school year, and for vocational schools – grades nine to eleven as a specific subject called Counselling and guidance, starting with the 2014–2015 school year (Euroguidance 2019). The content for both subjects comprises of topics related to self-knowledge, learning management, interpersonal relations, gender and social equity, and career management. These distinct school subjects are taught by the class master or by a school counsellor which support at least 800 pupils (Euroguidance 2019), meaning that there are no specialized teachers for them. Also, the content related to career management skills covers at most 8 h per school year.

A small study conducted in 2015 in south Romania confirms that only 58% of high-school students were ever involved in a career counselling activity and one-third of these activities were employed by the class master (Brătucu et al. 2015).

The second way of performing career counselling activities for students is through school counselling offices established at regional level. The offices are in charge of programs and projects that offers information, counselling and guidance to students, parents and teachers alike. Their responsibility is also to monitor and support career counselling initiatives in schools. So far, no consistent data could be found on the impact of counselling offices' interventions on students' career management skills.

The need for consistent and specialized interventions on the development of CMS in Romanian lower secondary education students is justified by the results of several survey studies. For example, in a survey conducted in schools from Bucharest, Romania capital city, in 2012, 70% of eight graders answered that they want to continue to study to a theoretical high-school and only 8 % choose a technological high-school (CMBRAE 2012). This result emphasizes the social perceptions of students and their parents on the desirable educational and professional paths, that is theoretical high-school and university degree.

The same study showed that almost 60% of the students considered that they lack or have too little information about the labour market. Andronic and Andronic (2011) showed similar results in another study. Participants were eight grade students questioned three months before the end of the school year when they have to choose the path for secondary education. A quite high percentage of respondents, 42% stated they did not yet have an educational-vocational option. Nearly half of participants declared they never received any career counselling services. The percentage was higher for students in their last year of high school. No surprise that three quarters of them stated that they rely on their parents or family members for advice on the career decision.

So, the need for career and vocational guidance in Romania is high, several authors pointing that career counselling interventions should focus on supporting students to learn about personal strengths and the opportunities on the labour market (Crăciun 2015).

Learning Outcome of Career Counselling Programs in Schools: Self-Assessment of CMS

When assessing the impact of any vocational guidance program the following intervention domains should be considered (Flynn 1995): career decision-making (e.g., information seeking, the realism of choice), effective role functioning (e.g., job-interview skills), evaluation of the counselling program (e.g., ratings of satisfaction, perceived effectiveness), and specific career-related competencies. In the present study, we focused on specific career management skills as self-assessed by students enrolled in a vocational guidance intervention program.

Using self-assessment for measuring acquired skills has several advantages (Allen and van der Velden 2005; Richter and Johnson 2001). First of all, self-assessments are easy to administer to large samples and can be administered simultaneously in different locations. Secondly, the use of self-assessment allows researchers to approach a wide variety of skills, besides those in the cognitive domain. We include CMS that are relevant for well-functioning in specific work or life domains (such as exploring professions world or self-knowledge skills). Thirdly, is it presumed that individuals are more aware of themselves than observers are about them, making therefore difficult to assess higher order skills by using observation or testing (Connally et al. 2002). Last but not least, when self-assessing competencies it is necessary to construct concrete and objective items to ensure a good grasp of the meaning by those who will answer the questionnaires (Khaled et al. 2014). Even more so, students of all ages tend to focus more on knowledge and skills when they report on their competencies and less on attitudes or on the extended context of their competence such as cultural awareness or professional agency (Kurunsaari et al. 2018). Self-assessment of knowledge and skills as a measurement of learning outcomes of career counselling programs has several limitations. Discrepancies between the real and the reported levels or frequency of skills, discrepancies between the meaning given by the researcher and that given by the respondents, problems with comprehension and reflective abilities of respondents, use of different and subjective anchor point for assessment by various groups (Allen and van der Velden 2005) are among the strongest sources of measurement errors when using self-assessment for measuring skills.

The use of self-assessment of CMS is sustained by various studies reporting correlations between students' estimation and the assessment of their actual tutor. For example, Fitzgerald et al. (2003) found a moderately high correlation between medical students' self-assessment on knowledge examinations and their actual examination performance in their first two years of study, in the third year the correlation being lower. In a study on health sciences students, Cassidy (2007) reported that most of the investigated students demonstrated a good level of self-assessment skills, finding a positive but low correlation between students' estimated grades and grades given by teachers.

The measurement of the efficacy of a career guidance program may involve three levels (Watts 1999): individual level circumscribed by the learning outcomes, organizational and societal level. In the current study, we measured the efficacy on a vocational guidance program implemented in secondary education cycle at individual level, given the age stage of participants. As before-mentioned, the learning outcomes of the intervention program were defined by self-assessed knowledge and self-assessed skills related to career management. They are also named "soft outcome measure" (Maguire and Killen 2003) and represent a short-time efficiency measure for intervention programs in career guidance along with attitudes, decision-making skills, self-awareness, opportunities of awareness, certainty of preference, or transition skills (Killeen and Kidd 1991).

Methods

Aims and Hypothesis

The aim of the article is to analyse the impact of an educational intervention program designed to develop career management skills in students in secondary education cycle. The intervention program was implemented within schools in central Romania in 2015–2016 and 2016–2017 school years as part of a large educational pilot project (JOBS – Job Orientation. Training in business and schools, Keller-Schneider and Albisser 2018; Keller-Schneider et al. 2018). The impact study (2015–2016) was conducted using a four-group Solomon design to test whether students' knowledge and skills related to career management improve after the program. At the time of the intervention, there were no systematic career counselling activities in the schools. Therefore, we measured students' career management knowledge and skills as learning outcomes of the intervention program. Our main hypothesis was that participants in the intervention program will self-evaluate their career management knowledge and skills as increased after the program, when compared with self-evaluations before the program or with non-participants self-evaluations. Also, we tried to prove that there was no learning effect of the pre-intervention measurement on the learning outcomes measured after the intervention.

Description of the Intervention - JOBS Program

The major aim of the JOBS project was to support Romanian students in their decision about their future career (Keller-Schneider and Albisser 2018). Though a specific subject they got the opportunity to develop knowledge and awareness

about the labour market and jobs requirements in students, enrolled in their last years of compulsory education (lower secondary education cycle) or at the start of their post-compulsory schooling (secondary education; only technical high-schools were included in the project). The project was initiated by the Centre for International Projects in Education (IPE) of the Zürich University of Teacher Education and was carried out in eighteen Romanian schools. From each school, two classes participated in the program. Within the program, a one-year optional subject, called JOBS, was introduced in the curriculum for eighth grade classes in lower secondary cycle and for the ninth grade classes in technical high-schools. In order to participate in the project, the schools made an application and were selected by the Ministry of National Education and by the Romanian side of the project management. Upon selection, the schools' principals agreed to include the new subject in the curricula as part of the school-based curriculum. The program was approved by the County School Inspectorate. The schools attending the program received logistic and financial support to implement the subject in the classes. JOBS-teachers were trained and supervised to follow the goals of the JOBS classes and the specific teaching and learning approach.

The JOBS lessons were designed in an inter-disciplinary approach, following the principles of student-centred and task-based active learning. The three-hour lessons took place once a week. Three collaborating subject teachers were trained for the JOBS subject to teach the lessons in team-teaching. The units of the textbooks where structured in six modules including: examining a professional biography (interviews with employees about their own career path), me and my own strengths and interests (Curriculum Vitae, personal and professional interests), the labour market (with two components: jobs opportunities in my community and risks, requirements and prospects for a job), exploring a workplace (with two components: planning and carrying out a visit at a real workplace and reflecting and presenting the results of the visit).

The JOBS lessons were based on a well-structured content developed for the project, prior to the interventions. The student-centred teaching method is explained in a teacher handbook, with guidelines for every unit. Students work in groups on tasks, presented in student textbooks. The learning and teaching materials were developed by the Swiss partner and first piloted in two trail schools from Brasov city, in Romania. The teachers for the JOBS subject were recruited from the schoolteachers willing to engage in the program. All teachers were trained on delivering the content, using the learning and teaching materials and on applying the principles of active learning (Keller-Schneider and Albisser 2018).

The project introduced some new elements in the educational sceneries of Romania. First of all, the well-structured content focused on facilitating students' grasp of the current labour market and their career choices as a key element in developing career management skills. The content unfolded from analysis of the experience of a real employee to knowledge of students' own qualities and interests and then to reflection on the opportunities in the work field that can be met by one's potential and competencies.

The second novelty introduces by the project was the students-centred and task-based active learning approach to teaching and learning. In this approach, the teaches is a facilitator who guides and supervises the learning process, encouraging students to solve relevant tasks, to reflect on their learnings, and to present their insights logically and comprehensibly (Weidinger 2017). The approach using student-focused methods and task-based learning settings demands a rethinking of traditional classroom roles of students and teachers and is rarely used in the Romanian education system. Teachers were trained to use active learning methods in class in order to lead students to a realistic perception of the labour market in their community as well as to their own interests and strength, and to support them in making a realistic and personal decision regarding their educational and professional future. The JOBS lessons were meant to form knowledge and skills useful in real life situation and to support students' vocational choices.

The content of the intervention and how it is conducted bares its own importance, as discussed by Brown et al. (2003). The authors identified five categories of essential ingredients that contribute to increased efficacy of career guidance interventions. The critical ingredients stated by Brown and colleagues and their equivalent in JOBS program are: (a) workbooks and written exercises – each student involved in JOBS program received a workbook, (b) individualized interpretations and feedback through discussion and clarification – the teachers trainings included topics related to giving feedback, (c) in-session occupational information exploration – one module of the JOBS classes consisted in exploration of a profession, another module included a visit in a real company, (d) modelling (by testimonies and direct contact with employees who can self-disclose how they made their own career choices and how they overcome problems) – in the first module of the JOBS program students were asked to interview an employee about his/her experience and career path, and (e) attention to building support, by promoting the search for and use of occupational information outside of sessions – the JOBS lessons ended with students presentation of their learnings during the program and relevance of it outside school.

Procedure

A four-group Solomon design was used in order to assess the effect of the intervention. We used this design because it has the advantage of being the only type of

experimental design to assess the presence of pre-test sensitization. Pre-test sensitization prevents generalization of results from the pre-tested sample to the population (Braver and Braver 1988; Bortz and Döring 2006). Considering the above-mentioned lack of consistent career guidance activities within schools in Romania, even a survey on the matter may count as an attempt to increase awareness and produce some positive effects. Therefore, we considered this type of design as the best methodological option for controlling the possible effects introduced by the pre-test. The study included three phases: a survey prior to the intervention in the first week of the school year, the intervention program, and a post-intervention measurement at the end of the school year.

Participants

1737 students from eighteen schools have been included in the study, nine lower secondary schools and nine technical high-schools. For each school, the JOBS class represented the intervention group, a same-level class that did not take part in the JOBS program represented the control group. The Non-JOBS classes attended the regular career counselling activities delivered in schools by the school educational counsellors. Mean age of the participants was 14.3 years (age range: 13.2 to 16.1 years).

As the intervention took place in the school settings, we used convenience sampling, participants were not randomly assigned to the four groups of the Solomon Design (Table 1):

1. Group 1 (experimental): Students enrolled in JOBS Program with pre-test and post-test – JOBS t1-t2 (n = 341)
2. Group 2 (control): Students not-enrolled in JOBS Program with pre-test and post-test – Non-JOBS t1-t2 (n = 338)
3. Group 3 (experimental): Students enrolled in JOBS Program without pre-test, only with post-test – JOBS t2 (n = 393)
4. Group 4 (control): Students not-enrolled in JOBS Program without pre-test, only with post-test – Non-JOBS t2 (n = 665).

We tested for differences between groups given by the distribution of participants.

Distribution according to school type **(Gymnasium Vs. Technical High-Schools)** There were no significant differences between the intervention groups and the control groups related to school types. In the samples (JOBS-classes and Non-JOBS-classes), the school categories of gymnasium and technical high-schools are equally represented (Chi^2 after Pearson (1, N = 1737) = .050, p = .43).

Distribution of Gender The intervention and the control groups did not differ in distribution according to gender, whether investigated as a whole or according to school type (not statistically significant) (Pearson Chi^2: Total (1, N = 1737) = .004, p = .494; Gym (1, n = 836) = .071; p = .793; THS (1, n = 901) = .150; p = .738).

Distribution of Gender According to School Type In the distribution of gender according to school type a considerable deviation can be seen. Girls are represented over proportionally in the gymnasium classes, while boys are over represented in high-schools classes (Pearson Chi^2 (1, N = 1737) = 13.969, p = .000).

In the distribution per sub-samples (Jobs, Non-Jobs) an unequal distribution is visible, although less stark (Jobs (1, n = 734) = 7.76; p = .006; Non-Jobs (1, n = 1003) = 4.426; p = .012).

The intervention group and the control group (JOBS vs. Non-JOBS) differ neither in their distribution according to school type, nor in their distribution according to gender. However, they form an asymmetrical distribution of female and male students specific to school type, with more males in the technical high-schools. Distribution according to age per sub-sample show similar distribution for JOBS and Non-JOBS (JOBS (1, n =

Table 1 Description of participants (gender and educational level)

		Solomon design groups				Total
		JOBS t1-t2	Non-JOBS t1-t2	JOBS only t2	Non-JOBS only t2	
Gender	Female	167	155	181	333	836
	Male	174	183	212	332	901
Educational level	Lower secondary cycle (Gymnasium - GYM)	169	165	189	322	836
	Secondary cycle (Technical high-schools - THS)	172	173	204	343	901
Total		341	338	393	665	1737

734) = .76; p = .236; Non-JOBS (1, n = 1003) = .426; p = .112).

Concerning the four groups of Solomon design, no significant differences were found (Pearson Chi^2 ns) for the distribution of participants according to school type or gender. The basis for the investigation of group effects can, therefore, be judged as comparable.

Data on parents' level of education, profession and occupation were compared (Table 2, Table 3, Table 4) and are shown in the following tables.

In both groups, most students reported their parents' education at high school level (about 50%), followed by the lower secondary education (about 28%) and by the vocational school (about 10%). University and post university studies were rarely reported. There are no differences concerning the distribution of the education level of parents between JOBS and Non-JOBS students.

In the case of the fathers, most of them work in industry domain (70%) followed by those working in service domain (19%), while in the case of mothers most of them work in services domain (67%), followed by the industry domains (29%).

There are no significant differences concerning the distribution of parents' professional domain between JOBS and Non-JOBS students. Surprisingly, a high percentage of the respondents declared that they do not know the profession of their parents; in both groups there was a larger percentage of students declaring "I don't know" parents' profession at the end of the school year (post-test) than at the beginning of the year (*pre-test*). It could be that students realize the profession is not very easy to identify, that is more to it that just a job and they were not so sure any-more if they know their parents' profession correctly.

As Table 4 shows, more than three quarters of students' fathers have an occupation in an executive position, while around half of the students' mothers have such a position. One quarters of mothers are housewife. Management position or self-employment is reported by around 5 % of the students, for both fathers and mothers.

The intervention and the control groups do not differ according to parents' occupation.

Table 2 Parents' education

Level of education	Jobs		Non-Jobs	
	n	%	n	%
lower secondary	97	28.3	164	25.4
vocational school	33	9.6	70	10.9
high school	179	52.2	341	52.9
university	2	.6	2	.3
post university education	9	2.6	33	5.1
I don't know	23	6.7	35	5.4

Distribution of parents' education: Pearson Chi^2 (1, n = 988) = 5.344, p = .375

Measures

Instruments Based on the theory, that individual resources shape learning processes and learning output (Blömeke et al. 2008; Keller-Schneider 2010, 2014; Weinert 2001), several individual characteristics (like beliefs, motive, self-efficacy), socio-demographics and learning outputs were measured. In the present analysis, we focused on students' career management skills, that were measured using two distinct instruments: self-assessment of *career-related skills* and self-assessment of *career-related knowledge*. The instruments were developed based on the learning goals of the of the six units of the JOBS program. Each unit was covered with two to three items (Keller-Schneider and Albisser 2018). The items focused on knowledge and skills about asking questions, identifying own strengths and interests, insights into professions and opportunities in the labour market, the link between the salary and consumption and the link between work and free time. In addition, the trained skills on taking notes, preparing a presentation, collaborate with others and using learning tools were assessed by the students as well.

1) **Skills** were measured thorough a 15-item scale – *Self-assessment of skills scale* (Spot Scale), using a six-point Likert scale. Each item asked students to evaluate their own level in performing or in knowing how to perform specific actions related to career management (e.g. "*Presenting important information about a profession on a poster", "Finding a workplace using the Internet")*. Those actions were selected from the career management skills aimed to be developed by the JOBS program. The exploratory factor analysis showed a single factor solution explaining 43.1% of the variance, with an Eigenvalue of 6.46 and factor loadings higher than .43. The Cronbach's Alpha was .90 (N = 1737).
2) **Knowledge** was measured through a 10-item scale, *Self-assessment of knowledge Scale* (Ek Scale), using a six-point Likert scale. Students were asked to evaluate their knowledge regarding their own strengths and interests, the labour market and the job opportunities in their community (e.g. "*I know what career interests I have", "I know how work, money and consumption are related").* The exploratory factor analysis showed a one-factor solution explaining 34.8% of the variance, with an Eigenvalue is 3.83 and factor loadings higher than .49. The Cronbach's Alpha was .80 (N = 1737).
3) Socio-demographic data about gender, age, class, type of school, parents' level of education, parents' profession

Table 3 Parents' profession in pre-test and post-test

Professional domain of	JOBS pre-test		JOBS post-test		Non-JOBS pre-test		Non-JOBS post-test	
	n	%	*n*	%	*n*	%	*n*	%
father								
Agriculture	16	6.0	9	3.0	13	4.7	9	1.6
Industry	187	69.8	160	52.6	193	69.9	299	52.4
Services	51	19.0	35	11.5	48	17.4	82	14.4
Knowledge (research, IT)	1	.4	0	0	2	.7	2	.4
State administration	9	3.4	9	3.0	14	5.1	23	4.0
I don't know	4	1.5	91	29.9	6	2.2	156	27.3
mother								
Agriculture	4	1.8	3	1.1	1	.5	8	1.6
Industry	62	28.6	47	17.4	61	28.9	83	16.1
Services	145	66.8	112	41.5	139	65.9	219	42.5
Knowledge (research, IT)	1	.5	0	0	1	.5	3	.6
State administration	5	2.3	0	0	2	.9	3	.6
I don't know	4	1.8	108	40.0	7	3.3	199	38.6

Father's occupation: pre-test, $\chi 2 = (1, n = 544) = 2.199$, $p = .821$; post-test, $(1, n = 875) = 5.217$, $p = .390$
Mother's occupation: pre-test, $\chi 2 = (1, n = 428) = 4.185$, $p = .523$; post-test, $\chi 2(1, n = 785) = 3.701$, $p = .593$

Table 4 Parents' occupation in time 1 and time 2

Occupation of	JOBS pre-test		JOBS post-test		Non-JOBS pre-test		Non-JOBS post-test	
	n	%	*n*	%	*n*	%	*n*	%
Father								
Employee-execution level	256	79.3	218	69.9	281	81.4	445	74.4
Employee-management level	12	3.7	16	5.1	13	3.8	23	3.8
Employee- support position	0	0	2	.6	0	0	0	0
Self-employed	20	6.2	14	4.5	19	5.5	14	2.3
Unemployed	25	7.1	16	5.1	25	7.2	29	4.8
Socially assisted	0	0	0	0	0	0	0	0
Pensioner	8	2.5	4	1.3	5	1.4	13	2.2
Without occupation	2	.6	3	1.0	2	.6	6	1.0
Student	0	0	0	0	0	0	0	0
I don't know	2	.6	39	12.5	0	0	68	11.4
Mother								
Employee- execution level	188	55.1	169	52.6	186	53.4	314	53.1
Employee- management level	19	5.6	10	3.1	19	5.5	31	5.2
Employee-support position	14	4.1	18	5.6	10	2.9	14	2.4
Self-employed	2	.6	0	0	1	.3	0	0
Unemployed	5	1.5	4	1.2	3	.9	7	1.2
Socially assisted	4	1.2	1	.3	4	1.1	1	.2
Housewife	81	23.8	84	26.2	104	29.9	138	23.4
Pensioner	4	1.2	6	1.9	2	.6	9	1.5
Without occupation	21	6.2	4	1.2	12	3.4	3	.5
Student	1	.3	0	0	5	1.4	1	.2
I don't know	2	.6	25	7.8	2	.6	73	12.4

Fathers: pre-test, $\chi^2 = (1, n = 668) = 3.550$, $p = .830$; post-test, $\chi^2 = (1, n = 910) = 9.881$, $p = .273$
Mothers: pre-test, $\chi^2 = (1, n = 689) = 10.088$, $p = .433$, post-test, $\chi^2 (1, n = 912) = 15.409$, $p = .080$

and parents' occupation were collected using a demographic questionnaire.

Data Collection The survey was filled in by the students during a lesson at school, in their classrooms, in the presence of a teacher. The intervention group worked on the survey during a JOBS-lesson, students of the control-groups worked on it during another lesson. The pre-test measure was done in the first two week of the school year, the post-test in the last ones of the school year.

Results

The first aim of our research was to identify if the JOBS intervention had an effect on students' skills and knowledge related to career management. To test this result in the Solomon design, we computed a 2 × 2 Factorial ANOVA (JOBS vs Non-JOBS x with pre-test vs without pre-test). Significant interaction would suggest pre-test sensitization, meaning that the effect of treatment changed depending on whether there was pre-test exposure or not. Simple effects were also computed in order to find if there were a significant simple effect of the intervention in pre-test groups (JOBS t1-t2, Non-JOBS t1-t2) and lack of significant simple effect of the intervention in the non-pre-test groups (JOBS only t2, Non-JOBS only t2). Under these circumstances, there would be evidence that the intervention had an effect but only for pre-tested groups. If the interaction is not significant, there was no evidence of pre-test sensitization (but that does not mean that the treatment had an effect). If treatment has main effect on both pre-test groups and non-pre-test groups, there is unqualified evidence of the treatment effect. After checking the effect of the pre-test, we focused on the effect of the intervention, through ANOVA repeated measures (Tables 5 and 6).

The ANOVA factorial showed no significant interaction between the pre-test and the group (JOBS versus Non-JOBS), but the group had an effect on the self-assessed skilled measured in post-test: $F(1, 1546 = 35.91$, $p < .001$, $\eta_p^2 = .023$). This shows that the pre-test did not enhance the effect of the intervention. The four groups differed significantly in post-test, the Games Howell multiple comparisons revealed that significant differences were found between JOBS and Non-JOBS groups: JOBS with pre-test students had higher scores than Non-JOBS with pre-test or than Non-JOBS without pre-test. Additionally, JOBS participants with pre-test did not differ from JOBS participants without pre-test, as well as Non-JOBS participants with pre-test did not differ from Non-JOBS participants without pre-test (Table 7).

A similar analysis was conducted to compare the effect of the intervention on self-evaluated knowledge. In this case, the interaction effect was significant, but with low effect size, showing that the pre-test exposure had significant effects on the treatment: $F(1, 1723) = 13.28$, $p < .001$, $\eta_p^2 = .008$. The groups differ also in post-test, however, JOBS groups reported significantly higher scores at the end of the intervention, while the Non-JOBS students did not change significantly: for JOBS students $F(1, 639) = 85.50$, $p < .001$, $\eta_p^2 = .217$; for Non-JOBS students $F(1, 907) = 1{,}05$, $p = .306$, $\eta_p^2 = .004$ (see also Table 8).

Table 6 ANOVA factorial, UNIANOVA and ANOVA repeated measures results for self-assessed skills

ANOVA Factorial - Tests of Between-Subjects Effects					
Dependent Variable: **Self-assessment of skills Post-test**					
Source	*df*	Mean Square	*F*	*p*	Partial η^2
Group	1, 1552	28.36	35.91	<.001	.023
Pre-test	1, 1552	.98	1.25	.263	.001
Group * Pre-test	1, 1552	1.15	1.46	.226	.001
a. R Squared = .023 (Adjusted R Squared = .021)					
UNIANOVA - Tests of Between-Subjects Effects					
Solomon group	31,552	9.51	12.04	. < .001	.023
ANOVA Repeated measures - Tests of Within-Subjects Effects Sphericity assumed)					
Measure: **Self-assessment of skills Pre-test - Post-test**					
JOBS	1287	4.329	9.27	.003	.031
Non-JOBS	1265	.501	1.65	.200	.006

Table 5 Descriptive statistics of self-assessed skills and knowledge for the four groups

Group	**Self-assessment of skills Pre-test**				**Self-assessment of knowledge Pre-test**		
		M	*SD*	*n*	*M*	*SD*	*n*
Jobs	With pre-test	4.39	.97	288	4.32	.84	310
Non-Jobs	With pre-test	4.24	.94	266	4.31	.89	295
Group	**Self-assessment of skills Post-test**				**Self-assessment of knowledge Post-test**		
Jobs	Without pre-test	4.58	.80	349	4.61	.85	372
	With pre-test	4.58	.87	317	4.81	.74	329
Non-Jobs	Without pre-test	4.36	.92	587	4.46	.85	612
	With pre-test	4.25	.91	303	4.36	.78	310

Table 7 Differences between the four groups in post-test for self-assessed skills

Dependent Variable: **Self-assessment of skills Post-test**				
(I) Group for Solomon design		Mean of (I-J)	*SE*	*p*
JOBS t1-t2	Non-JOBS t1-t2	.33***	.07	<.001
	JOBS only t2	.004	.06	1.000
	Non-JOBS only t2	.22**	.06	.002
Non-JOBS t1-t2	JOBS only t2	−.33***	.06	<.001
	Non-JOBS only t2	−.10	.06	.339
JOBS only t2	Non-JOBS only t2	.22***	.05	.001

Table 9 Differences between the four groups for self-assessed knowledge in post-test

Multiple Comparisons - Games-Howell				
Dependent Variable: **Self-assessment of knowledge Post-test**				
(I) Group for Solomon design		Mean Difference (I-J)	*SE*	*p*
JOBS t1-t2	Non-JOBS t1-t2	.44***	.06	<.001
	JOBS only t2	.20**	.05	<.003
	Non-JOBS only t2	.34***	.05	<.001
Non-JOBS t1-t2	JOBS only t2	−.24***	.06	<.001
	Non-JOBS only t2	−.10	.05	.278
JOBS only t2	Non-JOBS only t2	.14*	.05	<.031

The larger difference is between JOBS and Non-JOBS with pre-test, followed by the difference between JOBS with pre-test and Non-JOBS without pre-test (Table 9).

The intervention had an effect even in the absence of the pre-test since there were significant differences between JOBS without pre-test and Non-JOBS without pre-test groups. Improvement of self-assessed knowledge equalled an effect size of .21 which is larger than the one obtained in the case of self-assessed skills.

Discussion

Using a Solomon design for testing the effectiveness of an extended intervention program has many benefits in terms of accuracy of findings and controlling the effect of pre-test, especially in testing learning outcomes (Bortz and Döring 2006). In the present study we used students' self-assessment of career management knowledge and skills as learning outcomes of a vocational guidance program, with the aim of investigating if such a program could really contribute to the development of career management skills in Romanian students.

Table 8 ANOVA factorial, UNIANOVA and ANOVA repeated measures results for self-assessed knowledge

ANOVA Factorial - Tests of Between-Subjects Effects					
Dependent Variable: **Self-assessment of knowledge Post-test**					
Source	*df*	Mean Square	*F*	*p*	Partial η^2
Group	11,619	33.50	51.79	<.001	.031
Pre-test	1, 1619	.92	1.43	.232	.001
Group * Pre-test	11,619	8.59	13.28	<.001	.008
a. R Squared = .036 (Adjusted R Squared = .034)					
UNIANOVA - Tests of Between-Subjects Effects					
Solomon group	31,622	13.082	20.223	<.001	.036
ANOVA Repeated measures - Tests of Within-Subjects Effects (Sphericity assumed)					
Measure: **Self-assessment of knowledge Pre-test – Post-test**					
JOBS	1309	35.42	85.50	<.001	.217
Non-JOBS	1294	.30	1.05	.306	.004

The results sustain that the intervention program had significant effects on enhancing students' knowledge and skills useful in making career decision, establishing and following career goals. The Solomon design showed that the treatment had an effect even when we controlled for the pre-test sensitization, filling in the pre-test questionnaire at the beginning of the school year did not contribute by itself to the increase of the knowledge and skills self-assessed at the end of the school year. However, there was a significant interaction effect between the treatment and the pre-test self-assessed knowledge that might suggest that filling in a questionnaire on the topic generates, in time, interest in looking for information or paying attention to knowledge about the labour market. On the other hand, the interaction effect was not present for skills. Skills need exercise and more effort to improve than collecting and accessing information. When compared, the increase in knowledge and skills due to the intervention program was larger for knowledge than for skills, but the computed effect sizes were lower than those cited in the literature. For comparison, Baker and Taylor (1998) found an overall effect size of career education programs of .39, while Whiston et al. (2011) mentioned an overall effect size of .30. The last authors deepened their analysis on different criteria such as the type of effect, the person who's the main actor, the context, etc. The results support an effect size for a cognitive effect of .19, self-assessment of knowledge fitting in this category. Also, for effective functioning the effect size was .12, skills may be seen as appropriate functioning in relation with behaviour needed to demonstrate career management competencies. The classroom instruction (as teaching environment) has an effect size of .31 measured by Whiston et al. (2011), classroom being the main but not the only environment where the career counselling intervention took place.

A second finding is a discrepancy found in declaring parents' profession in the two measurements. The students gave

more "don't know" answers in post-test, one explanation being that they gained in awareness about how a profession can be identified. The acquired knowledge enlarged their sensitivity towards information about the world of professions, and JOBS-program emphasized on understanding professions and their requirements more than on categorizing them according to a system. Puzzling is that the same results was obtained in the control group, a possible explanation being that students found it difficult to correctly differentiate between profession, occupation, and workplace. This result suggest that the career counselling programs should also include specific knowledge about the world of professions. Previous studies on the impact of current career counselling programs in Romania showed that Romanian students reported the need of career planning, development of self-awareness, improvement of communication and career planning skills (Andronic and Andronic 2011). These findings are supported by another study showing that the number of Romanian students who declared themselves confused in making the choice of the appropriate career path for them is on a rise (Chircu 2014).

As stated before, Romanian students do not benefit enough of vocational training and the need for career counselling increased in the last years (Cojocaru and Cojocaru 2015). Career counselling in schools is covered by the curricular area 'Counselling and guidance', with an average of eight hours per school year, delivered by a school counsellor or class master (Euroguidance 2019). The number of allocated hours is not enough to promote systematic programs for training and developing students' lifestyle management skills or career management skills (EACEA 2019; Țânculescu 2013). As several analysis show, the main focus in these classes is on supporting students to identify their own interests, to acquire self-knowledge, interpersonal-skills and learning skills and not on labour market, professions descriptions or career path (EACEA 2019). JOBS program aimed at offering a sustainable alternative for career counselling in the Romanian educational system by confronting the students with tasks related to career management skills. The findings of the Solomon-design study support this idea and the need to include both knowledge and skills as learning outcomes in career counselling programs. Also, these findings could serve as a valid basis for policy-makers in others East-European countries in designing career counselling or life-skills programs for secondary education.

Several aspects should be taken into consideration when reporting the findings. Firstly, we could not control for contamination effect. The JOBS and Non-JOBS classes included in the study were in the same schools. Due to the long period of the intervention, it is quite possible that the Non-JOBS students were exposed to information and learning techniques implied by the program. The JOBS teachers were subject-teachers who conducted in addition JOBS classes as well. They might also be a source of contamination for the Non-JOBS classes if they transferred JOBS learning methods to their specific subject classes. Another aspect that needs to be mentioned is that the control group (Non-JOBS students) interacted as usual with school counsellor and their class master, and that both could have been vectors of vocational training activities or information. The significant differences between pre-test and post-test for JOBS students and the differences between JOBS and Non-JOBS students in post-test suggest, however, that the intervention had a significant effect on JOBS students and that the Non-JOBS students didn't significantly change career related knowledge and skills, despite possible contamination from the experimental group.

Secondly, the effect of the intervention cannot be completely isolated from other possible educational impingement on career management skills. Even if in Romania there are no structured strategies for development of such competencies in school, students do not completely lack knowledge about professions world, as they are constantly exposed to information on the topic inside their social network or on internet and media. This is the case for any educational intervention that is done in real-life setting.

Thirdly, even if during data collection some individual characteristics such as self-concept, motives, beliefs on learning and achievements, (Keller-Schneider et al. 2018) were also measured, none of these variables was analysed in relation with career management knowledge and skills. There is evidence that self-efficacy and perceived importance of the training program are related to achievement and more in-depth analysis might offer a better explanation of the results (Dubeau et al. 2016).

Overall, the results showed that JOBS knowledge and skills are teachable. However, the data were collected by self-reported measures which, in fact, have several limitations regarding the in-depth understanding of items and reflection on the answers which, in this case, obviously required metacognitive abilities. Also, social desirability cannot be excluded as participants filled in the questionnaires in the presence of one of their teachers.

Nevertheless, we consider that taken outside the classroom an intervention on career counselling might offer more valid research data, but it also might have a smaller impact on student potential to cope with the requirements of social and work environment.

On a larger scale, the program had an impact on multiple levels. Due to the results of the study (Keller-Schneider and Albisser 2018; Keller-Schneider et al. 2018) the Romanian Ministry of National Education included a new mandatory subject in the revised curriculum for gymnasium schools called "Counselling and personal development", starting with the school year 2017–2018. This new subject has four modules, one of them is Career counselling. County level institutions involved in teacher continuous training, namely Centers for Resources and Educational Assistance and Teacher

Houses, included in their training offer the training course on topics and methods developed in JOBS program for in-service teachers. Also, following the change in the curriculum and the impact of the JOBS program in the schools in which was implemented, a new gap was identified – the need to train future teachers in pre-service settings, such as universities or teacher training programs, on approaching vocational guidance and active learning in their future work.

Even though the evaluation study was conducted only in Romania, the JOBS program and the teachers and students materials developed within the programs were translated in several languages (English, Hungarian) and are used, completely or partially, in Republic of Moldova, North-Macedonia and Kosovo (Zurich University of Teacher Education n.d.).

In conclusion, a career guidance intervention program designed as a school subject and implemented in school proved to be an effective intervention in developing career-related skills and knowledge in students from secondary education. The length (one school year), the learning approach based on task-based and student-centred learning, the content focused on specific skills and knowledge related to self-knowledge and orientation in the world of professions were among the main characteristics of the program which contribute to its effectiveness. However, in order to have long-term outcomes, any intervention program on career counselling should be designed with consideration for several aspects at multiple levels: the specific career counselling needs of the students from every educational cycle, the career management skills that are necessary for orientation in the world of professions, the training of in-service or pre-service teachers who will deliver the program, the social context and the labour market. Nevertheless, as the findings of the current study point, the effectiveness of such programs should be assessed through specific learning output, such as career-related skills.

Compliance with Ethical Standards

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethical Approval We confirm that we have complied with the ethical standards in the treatment of the samples included in the research. All ethical guidelines were followed as required for conducting human research. This study was approved by the Faculty Committee of Faculty of Psychology and Education Sciences, Transilvania University of Brasov on 21.04.2015. All participants provided written informed consent prior to enrolment in the study.

References

Albisser, S., Bieri, B. C., & Keller-Schneider, M. (2011). Entwicklungsaufgaben und Bildungsgang. In: S. Albisser & C. Bieri: *Sozialisation und Entwicklungsaufgaben Heranwachsender* (pp.17-55). Baltmannsweiler: Schneider Hohengehren.

Allen, J., & van der Velden, R. (2005). The role of self-assessment in measuring skills. Reflex working paper no. 2, research Centre for Education and the labour market, Maastricht University. https://cris.maastrichtuniversity.nl/portal/files/4047131/guid-3b801703-f49b-46e5-bd15-adfe7eef189e-ASSET1.0

Andronic, A. O., & Andronic, R. L. (2011). Career Counselling in Romania – Impact on educational actor. *Procedia - Social and Behavioral Sciences, 30*, 1857–1861.

Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Longman.

Baker, S. B., & Taylor, J. G. (1998). Effects of career education interventions: A meta-analysis. *The Career Development Quarterly, 46*, 376–385.

Blömeke, S., Gustafsson, J. E., & Shavelson, R. L. (2015). Beyond dichotomies: Competence viewed as a continuum. *Zeitschrift für Psychologie, 223*(1), 3–13.

Blömeke, S., Kaiser, G., & Lehmann, R. (2008). *Professionelle Kompetenz angehender Lehrerinnen und Lehrer: Wissen, Überzeugungen und Lerngelegenheiten deutscher Mathematikstudierender und -referendare*. Münster: Waxmann.

Bortz, J., & Döring, N. (2006). *Forschungsmethoden und Evaluation*. Heidelberg: Springer Medizin Verlag.

Bound, H., & Lin, M. (2013). Developing competence at work. *Vocations and Learning, 6*, 403–420. https://doi.org/10.1007/s12186-013-9102-8.

Braver, M. W., & Braver, S. L. (1988). Statistical treatment of the Solomon four-group design: A meta-analytic approach. *Psychological Bulletin, 104*(1), 150–154. https://doi.org/10.1037/0033-2909.104.1.150.

Brătucu, E. D., Criveanu, M. M., Popescu, A. C., Smarandache, D, Cărămidă-Trocan, L. N., Comănescu, G., Goiceanu, D., & Incrosnatu, C. M. (2015). *Raport de cercetare privind serviciile de consiliere şi orientare în carieră a elevilor realizat în cadrul proiectului TRANSEL Stagii de practică şi consiliere pentru o tranziţie facilă de la şcoală la viaţa activă pentru elevii din judeţul Gorj*. [Research report on career counseling and guidance services to students within TRANSEL project. Internship and counseling for school-work transition in Gorj County]. Craiova: Grafix.

Bridgstock, R. (2009). The graduate attributes we've overlooked: Enhancing graduate employability through career management skills. *Higher Education Research & Development, 28*(1), 31–44.

Brown, S. D., Krane, N. E. R., Brecheisen, J., Castelino, P., Budisin, I., Miller, M., & Edensa, L. (2003). Critical ingredients of career choice interventions: More analyses and new hypotheses. *Journal of Vocational Behavior, 62*, 411–428.

Cassidy, S. (2007). Assessing 'inexperienced' students' ability to self-assess: Exploring links with learning style and academic personal control. *Assessment & Evaluation in Higher Education, 32*(3), 313–330.

Chircu, S. (2014). Career counseling needs for students – A comparative study. *Procedia – Social and Behavioral Sciences, 127*, 549–553.

CMBRAE. (2012). *Studiu privind opţiunile şcolare şi profesionale ale elevilor claselor a VIII-a, ale părinţilor şi ale profesorilor diriginţi [Study on 8th graders educational and professional alternatives]*. http://www.cmbrae.ro/2017/upload/Studiu_OSP_2012_2013_site.pdf

Cojocaru, V. M., & Cojocaru, I. V. (2015). A study on raising awareness of the students' needs of career Counselling. *Procedia - Social and Behavioral Sciences, 180*, 1058–1066. https://doi.org/10.1016/j.sbspro.2015.02.206.

Connally, J., Jorgensen, K., Gillis, S., & Griffin, P. (2002). *An integrated approach to the assessment of higher order competencies.* Paper

presented at the Australian Association for Research in education annual conference, Brisbane, Australia, December 2002.
Crăciun, M. (2015). Pupils' and students' perception on career and career services in Romania. *Journal of Innovation in Psychology, Education and Didactics, 19*(2), 263–276.
Dubeau, A., Plante, I., & Frenay, M. (2016). Achievement profiles of students in high school vocational training programs. *Vocation and Learning, 10*(1), 101–120.
EACEA (2019). Romania. Career guidance and counselling. EACEA National Policies Platform. https://eacea.ec.europa.eu/national-policies/en/content/youthwiki/34-career-guidance-and-counselling-romania
Euroguidance (2019). Guidance system in Romania. Resource document. Euroguidance Romania. https://www.euroguidance.eu/guidance-systems-and-practice/national-guidance-systems/guidance-system-in-romania
Fitzgerald, J. T., White, C. B., & Gruppen, L. D. (2003). A longitudinal study of self-assessment accuracy. *Medical Education, 37*(7), 645–649.
Flynn, R. J. (1995). Follow-up evaluation of career-counseling programs. ERIC Digest.
Gravina, D., & Lovsin, M. (2012). Career Management Skills: Factors in Implementing Policy Successfully Concept note commissioned by ELGPN. http://www.elgpn.eu/publications/browse-by-language/english/Gravina_and_Lovsin_cms_concept_note_web.pdf/
Khaled, A., Gulikers, J., Tobi, H., Biemans, H., Oonk, C., & Mulder, M. (2014). Exploring the validity and robustness of a competency self-report instrument for vocational and higher competence-based education. *Journal of Psychoeducational Assessment, 32*(5), 429–440.
Keller-Schneider, M. (2010). *Entwicklungsaufgaben im Berufseinstieg von Lehrpersonen*. Münster: Waxmann.
Keller-Schneider, M. (2014). Self-regulated learning in teacher education – The significance of individual resources and learning behavior. *Australian Journal of Educational & Developmental Psychology, 14*, 144–158.
Keller-Schneider, M. (2016). Student teachers' motivation matters. *Bulletin of the Transilvania University of Braşov. Series VII: Social Sciences Law, 9* (58) no. 2, 15-24.
Keller-Schneider, M. & Albisser, S. (2018). *JOBS RESEARCH, Evaluation of the Educational Project 'JOBS', Report Part I: Effects of the program on students' knowledge and skills.* https://zenodo.org/record/1156503 - .WvBOhNMvzEY.
Keller-Schneider, M., David, L. T., Cazan, A. M., Truta, C. & Albisser, S. (2018). *JOBS Research. Evaluation of the Educational Project 'JOBS'. Report Part II: Effects of individual and social resources on the learning output*. Zürich: University of Teacher Education. https://zenodo.org/record/1156537 - .WvBOatMvzEY
Killeen, J., & Kidd, J. (1991). Learning outcomes of guidance: A review of recent research. London, England: National Institute for Careers Education and Counselling. http://www.oecd.org/edu/innovation-education/2495163.pdf
Kurunsaari, M., Tynjälä, P., & Piirainen, A. (2018). Graduating physiotherapy students' conceptions of their own competence. *Vocations and Learning, 11*(1), 1–18. https://doi.org/10.1007/s12186-017-9177-8.
Maguire, M., & Killen, J. (2003). *Outcomes from career information and guidance services*, National Institute for Careers Education and Counselling (NICEC). http://www.oecd.org/edu/innovation-education/2495163.pdf
Mulder, M. (2011). The concept of competence: Blessing or curse? In I. Torniainen, S. Mahlamäki-Kultanen, P. Nokelainen, & P. Ilsley (Eds.), *Innovations for competence management. Conference proceedings* (pp. 11–24). Lahti: Lahti University of Applied Sciences.
Neuweg, H. G. (2014). Das Wissen der Wissensvermittler. In E. Terhart, H. Bennewitz & M. Rothland. *Handbuch der Forschung zum Lehrerberuf* (pp. 583-614). Münster: Waxmann, 2. überarbeitete Auflage.
Richter, L., & Johnson, P. B. (2001). Current methods of assessing substance use: A review of strengths, problems, and developments. *Journal of Drug Issues, 31*(4), 809–832.
Sultana, R. G. (2012). Learning career management skills in Europe: A critical review. *Journal of Education and Work, 25*(2), 225–248.
Sturing, L., Biemans, H. J. A., Mulder, M., & de Bruijn, E. (2011). The nature of study Programmes in vocational education: Evaluation of the model for comprehensive competence-based vocational education in the Netherlands. *Vocations and Learning, 4*, 191–210. https://doi.org/10.1007/s12186-011-9059-4.
Ţânculescu, L. (2013) – Convergenţa – Rolul consilierului şcolar ca liant [convergence: The liason-officer role of the educational counselor] in S. Stanciu (Ed.), *Stilul de învăţare şi temperamentul şcolarilor-instrumente pentru o învăţare creativă [Learning styles and students's temperament - tools for a creative learning process]* (pp. 169-175), Bucureşti: Comunicare.Ro.
Watts, A. G. (1999). The economic and social benefits of guidance. *Educational and Vocational Guidance: Bulletin, 63*, 12–19.
Weidinger, W. (2017). Supporting active learning. Training booklet for teachers. Zurich University of Teacher Education, International Projects in Education. https://www.jobsproject.ro/wp-content/uploads/2018/12/JOBS_Teacher_Brochure_EN-1.pdf
Weinert, F. E. (2001). Concept of competence: A conceptual clarification. In D. S. Rychen & L. H. Salganik (Eds.), *Defining and selecting key competences* (pp. 45–65). Seattle: Hogrefe & Huber.
Whiston, S. C., Tai, L. W., Rahardja, D., & Eder, K. (2011). School counseling outcome: A meta-analytic examination of interventions. *Journal of Counseling & Development, 89*, 37–55.
Zurich University of Teacher Education (n.d.). *Job orientation*. https://ipe-textbooks.phzh.ch/de/job-orientation/