ISSN 1392-0340
E-ISSN 2029-0551

Pedagogika / Pedagogy
2018, t. 130, Nr. 2, p. 148–164 / Vol. 130, No. 2, pp. 148–164, 2018

LIETUVOS EDUKOLOGIJOS UNIVERSITETAS

Efficiency of Student Mini-Company Developing Personal Qualities

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Abstract. On the basis of scholarly literature analysis, the article discusses the structural components of personal qualities that are developed most participating in activities of student mini-company (hereinafter – SMC). Applying the exploratory factor analysis (EFA), the evaluation of personal qualities of school learners, who participated in SMC activities, was conducted and the efficiency of SMC was substantiated separately evaluating structural components of personal qualities divided into relevant structural groups: *Qualities of self-confidence, motivation and activity*, *Leadership qualities, Managerial qualities* and *Personal self-expression qualities*. The results showed that participation in the activities of SMC has a considerable influence on development of school learners' personal qualities. The EFA results of development of personal qualities through SMC activities disclosed that out of the four distinguished groups of personal qualities the school learners developed *the qualities of self-confidence, motivation and activity* best. The evaluation of 18 personal qualities revealed that diligence, ambitiousness, initiative, independence, activity and resourcefullness were developed best, whereas critical-analytical thinking was developed least.

Keywords: *personal qualities, student mini-company, efficiency, entrepreneurship education, exploratory factor analysis.*

Introduction

Relevance. The analysis of conducted research and other sources show that practical entrepreneurship education, which is based on implementation of various programmes and activities of *student mini-companies,* is one of the most significant factors that promote setting up and development of business (Martínez, Levie, Kelley, Sæmundsson,

DOI: http://dx.doi.org/10.15823/p.2018.28

ISSN 1392-0340
E-ISSN 2029-0551

& Schøtt, 2010, pp. 9–10; *Guidance Supporting Europe's Aspiring Entrepreneurs – Policy and Practice to Harness Future Potential*, 2011; *Building Entrepreneurial Mindsets and Skills in the EU*, 2012; Johansen & Schanke, 2013; Elert, Anderssonb, & Wennberg, 2015; Komarkova, Conrads, & Collado, 2015; Komarkova, Gagliardi, Conrads, & Collado, 2015; Ruskovaara & Pihkala, 2015; *Dėl novatoriško verslumo ugdymo sampratos tvirtinimo*, 2016; Lietuvos Junior Achievement (LJA); and others).

The research reports and documents distinguish entrepreneurship as a priority direction in educational activities and it is described as one of the key general competencies. The return of the investment in entrepreneurship education can be among the most considerable ones in European countries because about 15–20% of school learners, who participated in the activities of SMC, later started their own business (*Flash Euro barometer 354*, 2012, p. 18, p. 77; *Entrepreneurship 2020 Action Plan*, 2013, p. 5; *Lietuvos verslumo veiksmų 2014–2020 metų planas*, 2014). Therefore, schools are encouraged to promote school learners' participation in their activities and it is recommended for educational institutions to provide support to them and to integrate them into curriculum because goals and learning outcomes set out in other study subjects are also achieved implementing SMC activities. To make appropriate decisions and to attain the goal, personal qualities and abilities related to entrepreneurship are as important (Elert, Anderssonb, & Wennberg, 2015).

Problem. The efficiency of entrepreneurship education programmes has been analysed from different aspects in a big number of works by foreign and Lithuanian scholars (Strazdienė & Garalis, 2005; Fayolle, Gailly, & Lassas-Clerc, 2006; Fayoll & Gailly, 2008; Oosterbeek, Van Praag, & Ijsselstein, 2008; Draycott & Rae, 2011; Draycott, Rae, & Vause, 2011; Donielienė, Každailytė, & Širiakovienė, 2012; Hamilton, & Hamilton, 2012; Halabisky, 2012; Johansen, Clausen, & Schanke, 2013; Johansen & Schanke, 2013; Ruskovaara & Pihkala, 2013; Johansen & Somby, 2015; Komarkova, Gagliardi, Conrads, & Collado, 2015; Ruskovaara & Pihkala, 2015; Elert, Anderssonb, & Wennberg, 2015; and others) but, with exception of several works, where possibilities for development of entrepreneurship competency of upper secondary school learners through SMC activities are analysed on a fragmented basis, in-depth research studies on the issue are not available. The efficiency of SMC activities development of personal qualities has not been analysed from the scientific perspective. Therefore attempts are made to answer the question about the efficiency of SMC developing personal qualities.

The goal: to evaluate efficiency of student mini-company developing personal qualities of an individual.

The objectives:

1. Following the analysis of the scholarly literature, to discuss the structural components of personal qualities that are best developed in SMC activities.

2. To carry out factor analysis and to evaluate the level of development of the school learners' personal qualities in SMC activities in a quantitative way.

ISSN 1392-0340
E-ISSN 2029-0551

The research methods and the stages of research organisation

The analysis of scholarly literature was conducted to discuss structural components of personal qualities that are strongest developed in SMC activities.

The questionnaire survey of school learners was carried out to qualitatively evaluate the level of development of personal qualities of school learners involved in SMC activities and to substantiate efficiency of SMC developing entrepreneurship competency.

The targeted sampling of school learners of general education schools involved in SMC activities was conducted using *the method of simple random sample* (Čekanavičius & Murauskas, 2000, p. 10, pp. 13–14). According to the data of LJA in the school year of 2013–2014 there were 161 SMCs, which united 1324 school learners. They made up the general population of the research.

Considering 95% of reliability and 5% of random error, which, according to V. Čekanavičius and G. Murauskas (2000), depends on the size of the sample and applying the spreadsheet of the sample size, the recommended number of the respondents should be at least 298 participants (see: Raosoft). The probability sampling of the research consisted of 303 learners participating in SMC activities.

A questionnaire was devised for learners involved in SMC activities. A 5-point scale was applied in the questionnaire for assessment of personal qualities, which facilitates establishment of the order of increase and decrease in differences of a certain variable (Pranulis & Dikčius, 2012, p. 217, p. 219).

The analysis of the data of the school learners' questionnaire survey was conducted with the help of the specialised statistical programme IBM® SPSS® Statistics for Windows 22.0 (SPSS).

The exploratory factor analysis (EFA) (Čekanavičius & Murauskas, 2002; Morkevičius, 2008; Garson, 2013) was used for establishment of correlation of structural components of personal qualities developed in SMC activities and, following the identified correlation, to classify them into the related latent factors according to certain qualities.

The correlation analysis (CA) was employed to establish a statistical link among the variables (structural components of personal qualities).

The principal component analysis (PCA) was used to reduce the numbers of multidimensional data (Dzemyda, Kurasova, & Žilinskas, 2008, p. 44; Garson, 2013) and to receivenon-correlation variables of orthogonal transformation.

The factor rotation was conducted seeking to obtain factors that can be explained in a more simple and easier way (Vaitkevičius & Saudargienė, 2006, p. 192). Applying *Varimax*, an orthogonal factor rotation method, the number of variables that are significantly related to every factor were minimalised (Morkevičius, 2008), the components of personal qualities, which acquired a certain factorial weight (when factorial weights range from 0.700 to 0.900 – good, from 0.500 to 0.700 – average, from 0.300 to 0.500 – weak) were assigned to a relative latent factor.

ISSN 1392-0340
E-ISSN 2029-0551

Development of personal qualities

Entrepreneurship is related to establishment of business companies and organisation of business in numerous works and it is interpreted as personal qualities and abilities to create added value, which are characteristic of entrepreneurs (Mincienė, 2000; Kickul & Gundry, 2002; Baum & Locke, 2004; Mitchelmore & Rowley, 2010; Elert, Anderssonb & Wennberg, 2015; and others).

Personal qualities refer to "an aggregate of the individual's qualities that predetermine his/her activities and behaviour, independence and responsibility" (Jovaiša, 2007, p. 22). A personal quality is "a relatively steady peculiarity of the individual's behaviour, which tends to repeat in various situations, <…> a concept, which describes value-based orientation as a unity of cognition, emotional experience and behaviour" (Bitinas, 2011, p. 29).

Developing personal competence, attempts are made to enable students to develop their ability to adequately evaluate and improve own personal qualities, to pursue the set aims in a targeted and adequate way, to follow universally accepted moral norms, to foresee possibilities for choice, to cope with difficulties, etc. (*Bendrųjų kompetencijų ugdymas. Vidurinio ugdymo bendrųjų programų 10 priedas*, 2011, pp. 3–4).

J. R. Baum and E. A. Locke established a close link among knowledge, skills, motivation and personal qualities required for a particular activity and stated that it is their dynamics (acquisition of new knowledge, entrepreneurship skills and development of personal qualities) in the process of activity that predetermines the success of that activity. The following qualities, related to activity perspectives, are assigned to individual personal qualities: ***initiative***, which determined as direction of inner energy and actions towards pursuance of the set goals, a striving for implementation of new possibilities of perspective activities and ***persistence***, when difficulties are encountered; ***enthusiasm*** as the main quality of successful leadership that is linked with future perspectives of an enterprise; ***activity***, which is regarded as an intention to act and to take concrete actions (Baum & Locke, 2004, p. 587, p. 598). This quality is also emphasised by American scholars J. Kickul and L. Gundry (2002). According to them, active individuals have active social relations, are able to foresee long-termeconomic forecasts, which enable them to successfully exploit new possibilities for the growth of their enterprise (Kickul & Gundry, 2002, p. 87).

Initiative is a quality characteristic of a motivated individual, who is able to function independently and to make independent decisions. People with initiative tend to work much and independently, they complete the most complicated assignments on time and without additional efforts, pursue ambitious goals, are self-confident and believe in their own abilities and search for new opportunities(Baum & Locke, 2004). To possess initiative means to assume responsibility for the results of own activity (Covey, 2006, p. 82). Initiativeis also understood as the individual's ***diligence*** (Peleckis, Peleckienė & Peleckis, 2013, p. 352). "An active person persuades others, is self-confident, initiates ac-

ISSN 1392-0340
E-ISSN 2029-0551

tivities, isrelative, able to lead others and to manage the situation. She/he enables himself or herself and others to engage actively" (Gumuliauskienė & Vaičiūnienė, 2015, p. 39).

Persistence is "a consistent long-term pursuance of a goal under complicated or hostile objective or subjective conditions of activities" (Jovaiša, 2007). Persistence allows to achieve good learning outcomes, results of work and to develop abilities.

Many scholars particularly emphasise the importance of motivation organising and developing business. ***Motivation*** is determined as an internal driving force, which encourages activities and achievement of the set goals. Motivation is a stimulus to attain a certain goal or result that behaviour is directed to. L. J. Mullins (2005) determines motivation as a driving force seeking to satisfy personal needs and expectations (to get economic benefit, to feel internal satisfaction, to maintain social relations). The person's internal motivation is particularly important making decisions in the process of activities foreseeing perspectives of an enterprise. Motivation is an essential factor developing entrepreneurship. Personal motives foster accumulation of knowledge, development of abilities seeing future perspectives (Heinonen & Hytti, 2010).

Ambitiousness is a quality of an ambitious person, who possesses a goal. Ambitious people feel their own value and seek recognition. They are motivated, determined, tough and frequently surpass own expectations, when new challenges are faced (*Entrepreneurship Competency Model*, pp. 4–6).

Self-esteem is understood as a sense of high or low self-worth (Myers, 2008). Thus, learning motivation, demonstration of self-esteem, efforts and interests in the educational process depend on the perception of self-esteem.

Responsibility is linked with a positive attitude of the learners towards business as well as motivated, well-reasoned decisions, with a targeted attainment of goals implementing a specific assignment or activities (Draycott & Rae, 2011; Ruskovaara, 2014; Rasmussen, Moberg, & Revsbech, 2015).

Successful collaborative learning boosts perception of school learners' self-esteem, confidence in own abilities, contributes to development of independence (Sahlberg, 2004). ***Independence*** is an essential personal quality, which allows to make conscious choices of goals, means and ways of activities and communication, tobe active and efficient in activities (Jovaiša, 2007). According to G. Petty, independence increases school learners' learning motivation, develops abilities and attitudes of independent learning, a sense of responsibility, etc. (Petty, 2008, pp. 417–423).

Self-confidence is a belief in own abilities and advantage in certain spheres or situations. "People, who are self-confident, express belief in their own abilities and in implementation of goals, foster confidence in surrounding people as well. All this results in an easier acquisition of support from the environment while implementing personal goals" (Šilingienė, 2011, p. 966).

A person with well-developed communication skills is able to establish contacts with people from various social layers and to cope with conflict situations. ***Communicability***

ISSN 1392-0340
E-ISSN 2029-0551

can be associated with abilities of interpersonal communication. This embraces abilities to exchange information and experience, to establish and maintain interpersonal relations (Jovaiša, 2007, p. 36). A communicable person is able and disposable to open communication with other people (*Tarptautinių žodžių žodynas*, 2013, p. 431).

A well-developed personal quality of ***honesty*** closely related to attitudes of moral behaviour, evaluation and implementation of own potential and abilities in a specific situation and to performance of assigned or chosen functions in certain activities.

Invarious sources ***integrity*** is linked with good repute of an individual, his/her respectable behaviour, not taking advantage of other people's mistakes or ignorance, intolerance of actsof unlawful interference and ability to take appropriate measures to discontinue them.

Creativity and creative thinking are frequently mentioned in scholarly literature sources. ***Creativity*** is often determined as a personal quality related to ability to discover and envisage something that is new, original and unexpected (Zabielavičienė, 2013, p. 241). ***Creative thinking*** is the highest form of productive thinking, which embraces such dimensions of verbal and non-verbal thinking as abundance of ideas, flexibility of thinking, originality and particularity (Beresnevičius, 2010, p. 27). This embraces possession of vivid imagination and engagement into the activity process (Jovaiša, 2011, p. 304). To think creatively means the ability to change own opinion under certain circumstances and to consistently understand the sequence of ideas and thoughts, to be able to present them in an interesting and persuasive way (Petrulytė, 2007, p. 90).

Far-sightedness is defined as an ability to concentrate on future perspective and foreseeing strategic goals by B. Bird, who conducted research on the factors that precondition entrepreneurship competency and their influence on business (Bird, 1995, p. 51, p. 72). An individual with far-sightedness is able to understand motives of other people, respect their attitude and opinion and is able to combine verbal and non-verbal behaviour.

Resourcefulness is distinguished in the process of education and linked to vivid imagination, creativity, ability to create innovative ideas and to make decisions in the process of education (Dudaitė & Žibėnienė, 2012, p. 166).

Critical-analytical thinking is associated with an ability to understand and analyse the received information and to make specific decisions (Gudžinskienė, 2006; Jovaiša, 2007).

Table 1 was compiled by the author of the article on the basis of the analysed scientific works, the data of international research, methodological recommendations to implementers of SMC and other sources.

ISSN 1392-0340
E-ISSN 2029-0551

Table 1
Personal qualities

Activity	Resourcefulness	Self-confidence
Ambitiousness	Far-sightedness	Integrity
Persistence	Communicability	Independence
Responsibility	Critical-analytical thinking	Self-esteem
Enthusiasm	Creativity	Honesty
Initiative	Motivation	Diligence

The assessment data of all the personal qualities developed by school learners in the process of SMC activities, which were chosen having conducted the EFA, are provided further.

The results of exploratory factor analysis of development of personal qualities implementing activities in student mini-company

The EFA was applied to establish links among structural elements of personal qualities developed in the activities of SMC and, on the basis those identified links, to classify them according to certain features into the respective latent factors.

To carry out the research on school learners' personal qualities developed conducting activities in SMC, 18 variables – personal qualities were chosen and analysed out of all the data entered in SPSS (see: Table 2).

The correlation matrix showed the correlation of the analysed data because the elements of diagonal elements of correlation are equal to one. The anti-image matrices show the interim result between variables and factors, i.e., negative or positive correlation between a variable and a factor.

The Keiser-Meyer-Olkin measure (KMO) is an index for comparing magnitudes of observed correlation coefficients to magnitudes of partial correlation coefficients. According to V. Čekanavičius and G. Murauskas (2002), KMO, which is equal to 0.808, shows good adequacy of variables for the factor analysis (see: Table 2).

Seeking to identify if statistically significant correlation is observed among measurable variables, the Bartlett's Test of Sphericity was applied.

The following hypotheses were tested:

H_0: all the measured variables are non-correlated;

H_a: significant correlation is observed among variables.

ISSN 1392-0340
E-ISSN 2029-0551

Table 2
Reliability statistics and Kaiser-Meyer-Olkin and Bartlett's test

Reliability Statistics			Kaiser-Meyer-Olkin and Bartlett's Test			
N of Items	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
				Approx. Chi-Square	df	Sig.
18	0.917	0.917	0.808	3953.325	153	0.000

The Bartlett's Test of Sphericity allowed to conclude (see: Table 2) that all the variables were significantly interrelated as the level of significance equalled (Sig.) < 0.05. It is seen that the value of *p* equaled 0.000 < 0.05, therefore, factor analysis can be applied for the possessed data.

The values of the Cronbach's alpha coefficient 0.917 (see: Table 2) revealed a very good internal reliability of the questionnaire scale. The suitability of the variables for EFA was also proved by their measures of sampling adequacy (MSA), which were at least 0.05.

The principal component analysis (PCA) was applied transforming multivariate data (reduction of number of parameters) and distinguishing non-correlation factors.

Applying *Varimax*, i.e., the orthogonal factorial rotation method, the number of the variables with high factorial weights was reduced and the factor dispersion was maximised. This allowed to link the variables with a respective latent factor.

Only the components with the initial eigenvalues higher than one are important in the EFA. The initial eigenvalues that are bigger than 1 (7.660; 1.991; 1.722; 1.396) show that four factors are suitable for EFA.

Table 3 shows that the first four factors make up 70.93% of the total dispersion of all the variables. Before the rotation, the value of factor F_1 constituted 42.55% of the total dispersion and after the *rotation sums of squared loadings*, this value went down to 22.73%; the proportion of the total dispersion of factor F_2 before the rotation equalled 11.06% and was 17.80% after it, those of factor F_3 – 9.57% and 17.74% respectively, and those of F_4 – 7.75% and 12.67% respectively. The proportion of the total dispersion remained the same (70.93 %).

ISSN 1392-0340
E-ISSN 2029-0551

Table 3
The results of exploratory factorial analysis of development of personal qualities through SMC activities

Factor	**F_1**	**F_2**	**F_3**	**F_4**
Personal qualities	**Qualities of self-confidence, motivation and activity**	**Leadership qualities**	**Managerial qualities**	**Personal self-expression qualities**
The proportion of total dispersion 70.93%	**22.73%**	**17.80%**	**17.74%**	**12.67%**
Factor components	**L***	**L**	**L**	**L**
Diligence	0.825			
Self-esteem	0.775			
Self-confidence	0.703			
Motivation	0.621			
Honesty	0.617			
Communicability	0.590			
Enthusiasm	0.586			
Ambitiousness		0.756		
Persistence		0.700		
Responsibility		0.687		
Integrity		0.648		
Initiative			0.868	
Independence			0.830	
Activity			0.811	
Critical-analytical thinking			0.492	
Resourcefulness				0.844
Creativity				0.587
Far-sightedness				0.529

*L – factorial weight.

Conducting the transformation of school learners' personal qualities in the rotated component matrix using the *Varimax* method, four factors (groups of personal qualities) were distinguished, which make up 70.93% of the total dispersion (of all the evaluated personal qualities): F_1 embraces ***group ofqualities of self-confidence, motivation and activity*** (activity, self-confidence, self-confidence, motivation, honesty, communicability, enthusiasm) and makes up 22.73% of the total dispersion; F_2 includes ***group of leadership qualities*** (ambitiousness, persistence, responsibility, integrity) with 17.80 % of the dispersion; F_3 covers ***group of managerial qualities***(initiative, independence, activity, critical-analytical thinking) with 17.74% of the total dispersion; F_4consists of ***group of***

ISSN 1392-0340
E-ISSN 2029-0551

personal self-expression qualities (resourcefulness, creativity, far-sightedness) with 12.67% of the total dispersion.

Table 3 presents the evaluation data of all the personal qualities of school learners developed in SMC activities, which were chosen using the EFA.

The EFA data (factorial weights) of personal qualities of school learners, who take part in SMC activities, show that with exception of several components, the school learners developed them well or sufficiently (when factorial weights range from 0.700 to 0.900 – good, from 0.500 to 0.700 – average, from 0.300 to 0.500 – weak). The heavier the factorial weight, the closer it is to the respective factor.

The factorial weights show that diligence (0.825), self-esteem (0.775) and self-confidence (0.703) are the qualities developed best in the group of *qualities of self-confidence, motivation and activity* (F_1); ambitiousness (0.756) and persistence (0.700) – from the group of *leadership qualities* (F_2); initiative (0.868), independence (0.830) and activity (0.811) – from the group of *managerial qualities* (F_3); resourcefulness (0.844) – from the group of *personal self-expression qualities* (F_4). Critical-analytical thinking was among the qualities developed weakest (0.492) out of all the assessed personal qualities.

Discussion

The majority of authors claim that the efficiency of entrepreneurship education should be evaluated considering the achievement of the goals of the educational programme, the effect of the programmes on their participants, which is evaluated on the basis of the level of achievement of the learning outcomes. Their experience, impact of environment, personal qualities and others can be evaluated (McMullan, Chrisman, & Vesper, 2001; Strazdienė, 2010; Draycott, Rae, & Vause, 2011; Athayde, 2012; Paul & Colwill, 2013).

There is no one opinion about how many and what personal qualities have to be chosen and evaluated, which research methods have to applied for analysis of the collected data to obtain statistically significant results (as all the methods have their limitations) or whether withdrawal of marginal values would introduce changes in research results (components with the highest or lowest factorial weights) and others.

Seeking to acquire as reliable data on the level of development of personal qualities of school learners related to entrepreneurship through SMC activities and to substantiate the efficiency of SMC, the EFA was conducted on the basis of the data of the questionnaire survey of school learners. The obtained data show that the majority of such qualities were developed well and only several of them were developed sufficiently and all this grounds the theoretical propositions about efficiency of SMC developing personal qualities.

Initiative, independence and resourcefulness, i.e., the personal qualities assigned to the most significant ones (Baum & Locke, 2004; Heinonen & Poikkijoki, 2006; Covey,

2006; Petty, 2008; Chell & Athayde, 2009; *Entrepreneurship Education at School in Europe National Strategies*, 2012), are developed best in the process of entrepreneurship education.

Initiativeis related to efficient SMC activities, which means assuming responsibility for own activity results (Covey, 2006, p. 82). Initiativeis also perceived as diligence of an individual (Peleckis, Peleckienė, & Peleckis, 2013, p. 352), which, according to evaluation of school learners, is well developed in SMC activities.

According to G. Petty, independenceboosts school learners' motivation, develops their abilities and attitudes of independent learning, a sense of responsibility and others (Petty, 2008, pp. 417–423). Particularly high level of development of independence can be undoubtedly explained by the fact that all the functions related to SMC activities are conducted by school learners themselves and a teacher is only their facilitator and advisor.

Resourcefulness in SMC activities is related to vivid imagination, creativity, ability to create innovative ideas and to make decisions in the process of activities (Dudaitė & Žibėnienė, 2012).

Other personal qualities, such as ambitiousness and activity, were also developed well by school learners involved in SMC activities. Ambitiousness and activity are characteristic of a person, who seeks and possesses a goal. Ambitious individuals feel their personal worth and seek acknowledgement. They are motivated, determined, tough and frequently surpass own expectations, when new challenges are faced (*Entrepreneurship Competency Model*).

Activity, a personal quality well-developed in SMC activities, is regarded as an intention to act and to take concrete actions (Baum & Locke, 2004, p. 587, p. 598).

Critical-analytical thinking, which is related to ability to understand and analyse the received information and to make specific decisions (Gudžinskienė, 2006; Jovaiša, 2007). Critical-analytical thinking is a thinking of higher level, which starts with reception and understanding of information and ends up with making of a concrete decision. Critical-analytical thinking serves as basis of reflexive thinking and is related to logical and creative thinking searching for new well-grounded decisions in the process of entrepreneurship. This also embraces ability to perceive and analyse the received information, to envisage problems, to foresee their reasons, ways and consequences of solutions made. In such a case, critical-analytical thinking, a significantly weaker developed personal quality out of all the evaluated ones, can be related to insufficient ability to perceive and analyse the received information and to make concrete decisions.

It is necessary to notice that in scholarly literature sources critical-analytical thinking is linked not to knowledge of business fundamentals but with the business process and business development. Such personal qualities are of higher level and characteristic of heads of enterprises, leaders and used making specific decisions, planning, organising and managing as well as controlling. Since SMC activities are implemented by 5–10 representatives and the head or director of a mini-company is chosen from the same school

ISSN 1392-0340
E-ISSN 2029-0551

learners, it is quite possible that they have not reached the level of critical-analytical thinking due to more focus on teachers' instructions.

Good development of the majority of personal qualities can be related to school learners' interest in SMC activities, functions performed there as well as in search for best decisions striving for best possible results. According to the research SMC companies are established the most determined and self-confident school learners. Best developed personal qualities are particularly closely linked with the individual's value-based attitudes because they express the meaning of the supreme goals in the person's life. In various scholarly literature sources entrepreneurship is frequently linked to economic and social welfare. In such case well developed personal qualities of school learners can be applied during the whole economic cycle, result in successful and targeted attainment of set goals implementing a specific assignment or activity, and be linked with future expectations and a positive personal attitude.

Generalisation

On the basis of the conducted scholarly literature analysis, 18 personal qualities were selected and analysed during the research on development of school learners' personal qualities participating in SMC activities.

The evaluation of personal qualities of school learners involved in SMC activities was conducted employing the multivariate mathematical statistics methods and the efficiency of SMC was substantiated having separately evaluated the structural components of personal qualities divided into the following structural groups: *qualities of self-confidence, motivation and activity*, *leadership qualities*, *managerial qualities* and *personal self-expression qualities*.

The results of the research showed that participation in activities of SMC has a huge impact on development of personal qualities of school learners. The EFA data (factorial weights) show that the school learners developed their personal qualities well and only several components were developed at sufficient level. Thus, comparison of all the four groups of personal qualities developed by school learners allows to conclude that *the qualities of self-confidence, motivation and activity*, with the largest dispersion (22.73%), were developed most.

The highest factorial weights show that diligence (*qualities of self-confidence, motivation and activity*), ambitiousness (*leadership qualities)*, initiative, independence and activity (*managerial qualities*) and resourcefulness *(personal self-expression qualities)* were developed best. Critical-analytical thinking is a quality, which was developed weakest among all the assessed personal qualities.

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Mokomosios mokinių bendrovės veiksmingumas ugdant asmenines savybes

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Santrauka

Remiantis mokslinės literatūros analize, straipsnyje aptariami mokinių mokomųjų bendrovių (MMB) veikloje labiausiai ugdomų asmeninių savybių struktūriniai komponentai.

Mokinių anketinės apklausos statistinių duomenų analizė atlikta ir sudarytų asmeninių savybių parametrai vertinti taikant IBM® SPSS® Statistics for Windows 22.0 (SPSS) specializuotą statistinę programą.

Tiriamoji faktorinė analizė (angl. *Exploratory Factor Analysis*, EFA) taikyta MMB veikloje ugdomų asmeninių savybių struktūrinių komponentų tarpusavio ryšiams nustatyti ir, remiantis tais ryšiais, klasifikuoti juos pagal tam tikrus požymius į atitinkamus latentinius

ISSN 1392-0340
E-ISSN 2029-0551

faktorius. Mokinių asmeninių savybių, ugdomų vykdant MMB veiklą, tyrimui, buvo atrinkta ir analizuojama 18 asmeninių savybių.

Taikant EFA atliktas MMB veikloje dalyvavusių mokinių asmeninių savybių vertinimas ir pagrįstas MMB veiksmingumas atskirai įvertinus asmeninių savybių struktūrinius komponentus, suskirstytus į atitinkamas struktūrines grupes: *Pasitikėjimo savimi, motyvacijos ir veiklumo*, *Lyderio*, *Vadybines* ir *Asmens saviraiškos savybes*.

Tyrimo rezultatai atskleidė, jog dalyvavimas MMB veikloje daro didelį poveikį mokinių asmeninių savybių ugdymui(si). Asmeninių savybių ugdymo vykdant MMB veiklą EFA rezultatai parodė, kad iš keturių išskirtų asmeninių savybių grupių mokiniai geriausiai išsiugdę *Pasitikėjimo savimi, motyvacijos ir veiklumo savybes*.

Didžiausi faktoriniai svoriai rodo, kad iš *Pasitikėjimo savimi, motyvacijos ir veiklumo savybių* mokiniai geriausiai išsiugdę veiklumą, iš *Lyderio savybių* – ambicingumą, iš *Vadybinių savybių* gerai išsiugdę iniciatyvumą, savarankiškumą ir aktyvumą, iš *Asmens saviraiškos savybių* – išradingumą. Silpniausiai iš visų vertintų asmeninių savybių mokiniai yra išsiugdę kritinį ir analitinį mąstymą.

Esminiai žodžiai: *asmeninės savybės, mokomoji mokinių bendrovė, tiriamoji faktorinė analizė, veiksmingumas, verslumo ugdymas.*

Gauta 2017 12 27 / Received 27 12 2017
Priimta 2018 04 25 / Accepted 25 04 2018