

10th ICEEPSY 2019
International Conference on Education and Educational Psychology

**DESIGN THINKING METHODOLOGY IN THE CAREER
DEVELOPMENT PROGRAMME FOR UNIVERSITY STUDENTS**

Silvana Fratric Kunac (a)*, Irena Miljkovic Krecar (b), Maja Kolega (c)

*Corresponding author

(a) VERN' University of Applied Sciences, Trg bana Jelacica 3, Zagreb, Croatia. E-mail: silvana.fratric@vern.hr

(b) VERN' University of Applied Sciences, Trg bana Jelacica 3, Zagreb, Croatia. E-mail: irena.miljkovic@vern.hr

(c) VERN' University of Applied Sciences, Trg bana Jelacica 3, Zagreb. E-mail: Croatia, maja.kolega@vern.hr

Abstract

To many freshmen the process of career decision making seems to be finalized once they have chosen a field of study, but as time goes by their uncertainties rise. Design thinking provides a useful frame for developing extracurricular programme that can help students grow functional and realistic perceptions of their future careers. This study deals with the effects and potential usefulness of a career development programme implemented at the University of Applied Sciences VERN' (Zagreb, Croatia). 19 students took part in the Programme and were tested before and after its implementation on four measures - Career-related Negative and Positive Affect, Career Development Self-Efficacy, Dysfunctional Beliefs and Career Uncertainty. In order to exclude possible external factors that could affect students, a control group of 20 students of the same age and gender was also tested. At the beginning of the Programme the treatment group showed less dysfunctional career beliefs than control group, and that difference stayed stable at the second measurement point. After the Programme the treatment group showed significant decrease in Career-related Negative Affect. No significant differences were found on the remaining measures. The lack of effects on other variables could be attributed to the research methodology (treatment group consisting of highly motivated, initially different individuals) but also stresses the need of programme modification for the next generation.

© 2019 Published by Future Academy www.FutureAcademy.org.UK

Keywords: Design thinking, career development, dysfunctional beliefs.



The Author(s) 2019. This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Contemporary world seems to offer countless personal and career opportunities for young generations. However, at the same time it could be unpredictable, uncertain and unstable due to constant and rapid changes in economy and labour markets. Therefore, pursuing and realizing meaningful and fulfilling working life can be very difficult.

Moreover, a person most often enters this competitive and challenging labour market in the period of emerging adulthood. The ambiguous period of emerging adulthood (Arnett, 2000) is widely accepted by many authors as a transitional period between late adolescence and young adulthood marked by instability and the inability of young people to reach full independence from their parents (Konstam, 2015; Domene, Young, & Wilson, 2019; Hartung & Cadaret, 2017; del Corso, 2017; Briddick, Senoy-Briddick, & Savickas, 2019; Cohen-Scali & Pouyaud, 2019; Gerryts & Maree, 2019). These young people leave the safe and familiar environment that surrounded them for the past 12 or 16 years of their education and are trying to find a “stable pattern in a life that has suddenly become unfamiliar and unpredictable” (Oishi, 2012, p. 7). As a result, for many adolescents creating a career is not only a complex, but also a stressful and confusing process that can have a negative impact on an individual’s well-being (Chen, 2015; Van Esbroeck & Augustijnen, 2015; Konstam, 2015; Stoltz, 2015; Rossier, Ginevra, Bollmann, & Nota, 2017).

Nowadays universities are facing the challenge to help their students find a way of dealing with their personal and professional future in the face of increased uncertainty, which means equipping them with necessary skills, competencies, and mindsets (Koh, Chai, Wong, & Hong, 2015; Langher, Nannini, & Caputo, 2018). Along this line, Stanford University offers an innovative course created by Bill Burnett and Dave Evans, that is grounded in life design methodology. As Schofield (2017) pinpointed, the programme of this course is influenced by John Krumboltz’s social learning theory, Arthur Bandura’s self-efficacy concept, Donald Super’s life-span theory, John Holland’s occupational themes theory, and John Krumboltz’s happenstance theory. Oishi (2012) emphasizes that it is also highly influenced by Bandura’s career human agency theory.

Savickas et al. (2009) advanced Super’s life-span theory and proposed life designing as a new paradigm in career counselling which is suitable for the complexity of developing a career in the 21st century (in Hartung & Cadaret, 2017). His life designing paradigm considers career adaptability as a principal construct for comprehending vocational behaviour, where career adaptability is understood as “the particular capacity to hone and use psychosocial resources necessary to make changes in self and situation for career satisfaction and success” (Hartung & Cadaret, 2017, p. 15). It subsumes four resources: concern about future plans, a feeling of control over one’s future and of competence in decision-making, curiosity about vocational choices and confidence to cope with what future brings (Santilli, Maggio, Marcionetti, & Grossen, 2018).

The main ideas of our programme, called “Design your Career” are reminiscent of Savickas’ life designing paradigm. Savickas’ paradigm revolves around the terms of adaptation and identity. Since society is constantly changing, it has become vital to adapt quickly and to take charge over the course of one’s own professional and private life as a whole. In order to do that an individual has to have in mind a vision of a person they want to become and work on their identity in order to achieve it (Cohen-Scali, Rossier, & Nota, 2018). According to Savickas et al. (2009), preventive career interventions in life design approach can be

used to prepare adolescents for their future and promote career adaptability (Santilli, Maggio, Marcionetti, & Grossen, 2018).

The resources of career adaptability play a significant role in enhancing the well-being and life satisfaction of young people and in enticing them to set and work on more realistic career goals (Hirschi, 2009, in Santilli, Maggio, Marcionetti, & Grossen, 2018). Negru-Subirica and Pop (2016) have found in their longitudinal study that there is bidirectional link between career adaptability and academic achievement of adolescents. Namely, those students more concerned with their future career have better grades, and vice versa. Moreover, they found that better academic performance predicts career control and confidence.

Oishi (2012) investigated the effects of the “Design Your Life” career development course that applied design thinking approach into career development of undergraduates. The main aim of her research was to explore how the course affected career development agency (i.e. career development self-efficacy and career-related dysfunctional beliefs), career-related negative affect, and career uncertainty. Schofield (2017) conducted a similar study on a course based on the same programme and explored its effects on self-efficacy and career indecision among undergraduates. The main results of these studies will be compared with our results in the discussion and conclusion.

The “Design Your Career” programme which is analysed in this study is based on the book “Designing Your Life” (Burnett & Evans, 2016). The authors described a very popular course they offer at Stanford University which employs design thinking principles for personal and career development. In their own words, “design thinking is a human-centred approach to problem solving and innovation through prototype iteration” (Stanford Life Design Lab, 2018). In this context they used it to help students to develop a constructive approach to discover their calling and design their career (Oishi, 2012). It resonated clearly with the students as it considers that life is all about growth and continuous change, which they can relate their own personal experience to. In order to succeed in a continuously changing environment, the students must learn to tolerate uncertainty and accept it as a necessary part of growth. The core premise is that individuals can make progress in their career and in life by approaching the achievement of their goals as a designer would approach the development of a product. In order to practice thinking like a designer, the authors suggest the adoption of five mindsets: curiosity, reframing, bias to action, radical collaboration and awareness of the process. Since the book is the result of practical work with students, it presents concrete steps in the form of multiple activities, which is very convenient for practitioners, as is the interactive workbook supplemented to the book.

Life design framework consists of eight practical tactics as building blocks to achieve a life worth living and overcome career challenges (Burnett & Evans, 2016). The process begins by an individual assessing their current position in life on four gauges on the “Health / work / play / love dashboard”. The driving idea is that an individual should have a well-balanced life in order to be satisfied, and a visual representation of the current state helps them in the process of setting their goals. In the second tactic, an individual builds what Burnett and Evans (2016) call “workview” and “lifeview” – a set of personal ideas and beliefs about how the workforce and life in general function, respectively. This makes an individual aware of their personal value system, which is important in making professional and life decisions. After that, an individual keeps a diary (“The Good Time Journal”) in which they write about their experiences.

Reading the entries and reflecting to the events, they can establish which ones elevated their energy levels and made them engaged and in flow, and which ones did the opposite, in order to become aware of what interests them. In the same way, an individual is made aware of which social aspects are important for them in making career decisions. Having gathered up this information, an individual makes mind maps regarding the ideas, interests and social factors in order to get a clearer picture of what their future should be like and to gain a fresh perspective on their problems. Next, using the mind maps, an individual creates what the authors call “Odyssey Plans” (Burnett & Evans, 2016) for a period of five years. Three versions are supposed to be made answering the following questions: “the thing you would do”, “the thing you would do if option 1 was gone”, and the “thing you would do if money and image was no object” (Burnett & Evans, 2016). These are now the basis for prototyping – testing the plans as well as the ideas and values behind them. One of the prototyping methods is a life design interview, which entails a conversation with someone whose life story should inspire the individual and answer the questions they have about their odyssey plans. Another method may be looking into the desired life, e.g. by taking an internship, thus creating a prototype experience. The penultimate tactic is to categorize one’s own mistakes and failures as screw-ups, weaknesses, or growth opportunities. This way, an individual can begin to learn from their mistakes and use the failure for the betterment of their lives.

Finally, the last tactic encourages an individual to establish a support team with members being supporters, players, or intimates. The supporters’ role is to encourage and give feedback, while players actively participate in the process of designing an individual’s life. The intimates may or may not have an active role in the design, but they are directly affected by it. The team members are involved in each other’s life-building, as life design is permanently an ongoing process which works only if an individual remains curious and active by trying new things and taking different perspectives.

Like the Stanford course for undergraduates, the programme “Design your Career” was implemented at the University of Applied Sciences VERN’ in the form of experiential class, utilizing various methods (e.g. small group activities, personal oral and written reflections, discussions, etc). In addition to the regular two-hour class every week, over approximately a three months’ period, the participants had to do some homework activities and assignments (diary, reflections...). VERN’s alumni who are professional design thinking trainers, were also involved in one of the classes as guest lecturers and conducted a workshop on several brainstorming exercises in order to encourage creative ideas as the ground for future career planning. Also, one of the interesting additional activities was the panel discussion with distinguished VERN’s students and alumni as guest speakers (with exceptional interests, career paths, stories, etc.), which was organized, carried out and hosted by the programme participants itself.

2. Problem Statement

The main problem was to test the effects and potential usefulness of a three months’ career development programme called “Design your Career”, implemented on students from the University of Applied Sciences VERN’ (Zagreb, Croatia).

3. Research Questions

How the programme “Design Your Career” impacts career related cognition and emotions in university students? Can potential effects be contributed to the programme itself or to other external influences?

4. Purpose of the Study

Nowadays for many emerging adulthood individuals creating a career is a stressful process that can have a negative impact on their well-being. With turbulent and rapidly changing world Universities are facing new challenges in order to help students deal with their professional future. Design thinking provides a useful frame for developing extracurricular programme, that can help students grow functional and realistic perceptions of their future careers.

5. Research Methods

5.1. Participants

The treatment group, which attended the “Design Your Career” programme consisted of 19 undergraduate students (mainly first year of Public relations study programme, University of Applied sciences, VERN'). The programme was offered to students free of charge and was scheduled so it would not collide with mandatory lectures. Students were offered to participate in this research by their psychology lecturer who is also the programme developer and executor, so they were recruited on a voluntary basis. In order to investigate the second research problem, i.e. to exclude the possible effects of external factors on the students during the programme, a control group of 20 students was also tested. Those participants were mainly recruited among the rest of the students of the same year and study programme, so that potentially important factors, such as field of study and age, could be controlled. Also, as the treatment group participants were mainly female students, with only 3 male students, special attention was given to the same gender balance in the control group. The age range was 20 – 26, and the most common age was 21.

5.2. Procedure

Both groups of participants filled out the same questionnaires at two measurement points - at the beginning of the programme (March 2019) and the end of the programme (June 2019). The control group (as opposed to the treatment group) only filled out questionnaires without attending the programme. The questionnaire included basic demographic data, some open-ended questions and 4 different scales: Dysfunctional Beliefs Scale, Career Uncertainty Scale, Career-related Negative and Positive Affect Scale, and Career Development Self Efficacy Scale. Open ended questions included questions about students' expectations and those about occupational fields they were considering entering. All scales are taken from Oishi's study (2012), who conducted her research with Stanford students enrolled in a similar programme, and then adapted for Croatian sample and slightly modified. The description of each scale follows:

1. Dysfunctional Beliefs Scale is adapted from Career Beliefs Inventory (Krumboltz, 1994, as cited in Oishi, 2012) and consists of 10 items. Each item is a declarative statement of a dysfunctional belief, such

as “My career will be determined by the choices I make now”. Participants were to answer on a scale ranging from 1 (“Strongly disagree”) to 5 (“Strongly agree”). According to Oishi (2012), the Dysfunctional Beliefs Scale has good internal consistency, with a Cronbach alpha coefficient of .77. In this study, the Cronbach alpha coefficient is .65.

2. Career Uncertainty Scale includes a two-item Career uncertainty scale (Jones, 1989, as cited in Oishi, 2012). Items refer to general career field (“I have an occupational field in mind that I want to work in”) and specific occupational choice (“I have decided on an occupation I want to enter”). Furthermore, 2 items were chosen to examine how students feel in the process of making a choice (“I feel at ease and comfortable with where I am in making a vocational decision”; “I’m not worried about my career choice”). Participants selected their level of agreement with each statement on a scale ranging from 1 („Strongly disagree”) to 5 („Strongly agree “). Oishi (2012) used only 2 items based on Jones scale to calculate Cronbach $\lambda = .76$. In this research with all 4 items Cronbach λ is .79.

3. Career-related Negative and Positive Affect Scale is used as a measure of well-being, with items that measure negative affect (“I felt depressed about my career and future “) and positive affect (“I feel at ease and comfortable with my vocational decision “). Oishi (2012) developed this scale combining items from the Career Decision Comfort Scale (Jones, 1989, as cited in Oishi, 2012), the Centre for Epidemiologic Studies Depression Scale (CES-D, Radloff, 1977) and the Perceived Stress Scale (PSS, Cohen, Kamarck, & Mermelstein, 1983). For each item, specific words are used to relate the scale explicitly to an individual career future. In addition, all 15 items (reflecting both negative and positive affect) were reversed in one direction (into a single negatively valanced scale). In this research the scale description was adjusted so instead of frequency it measured agreement on a 5-point scale (form 1 “Strongly disagree” to 5 “Strongly agree”). Cronbach λ shows good internal consistency both for Oishi’s (2012) research (Cronbach λ was .87), and this research (Cronbach λ was .90).

4. Career Development Self Efficacy Scale was developed from the Career Decision-Making Self-Efficacy scale (short form, Betz, Klein & Taylor, 1996, as cited in Oishi, 2012). All items begin with the statement “I know/I can...”, and the following 16 items refer to career development activities (“...choose a career that will fit my desired lifestyle”). Participants selected their degree of self-efficacy on a scale ranging from 1 (“Very unsure”) to 5 (“Very sure”). In Oishi’s research, Cronbach λ was .93, and in this research .90.

6. Findings

Due to the small sample sizes of treatment and control groups (19 and 20 participants, respectively) and since the independence of observation cannot be assumed (the behaviour of each member of the group could influence all other group members) the non-parametric tests were used. Table 1 shows descriptive results for both groups and for all four variables as well as the results of Mann-Whitney test for the differences between groups, and the Wilcoxon test of differences. The results of Mann-Whitney U test show that treatment and control group initially differed significantly only in one variable: Dysfunctional Beliefs. In other words, participants in the treatment group, who voluntarily applied to the programme, had less dysfunctional beliefs about their career ($M = 25.9$, $SD = 4.36$, $n = 19$), than students from control group

($M = 30.00$, $SD = 5.38$, $n = 20$), with medium effect size ($U = 109.0$; $z = -2.28$, $p = .02.$, $r = .37$). These differences stayed stable after the completion of the programme as well ($U=70.5$, $z=-2.73$, $p=.006$, $r = .44$).

The results of the treatment and control group on four variables, measured at two points in time, are also presented in Table 1. The Wilcoxon test of differences within groups shows that the initial results of the treatment group differ significantly from the results taken after completing the programme in only one variable: Career-related Negative and Positive Affect ($z = -2.23$, $p = .023$, $r = .36$). That is, after completion of the programme, participants showed less negative career-related affect ($M = 28.1$, $SD = 9.9$, $n = 19$) than in the initial phase ($M = 31.12$, $SD = 9.71$, $n = 19$). For other variables - Dysfunctional Beliefs, Career Uncertainty and Self-efficacy - the differences between initial results and results after the programme were not significant. As expected, there were no significant differences in any of the four variables measured at two points in time in the control group.

Table 01. Descriptive statistic for main variables and differences between the Treatment and the Control Group

| Variables | Treatment Group | | Wilcoxon signed ranks test (z) | Control Group | | Wilcoxon signed ranks test (z) | Mann-Whitney M test (U) | | |
|--------------------------------|-----------------|------|--------------------------------|---------------|------|--------------------------------|-------------------------|-------|-------|
| | M | SD | | M | SD | | U | z | p |
| Dysfunctional Beliefs 1 | 25.9 | 4.36 | -.98 | 30.0 | 5.38 | -.39 | 109.0 | -2,28 | .022* |
| Dysfunctional Beliefs 2 | 25.12 | 4.81 | | 30.0 | 4.83 | | 70.5 | -2.73 | .006* |
| Negative and Positive Affect 1 | 31.12 | 9.71 | -2.23* | 30.0 | 8.14 | -1.76 | 140.0 | -.14 | .89 |
| Negative and Positive Affect 2 | 28.1 | 9.9 | | 32.5 | 8.03 | | 99 | -1.79 | .074 |
| Career Uncertainty 1 | 14.0 | 2.95 | -1.59 | 14.81 | 3.56 | -.27 | 124.5 | -.68 | .5 |
| Career Uncertainty 2 | 14.92 | 3.55 | | 15.11 | 2.42 | | 109.5 | -.3 | .762 |
| Self-efficacy 1 | 63.0 | 6.19 | -1.37 | 62.19 | 7.45 | -1.37 | 139.5 | -.16 | .88 |
| Self-efficacy 2 | 63.8 | 7.0 | | 58.95 | 9.22 | | 92.5 | -1.74 | .082 |

* $p < 0.05$

Significant changes found on a scale measuring Career-related Negative and Positive Affect suggest that the enrolment in the programme itself prompted the reduction of the participants' negative career-related affect. This assumption is additionally supported by the result that within the control group no such changes were found, and the result that those two groups initially (before the programme) did not differ in average levels of Career-related Negative and Positive Affect. Also, in a similar, already mentioned study (Oishi, 2012) that served as a methodological frame for this research, the same effect was noted - moderate decrease in career-related negative affect.

Our results, although moderate in effect, show the potential usefulness of the implemented programme. As most items from this scale describe intense negative career related emotional states such as depression, crying, avoidance, stress, or restlessness, it becomes clearer how important it is to implement programmes that can reduce those states in participants. This is especially valid for students and other young adults facing transition to the world of work and full adulthood.

The second significant difference found cannot be attributed to the enrolment in the programme, but most likely resulted from the recruiting procedure. As it can be seen in the Results section, at the beginning of the programme the treatment group showed less dysfunctional career beliefs than control group, and that difference stayed stable to the second measurement point. At the same time, no changes in dysfunctional career beliefs within the treatment group were found between two measurement points, indicating that the programme did not affect those beliefs at all.

As was mentioned earlier, treatment group participants were voluntarily gathered, so it can be assumed that their motivation for the programme reflects generally more active attitude towards their future careers, making them different than “average” control group students. Also, they were informed about this programme by their psychology lecturer (and programme executor) and were attracted to it partly because they like psychology and the lecturer. As many psychology lecturers could confirm, students who like psychology (even when it is not their core field of study) are generally more inclined to introspection and could have therefore had less dysfunctional beliefs to begin with.

If this research treatment group gained around 25 points on dysfunctional career beliefs scale, control group around 30, and comparative American student sample 28 (Oishi, 2012), meaning that our control group is probably more like the American sample than treatment group.

However, although high motivation at the beginning of the education process is usually a good thing, as it facilitates the programme and secures better learning outcomes (Liu, Bridgeman, & Adler, 2012; Vizek Vidovic, Rijavec, Vlahovic-Stetic, & Miljkovic, 2014), in this situation it also could have masked the programme effects. In other words, although our results do not show a significant effect of the programme on the dysfunctional career beliefs, it does not mean that it would not affect the beliefs of some other participants who have more dysfunctional beliefs to begin with. In Oishi's research (2012) dysfunctional beliefs reduced a bit (but not significantly) through the treatment, while in the control group they increased over time. The author suggested that the programme protected its participants from this negative external outcome.

Finally, a critical notion should be given to the fact that Chronbach's alpha of this scale in this research is questionable (0,65), as opposed to original research (0,77) (Oishi, 2012). Lower alpha coefficient brings in question the justification for treating set of items as a scale, and it is therefore suggested to test these items further on another, larger group of participants.

No differences were found on the remaining two measures, but they are going to be discussed and compared to the original research anyway.

In Oishi's research, (2012) Career development self-efficacy increased in the treatment group. The lack of similar effect on our sample could be attributed to the sample specificities. Table 1 shows that at the beginning of the programme both of our groups, and especially treatment group, had high self-efficacy (62,6 in total average, or 3,9 per question average, on a scale from 1 to 5), higher than the ones found in the

American sample (60,6, Oishi, 2012). Given the fact that VERN' University of Applied sciences is a private university that has to maintain high quality of education in order to remain competitive, very strong emphasis is given to individual approach to each student. Moreover, professors at VERN' adhere to the principles that teaching should be always interactive and in small groups (around 25 students), and that professors should be highly attentive and available. Students are encouraged to develop personally and professionally, and to participate actively in extracurricular activities and in many VERN's programmes and services. This environment allows them to develop self-esteem and may have affected higher career related self-efficacy as well. Once again, maybe on a different sample consisted of public university students, the effect of this Programme on self-efficacy would be visible.

The last used measure, also without observed significant differences, is Career uncertainty. As this scale consists of four items, which were taken from two separate scales, we did separate analyses as well (2+2 items) and the differences did not show regardless of the variable (treatment vs. control group; before vs. after the programme). In Oishi's research (2012), levels of career uncertainty also did not change in the treatment group. However, it seems unclear which specific expectations one would have regarding this programme and the items on this scale. Oishi states that although the fear of unknown is a universal human characteristic, in the modern dynamic fast-paced labour market certainty could be maladaptive. It all depends on the interpretation of uncertainty (is it a good, a neutral or a bad thing), as well as the character and beliefs of a person. That is, uncertainty is good, given that a person has enough resilience or career agency to cope with it. In that sense we expected that the treatment group participants' worry regarding career uncertainty (the third and the fourth item) would lower, while the decision on concrete future job (the first and the second item) would be the same, as the programme's goal was not to make them decide.

7. Conclusion

Although many theorists agree that career is a dynamic concept, in minds (and life) of many it is a process that ends with first full time employment. Moreover, finding that one right job to many seems as a crucial factor of life satisfaction. There is pressure to choose education (and consequently career) by oneself (or with help of significant others) based on current knowledge of one's own abilities and affinities. It is therefore of high importance to give proper institutional support for career development process in schools and universities.

The main purpose of this study was to examine the effects of a three-month career development programme - "Design Your Career" - developed on the design thinking methodology. Its evaluation included testing the participants before and after the programme with 4 scales measuring career related cognition and emotions. The Programme was tested through quasi-experimental design and it showed significant effect on reducing career related negative affect within the treatment group.

As it was implemented on a limited number of students from a private university (University of Applied Sciences, VERN', Croatia) that voluntarily applied to it, its findings cannot be automatically generalised. Although direct and voluntary recruitment of participants is usually the most convenient for the researchers, it bears some potential traps. One of them was clearly visible. When participants self-select into a treatment group, it can mean that they differ from other potential participants (students in this context) in systematic ways. Also, as participants for both condition groups were recruited from the same student

groups, they might have communicated about it and affected each other during the programme. Even some of the external factors that might have naturally affected control group's results maybe didn't occur because of their communication with the treatment group members.

In the future, the programme should be tested on larger groups of randomly assigned students. Also, it would be useful to do a follow up, to see how their careers evolved years after the completion of the programme, because some of its effects may not be stable. For example, in a similar study done by Schofield (2017), six months after the completion of the career programme students showed an increase in career indecision and a decrease in self-efficacy. Although this could have happened to students that did not participate in the programme as well, it is necessary to have a clear perspective on the programme's effects through time. Also, the changes induced by the programme could have slower effects than expected, which is also a reason for conducting longer term longitudinal studies.

It would also be beneficial to do qualitative research, e.g. content analysis of students' written assignments, and participants' evaluations of the course. Conducting such research would allow us a closer look at the experiences of the participants and their satisfaction with their future educational and vocational plans.

As for the improvements of the programme itself, individual coaching should be included in the future. Such a context gives the students the opportunity to be more open and feel more secure to express themselves, their own fears, ideas, and dreams regarding their career. Some activities that tackle dysfunctional beliefs specifically should also be added into the course. Although it is a difficult task to completely eradicate dysfunctional beliefs of a person, such activities should be targeted at ameliorating their negative affect and replacing them with persuasive adaptive beliefs grounded in design thinking.

It is also planned to include the highly motivated and interested participants from the pilot programme to facilitate some activities in some of the future classes. This way they could act as role models to new students, as well as gain precious experience themselves.

References

- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55, 469–480.
- Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science*, 1(2), 164–180.
- Briddick, W. C., Sensoy-Briddick, H., & Savickas, S. (2019). Innovation Meets Need: Career Counselling and Youth Populations in Uncertain Times. In J. G. Maree (Ed.), *Handbook of Innovative Career Counselling* (pp. 251-268). Springer Nature Switzerland.
- Burnett, B., & Evans, D. (2016). *Designing Your Life: How to Build a Well-Lived, Joyful Life*. New York, NY: Alfred A. Knopf.
- Chen, C. P. (2015). Career Human Agency Theory. In K. Maree, & A. di Fabio (Eds.), *Exploring New Horizons in Career Counselling: Turning Challenge into Opportunities* (pp. 77-97). Sense Publishers.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385-396.
- Cohen-Scali, V., & Pouyaud, J. (2019). A Career Education Approach Based on Group Dialogues to Help Adolescents and Emerging Adults in Their Self Construction. In J. G. Maree (Ed.), *Handbook of Innovative Career Counselling* (pp. 405-424). Springer Nature Switzerland.
- Cohen-Scali, V., Rossier, J., & Nota, L. (2018). Introduction: Building an International Community of Research in Career Guidance and Counseling. In V. Cohen-Scali, J. Rossier, & L. Nota (Eds.), *New*

- Perspectives on Career Counseling and Guidance in Europe* (pp. 1-19). Springer International Publishing.
- del Corso, J. J. (2017). Counselling Young Adults to Become Career Adaptable and Career Resilient. In K. Maree (Ed.), *Psychology of Career Adaptability, Employability and Resilience* (pp. 171-188). Springer International Publishing.
- Domene, J. F., Young, R. A., & Wilson, C. (2019). Career Counselling for Emerging Adults Based on Goal-Directed Action: An Innovative Approach to Theory, Research, and Practice. In J. G. Maree (Ed.), *Handbook of Innovative Career Counselling* (pp. 557-575). Springer International Publishing.
- Gerryts, E. W., & Maree, J. G. (2019). Enhancing the Employability of Young Adults from Socio-economically Challenged Contexts: Theoretical Overview. In J. G. Maree (Ed.), *Handbook of Innovative Career Counselling* (pp. 425-468). Springer Nature Switzerland.
- Hartung, P. J., & Cadaret, M. C. (2017). Career Adaptability: Changing Self and Situation for Satisfaction and Success. In K. Maree (Ed.), *Psychology of Career Adaptability, Employability and Resilience* (pp. 15-28). Springer International Publishing.
- Koh, J. H., Chai, C. S., Wong, B., & Hong, H.-Y. (2015). *Design Thinking for Education: Conceptions and Applications in Teaching and Learning*. Singapore: Springer International Publishing.
- Konstam, V. (2015). Emerging and Young Adulthood. Multiple Perspectives, Diverse Narratives. Springer International Publishing.
- Langher, V., Nannini, V., & Caputo, A. (2018). What do university or graduate students need to make the cut? A meta-analysis on career intervention effectiveness. *Journal of Educational, Cultural and Psychological Studies*, 17, 21-43.
- Liu, O. L., Bridgeman, B., & Adler, R. M. (2012). Measuring Learning Outcomes in Higher Education: Motivation Matters. *Educational Researcher*, 41, 9, 352-362.
- Negrub-Subirica, O., & Pop, E. I. (2016). Longitudinal links between career adaptability and academic achievement in adolescence. *Journal of Vocational Behavior*, 163-170.
- Oishi, L. N. (2012). Enhancing career development agency in emerging adulthood: an intervention using design thinking. A dissertation submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy, Stanford University. Retrieved July 2019, from <http://purl.stanford.edu/tt351qn0806>
- Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385-401.
- Rossier, J., Ginevra, M. C., Bollmann, G., & Nota, L. (2017). The Importance of Career Adaptability, Career Resilience, and Employability in Designing a Successful Life. In K. Maree (Ed.), *Psychology of Career Adaptability, Employability and Resilience* (pp. 65-82). Springer International Publishing.
- Santilli, S., Maggio, I. D., Marcionetti, J., & Grossen, S. (2018). Life Designing and Positive Youth Development. In V. Cohen-Scali, J. Rossier, & L. Nota (Eds.), *New Perspectives on Career Counseling and Guidance in Europe. Building Careers in Changing and Diverse Societies* (pp. 39-52). Springer International Publishing.
- Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J., Duarte, M. E., Guichard, J., Soresi, S., Van Esbroeck, R., van Vianeng, A. E. M. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of Vocational Behavior*, 75, 239-250.
- Schofield, E. (2017). The Effects of Life Design Career Counseling on Public Relations Students' Self-Efficacy and Career Indecision. A project completed in partial fulfilment of the Honours Programme, Ohio Dominican University, Public Relations and Marketing Communications.
- Stanford Life Design Lab. (2018). Designing the Professional. Retrieved from Stanford Life Design Lab: <http://lifedesignlab.stanford.edu/dtp>
- Stoltz, K. B. (2015). Counselling Toward Career Adaptability. In K. Maree, & A. di Fabio (Eds.), *Exploring New Horizons in Career Counselling: Turning Challenge into Opportunities* (pp. 263-277). Sense Publishers.
- Van Esbroeck, R., & Augustijnen, M.-T. (2015). Exploring New Perspectives in Coaching. In K. Maree, & A. di Fabio (Eds.), *Exploring New Horizons in Career Counselling: Turning Challenge into Opportunities* (pp. 117-130). Sense Publishers.
- Vizek Vidovic, V., Rijavec, M., Vlahovic-Stetic, V., & Miljkovic, D. (2014). *Psihologija obrazovanja* [Psychology of Education]. IEP-VERN', Zagreb.