Nora Katona
Eötvös Loránd University, Budapest, Hungary

Assessment Strategies and Evidence-Based Interventions

Abstract: An overview of assessment strategies in an evidence-based programme aimed at promoting entrepreneurial skills of disadvantaged young people. Key-elements of evidence-based programs are reviewed and the development of a competence questionnaire to fulfil the requirements of assessments of evidence-based programme development practices and research based on Chorpita's (2003) categorization. The strategies of selecting scales to utilize in content validation of the ten competencies identified are provided. Self-efficacy, assertive behaviour, locus of control scales, as well as the Strengths and Difficulties Questionnaire (Goodman, 1997) have corroborate the content validity of the competency questionnaire by providing strong correlation with required competency sub-scales at a $p < 0,01$ significance level. On the other hand, two alternative possible explanations are offered why self-esteem scale of Rosenberg (1965) did not provide any correlations.

Introduction

The current levels of youth unemployment in Europe reached a new historic high of 23.5% in February 2013, more than twice as high as the adult rate, with some 5.7 million young people affected. Young people that have only completed lower secondary education (early leavers from education and training) bear the highest risk of unemployment. In 2012, the EU average youth unemployment rate was 22.8%, but reached 30.3% for low-skilled youth (European Commission, 2012).

An OECD report of 2012 warns that due to their lack of skills, motivation and self-worth, this "lost generation" might have difficulties in entering the workforce even when the recession ends and demand for employees is higher (OECD, 2012).

This fuelled a proposal for Erasmus + funding concentrates on the low skilled young people, often classed as NEETS, (not in employment education or training) in each of the partner countries. We will develop a programme that will promote the skills, behaviours and attitudes to turn them into proactive members of society with the ability to move forward into education, training employment or self-employment.

The project successful in being awarded funds was named "Reaching the lost generation"[1] (RLG) and addresses the issue of the very high number of young people who are not in employment and training by developing entrepreneurial skills in young people between the ages of 16–24 in hard to help groups across the 4 countries partners represent: EduNet Foundation (Hungary), the Department of Entrepreneurship and Spatial Management of the Pedagogical University of Cracow (Poland), Euro-Training Centre (Germany), Train'd Up (Scotland).

In discussions regarding our current project partners came to the conclusion that although the countries may be at differing levels of economic development, the issues for young people with barriers are the same. This project will look at the development of an educational programme that will help to promote the entrepreneurial skills of disadvantaged young people in its widest sense, moving them from reactive to proactive behaviours. Thus the aim of RLG is to develop a programme to promote the skills, behaviours and attitudes that turn NEET youth into proactive members of society with the ability to move forward into education, training, employment or self-employment, by providing a comprehensive 12-week Entrepreneurial Training programme that is flexible enough to cater to the diverse needs of the target group in different countries.

As all partners have extensive knowledge regarding disadvantaged youth provided training services to enhance employment, the first step was to identify personal traits and motivations which were deemed of particular importance in relation to success in business and to be reinforced via training. The following personal traits were singled out based on literature (Morris et al., 2013): a) passion (confronts opportunities and challenges with strong enthusiasm and sustains a highly motivated state to reach goals); b) perseverance (maintaining goal-directed action even when faced with obstacles) and c) proactivity (looks for opportunities, initiates and takes action, and perseveres until they have brought about the change they planned for). At the same time some personal motives that play an important role in achieving success were also identified: a) internal locus of control (the degree of conviction to which a person believes that he/she can directly affect an event or control an outcome); b) need for achievement (tries to accomplish difficult tasks – and maintains high standards in implementation) and c) self-efficacy (a person's belief that they are able to do and successfully accomplish a task or specific activity). As the above-listed characteristics are difficult to influence in a direct fashion, we looked for employability competencies related to these. Utilizing the generic building blocks competency model the US Department of Labour Employment & Training Administration (Bruinekool, 2013) the following ten competencies fitting into Tier 1 (personal competencies) and Tier 3 (workplace competencies) were delineated providing content areas for training:

▪ Adaptability and flexibility: ability to overview and reformulate plans in order to fit changing conditions.

- Business thinking and awareness: knowing where to look for information, understanding administration, how to allocate necessary resources in order to reach success in business.
- Decisions making skills: ability to find multiple viewpoints to evaluate alternatives in on an appropriate timescale, weighing possible risks.
- Interpersonal skills: readiness to communicate and do teamwork – ability to work with people from diverse backgrounds. Ability to identify own thoughts and feelings and communicate them; using all these skills in conflict resolution; assertive communication; active listening skills; clarification of ideas; debating skills; negotiating; cooperation in pair- and team-work; networking: building and maintaining good relationships.
- Problem solving: defining problems, creativity in finding solutions, efficient locating and use of information to generate alternative solutions (thinking outside the box).
- Taking responsibility: willing to take accountability for actions and recognize the consequences of decisions.
- Strong initiative: looks for new opportunities, highly motivated, persistent, identify and choosing the best way to achieve one's goals.
- Planning and organizing: prioritizing in order to manage work and time effectively, meeting deadlines.
- Willingness to learn: self-reflection on strengths and weaknesses; missing competencies and skills are looked upon as learning opportunities; being open to acquiring new skills.
- Willingness to take risks: ability to accept ambiguity and make choices even if not all information is available; to perform risk assessment and take considered risks, learning from past experiences.

In line with current expectations regarding evidence-based programmes and interventions the programme has incorporated several features that comply with the requirements of evidence-based programmes. Literature review suggests that there is no one commonly accepted definition of "evidence-based" programme or practice. Most definitions of "evidence-based" include common elements such as: a strong theoretical foundation; practice or programme intended for a developmentally appropriate, circumscribed population; quality data collection and procedures; and evidence of effectiveness (Ebbole, 2007).

Although Sping (2007) delineates the importance of evidence-based practice in regards to clinical practice – it is easy to reframe the benefits to the field of employability and entrepreneurship training. One is that of quality and accountability – one of the central themes of evidence-based programmes – is to provide interventions that have scientifically based evidence on efficiency. A second benefit is the ability to inform policy-makers on effective interventions, provide impetus for change in a direction that has long-term benefits for all involved. The third advantage is that at the interface of pre-existing disciplines, spanning borders, provide transdisciplinary contacts with a common language and a core of knowledge that fuels development. This in turn informs the development of an infrastructure that fills those gaps which emerge in transitioning processes between institutions and school-to-labour market – especially in cases of disadvantaged or at risk youth.

According to Chorpita's (2003) grouping, there are four types of research designs that aim to further evidence-based practice. Efficacy studies evaluate interventions in controlled research settings, while transportability studies examine the degree to which intervention effects generalize to practice settings and if implementing it in a practice setting is feasible. The third type are dissemination studies which utilize intervention agents that are part of the system of service, and the fourth are system evaluation studies used to establish independence from the "investigator effect" – the sustainability of an intervention is investigated. The RLG project partners emphasized due to socio-cultural and economic differences of countries involved means that very flexible program-development is needed to cater to different needs on the one hand, and this also facilitates the development of a program that is in line with transportability (examining the degree to which intervention effects generalize to different practice settings) and dissemination (using intervention agents that are part of the system of service) on the other. The use of measurement tools validated against standardized instruments partially fulfil some of the key requirements of an efficacy research, as well.

Development of assessment strategy

In order to fulfil the needs of an evidence-based programme a complex set of assessment tools had to be developed and validated. An overview of the process, types of tools and goals of utilized assessments is provided in Figure 1.

Fig. 1. An overview of assessment strategy used to inform planning and efficiency evaluation in the RLG Programme
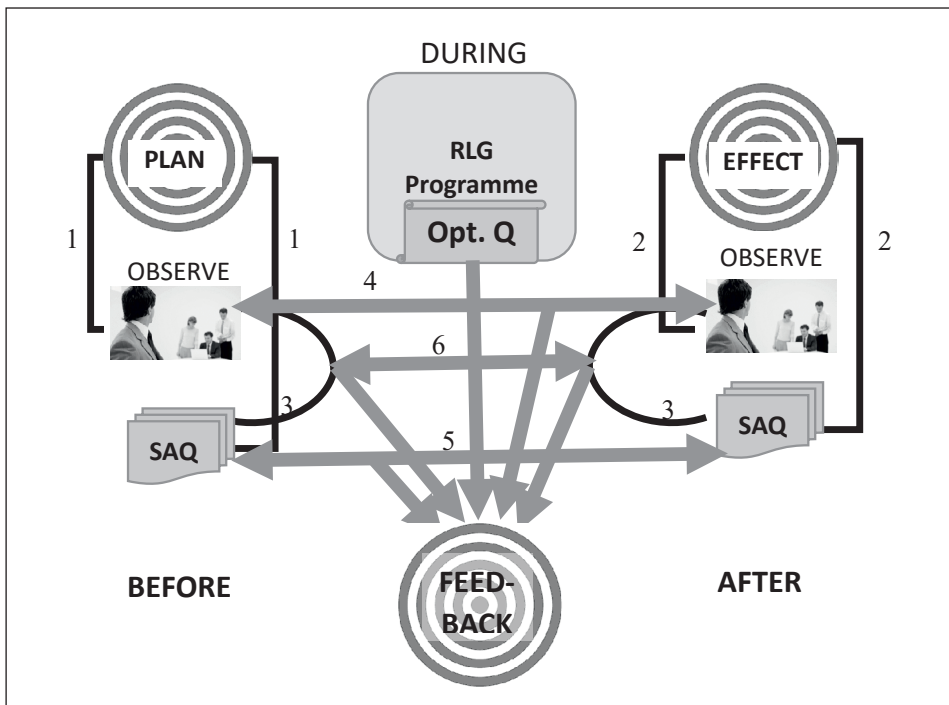
Assessments utilized serve three goals: a) to advise appropriate planning in order to meet the given group's specific needs, b) before-after intervention measures provide information on effectiveness, c) provide feedback to individual participants on their own strengths and areas of further development.

In order to advise planning of the training curriculum (lines labelled "1" in Fig. 1) suited to the needs of the specific group of participants two methods of assessment were utilized. One method, a more traditional approach is to ask participants to fill in questionnaires (SAQ in Fig. 1), the second a more unorthodox approach was to utilize observation during activities that load on the competencies to be developed in the training modules. This latter ("observe" in Fig. 1) may be conceptualized as a form of authentic assessment as data are collected while the participants are engaging in activities that simulate real-life situations (Frey, Schmitt and Allen, 2012). These assessments are repeated after the training process (lines labelled "2" in Fig. 1). The comparison of observation and self-assessment questionnaires shed light on the possible distortions between subjective and objective judgements of competencies (lines labelled "3" in Fig. 1).

The comparison of the before-after treatment data (lines labelled "4", "5" and "6" in Fig. 1) will provide us with one of the measures of efficiency. Optional self-assessment questionnaires (Opt.Q in Fig. 1) may be employed during training delivery, and person-related information on all previously mentioned data serve as important feed-back resources for participants to further heighten awareness of own strengths and identify areas for development.

Development of assessment tools

One of the main methods of assessment was observation during activities in an authentic tasks. Each of the ten competencies was assessed by two activities each. Each activity loading on two different competencies. Depending on the attribute to be observed some of the observation sheets contained yes-no type of checklists, whereas others contained rating-scales usually with 3 points (0-1-2). Characteristically there were 3–5 facets for each competency to be observed, which were described in behaviourally oriented terms in order to facilitate unequivocal marking of observations. Professionals delivering the training were prepared for this role during a "Train the trainer" event.

The other assessment method was a self-assessment regarding the ten employability competencies identified for the purposes of the project. For this purpose a mutually agreed list of items regarding the ten competencies were formulated. The wording of the items based on the outcomes of the JET Pack (Copps, Plimmer, 2013) with four items for each of the ten competencies, asking for responses on a 6 point Likert-type scale (with endpoints of strongly agree vs. strongly disagree – utilizing emoticons). In this article we will focus on content validity and reliability of the latter self-assessment questionnaire.

Participants

Participants were NEET youth who were participating in a special reintegration programme for early school-leavers. Altogether 78 students – 43 boys 35 girls – aged between 16 years 5 months and 20 years 3 months (average age 17 years 5 months).

Number of participants per group varied between 9 and 13.

Measures utilized and results

As the aim was to identify the reliability and content validity of the competencies scale, which contains 40 items on a six-point Likert type scale. For determining the content validity of the scale developed by the project we utilized standardized tests available, that are connected to personal traits and motives that were identified as important. Another aspect to take into account was the below-average reading rate of participant's. When attempting to determine content validity relatively shorter scales and subscales that have proven (Cronbach's alpha higher than 0,75) reliability, which combined would not exceed 40 items.

Based on the above we chose Rosenberg's self-esteem scale, which has ten items utilizing a 4-point Likert scale (Rosenberg 1965), the self-efficacy subscale of the Individual Protective Factors Index (Springer and Philips 1995) consisting of seven items on a four-point Likert scale, five items pertaining to assertiveness in social skills and seven items regarding locus of control from the California Healthy Kids Survey (as published in JET pack – Copps and Plimer 2013). The Strengths and Difficulties Questionnaire (Goodman, 1997) was adopted in order to be able to look at prosocial behaviours and peer relations as a part of social skills, having 10 items and utilizing a 3-point Likert scale.

The reliability of the scales were between 0,74 and 0,83 (Self-esteem scale alpha = 0,83; self-efficacy scale alpha = 0,78; locus of control scale alpha = 0,75; assertiveness scale alpha = 0,74). The reliability of the employability-related competencies scale was alpha = 0,87.

As all the measures proved to be acceptable we continued with identifying correlation between measures (Table 1).

Content validity is corroborated by the scales, as the assertiveness scale and the Strengths and Difficulties scale, both measuring interpersonal skill, not only correlate with each other in a significant manner, but also with the items measuring interpersonal skills as a competency. The assertiveness scale significantly correlates with most competencies – clearly reflecting that it is an important element underlying most other competencies. Although we expected that self-esteem be correlated to strong initiative, willingness to learn and take risks as a self-assured stance is a necessary quality in all the competencies – the wording of items may be one factor resulting in this outcome. That is, the wording of competencies are behaviourally based, while those in the self-esteem scale are not. The other factor contributing to it is the area-specificity of self-esteem items is low, while in the case of competency items it is high. The probability that these two aspects are likely causes is further emphasized by the fact, that self-efficacy scale is highly and significantly correlated to all competencies, items on both scales being behaviourally rooted in their statements and expressed in a content-specific manner. Self-efficacy is the belief that the person will be successful at mastering or solving a task, so it is an integral part of any competency. A string belief in internal control will increase self-efficacy beliefs, while an external locus of control is likely to undermine them. This strong correlation between the two concepts is corroborated by r = 0,7 at p < 0,01 significance level. The well-functioning scale which shows strong correlation to self-efficacy – should also correlate with locus of control. This requirements is fulfilled.

Table 1. Correlations between scales utilized (Self-ef. = Self-efficacy scale; cont. = locus of control; self-es = self-esteem; AF = adaptability-flexibility; BA = business thinking and awareness; DM = decision making; IS = interpersonal skills; PO = planning and organizing; PS = problem solving; SI = strong initiative; TK = taking responsibility; WL = willingness to learn; WR = willingness to take risks)

		AF	BA	DM	IS	PO	PS	SI	TR	WL	WR	self-ef.	contr.	assert	self-es.	SDQ
AF	Pearson Cor.	1														
	Sig. (2-tailed)															
	N	78														
BA	Pearson Cor.	,413+	1													
	Sig. (2-tailed)	,001														
	N	78	78													
DM	Pearson Cor.	,466+	,330**	1												
	Sig. (2-tailed)	,000	,008													
	N	78	78	78												
IS	Pearson Cor.	,355+	,518+	,278*	1											
	Sig. (2-tailed)	,004	,000	,028												
	N	78	78	78	78											
PO	Pearson Cor.	,489+	,550+	,415+	,308*	1										
	Sig. (2-tailed)	,000	,000	,001	,014											
	N	78	78	78	78	78										
PS	Pearson Cor.	,634+	,426+	,564+	,330+	,515+	1									
	Sig. (2-tailed)	,000	,001	,000	,008	,000										
	N	78	78	78	78	78	78									
SI	Pearson Cor.	,494+	,423+	,448+	,355+	,526+	,626+	1								
	Sig. (2-tailed)	,000	,001	,000	,004	,000	,000									
	N	78	78	78	78	78	78	78								

		1	2	3	4	5	6	7	TR	WL	WR	self-ef	contr.	asser-tivity	self-es	SDQ
TR	Pearson Cor.	,377*	,231	,572+	,395+	,335+	,575+	,510+	1							
	Sig. (2-tailed)	,002	,069	,000	,001	,007	,000	,000								
	N	78	78	78	78	78	78	78	78							
WL	Pearson Cor.	,645+	,472+	,411+	,440+	,546+	,457+	,296*	,212	1						
	Sig. (2-tailed)	,000	,000	,001	,000	,000	,000	,018	,095							
	N	78	78	78	78	78	78	78	78	78						
WR	Pearson Cor.	,298*	,403+	,554+	,412+	,398+	,443+	,416+	,512+	,172	1					
	Sig. (2-tailed)	,018	,001	,000	,001	,001	,000	,001	,000	,176						
	N	78	78	78	78	78	78	78	78	78	78					
self-ef	Pearson Cor.	,737+	,487+	,777+	,357+	,572+	,854+	,704+	,684+	,485+	,560+	1				
	Sig. (2-tailed)	,000	,000	,000	,004	,000	,000	,000	,000	,000	,000					
	N	78	78	78	78	78	78	78	78	78	78	78				
contr.	Pearson Cor.	,546+	,632+	,705+	,505+	,568+	,532+	,584+	,518+	,482+	,641+	,732+	1			
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000				
	N	78	78	78	78	78	78	78	78	78	78	78	78			
asser-tivity	Pearson Cor.	,668+	,439+	,417+	,549+	,459+	,513+	,205	,208	,803+	,249*	,515+	,427+	1		
	Sig. (2-tailed)	,000	,000	,001	,000	,000	,000	,107	,102	,000	,049	,000	,000			
	N	63	63	63	63	63	63	63	63	63	63	63	63	63		
self-es	Pearson Cor.	,189	,113	,200	-,176	,041	,130	,055	,067	,109	,237	,209	,224	,027	1	
	Sig. (2-tailed)	,137	,380	,115	,169	,750	,308	,666	,603	,394	,061	,100	,078	,836		
	N	78	78	78	78	78	78	78	78	78	78	78	78	63	78	
SDQ	Pearson Cor.	,182	,319*	,003	,344+	,175	,057	,114	,128	,290*	,156	,089	,195	,272*	-,201	1
	Sig. (2-tailed)	,153	,011	,983	,006	,170	,659	,374	,317	,021	,222	,488	,125	,031	,115	
	N	78	78	78	78	78	78	78	78	78	78	78	78	63	78	78

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

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

Discussion and closing thoughts

The most frequently utilized method for gathering information – because of the ease of administration and high amounts of information gained are self-assessment questionnaires. The construction of a questionnaire that can serve planning and evaluation purposes in an evidence-based programme is a key element – and establishing its reliability and content validity become highly important.

The fact that standardized tools showed strong correlations to most competencies where expected in a significant manner ensure that the competency questionnaire is a scale with high utility.

In spite of all these positive elements there are some serious shortcomings, as well. The sample size is quite small – and would be worthwhile to utilize in non-NEET population to be able to gain a sample-size fit for standardization. Test-retest reliability is to be established, but the given population is not necessarily available for these purposes. Because of small sample-size identification of dimensions within the questionnaire at this moment is only possible at the expert level further data is necessary to facilitate statistical factor analysis.

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Nora Katona, PhD, associate professor, Eötvös Loránd University, Faculty of Education and Psychology, Institute of Psychology. Nora Katona has been active in the field of school psychology, being one of the founding members of the School Psychology Section of the Hungarian Psychological Association, serving as a secretary, later as a President of the International School Psychology Association is currently the associate professor the Psychology Institute of the Eötvös Loránd University, Budapest. Research interests include school psychology and strength-based assessment, employability skills and education, career-planning and life-skills.

Address:

Eötvös Loránd University
Institute of Psychology
Faculty of Education and Psychology
Izabella utca 46
H-1064 Budapest, Hungary

e-mail: katona.nora@ppk.elte.hu