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EDUCATION FOR SUCCESSFUL INTERCULTURAL COMMUNICATION AND CULTURAL INTELLIGENCE

Abstract

Intercultural intelligence is the capability to function effectively in culturally diverse settings and consists of different dimensions (metacognitive, cognitive, motivational and behavioural) which are correlated to effectiveness in global environment (cultural judgment and decision making, cultural adaptation and task performance in culturally diverse settings). The purpose of the article was to check the relationship between knowledge and experiences of intercultural communication and the score of cultural intelligence. The sample consists of 107 students from Faculty for commercial and business science Celje; they answered the questionnaire of education on Intercultural communication and the Cultural intelligence scale (Ang, Dyne and Koh, 2006). The results show that the number of intercultural knowledge sources, number of foreign languages knowledge, frequency of communication with persons from other cultures in private and business time and frequency of international travels correlate significanly with the score of Cultural intelligence scale and its dimensions.

Keywords

Cultural adaptation, Cultural intelligence, Experience in intercultural communication, Increasing cultural intelligence, Intercultural Education

1. Introduction

The competence for successful intercultural communication in global world is becoming increasingly important. Globalization has made the world seem smaller, our awareness of cultural diversity is rising and the need for effective intercultural communication is present in most companies, project teams and with the management.

Each expatriate needs different abilities and competencies for successful work than employees who work in their own countries. In the selection process some specific criteria should be used for prediction of future success in global environment.

Globalisation touches the employees who work in their homecountry too, because the interaction and transaction with foreign companies today is almost inevitable.

Researchers tried to find personality factors which predispose people for successful live and work globally. Downes, Varner and Hemmasi (2010) focused on Big Five personality traits and found that extraversion (the amount of interaction with the external world, being with people, to be action-oriented), emotional stability (ability to cope with stress, not get upset

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easily, cope with unexpected situations…) and openness (creative, imaginative, curious, adventurous, awareness of their feelings) have a significant, positive impact on expatriate adjustment. Agreeableness (the ability to form social alliances) is significant and positively associated with expatriate job performance.

The most important factors which distinguish successful employees from less successful ones are knowledge, abilities and motivation.
The concept of Intelligence first referred to intellectual functioning; intelligence is defined as general cognitive problem - solving skills. It is a mental ability involved in reasoning, perceiving relationships and analogies, calculating and learning quickly.

First it was believed that there was one underlying general factor at the intelligence base (the g-factor). Gardner (1983, 1999) developed the Multiple Intelligence Theory which consisted of 8 primary intelligences: linguistic and logical-mathematical intelligence (valued in schools), musical, bodily-kinaesthetic and spatial intelligence (valued in the arts or sport), interpersonal and intrapersonal intelligence ('personal intelligences') and naturalist intelligence.

Legg and Hutter (2006) studied different definitions and summarized with: “Intelligence measures an agent’s ability to achieve goals in a wide range of environments”.

Mayer and Salovey (1990) introduced a concept of “emotional intelligence” (the ability to monitor one’s own and other’s feelings and emotions, to discriminate among them and to use this information to guide one’s own thinking and actions), which became popular with Goleman's book Emotional intelligence; why it can matter more than IQ (1995). It was presented as an important factor of life and work success.

»Emotional intelligence is your ability to recognize and understand emotions in yourself and others, and your ability to use this awareness to manage your behaviour and relationship.« (Bradberry and Greves, 2009).

Researchers found Emotional intelligence an important factor of success and satisfaction at work, attitude toward work, the ability for effective team work, stress management, quality of work and life, mental health and also a factor of selection of human resources for different jobs.

Emotional intelligence is a part of social intelligence, which was first introduced by Thorndike (1920) as “the ability to understand and manage men and women, boys and girls – to act wisely in human relations”. Goleman (2006) defines social intelligence as a social awareness and social facility (response and adaptation to others and the social situations).

Earley and Ang (2003) developed the construct of cultural intelligence, defined as »an individual’s capability to function and manage effectively in culturally diverse settings; a multidimensional construct targeted at situations involving cross-cultural interactions arising from differences in race, ethnicity and nationality«.

Cultural intelligence comprises metacognitive, cognitive, motivational and behavioural dimensions. Metacognitive cultural intelligence includes mental processes which individuals use to acquire and understand cultural knowledge, cognitive cultural intelligence reflects knowledge of the norms, practices and conventions in different cultures acquired from education and personal experiences; motivational cultural intelligence reflects the capability to direct attention and energy toward learning about and functioning in situations characterized by cultural differences. Behavioural cultural intelligence reflects the capability to exhibit appropriate verbal and nonverbal actions when interacting with people from different cultures (Ang et al., 2007).
Cultural intelligence is related but distinct from other forms of non-academic intelligence (Ang, Dyne and Tan, 2003).

Some researches focused on factors that could improve intercultural encounters.

With studies of correlation between cultural intelligence and work outcomes Ang with co-authors (2007) found the relationships between the dimensions of cultural intelligence (metacognitive, cognitive, motivational and behavioural) and intercultural effectiveness (cultural judgment and decision making, cultural adaptation and task performance in culturally diverse settings). »Metacognitive and cognitive cultural intelligence predicted cultural judgment and decision making; motivational and behavioural cultural intelligence predicted cultural adaptation; and metacognitive and behavioural cultural intelligence predicted task performance. «

Rehg, Gundlach and Grigorian (2012) examined the influence of cross-cultural training on cultural intelligence and specific self-efficacy and found that cultural intelligence can be improved through training: training using a lecture format significantly improved average levels of cultural intelligence on the cognitive and behavioural dimensions, while it less significantly improved motivational dimension.

Successful intercultural communication is vital for organisations, their business success and global competitiveness. Organizations should consider candidate's personality as an important criterion for selection to work with business partners from other cultures and to work abroad. Cultural intelligence may be an essential element in the recruitment and retention process, due to correlation between cultural intelligence and job satisfaction and intent to renew contract (Sims, 2011) for international organisations as it has been shown to predict the cultural adaptability of people who find themselves in cross-cultural situations (Earley and Ang, 2003).

2. Aims of the paper and hypothesis

This paper aims to assess the relationship between cultural intelligence and cultural education, language knowledge and work experience and some organisational factors.

Hypothesis:
H 1: There are no differences in cultural intelligence scores according to gender, age and years of working experiences.

H 2: There is no correlation in scores on cultural intelligence scale and knowledge of foreign languages.
H 3: There are no differences in score on cultural intelligence scale according to the working place.
H4: There are no differences in score on cultural intelligence scale according to the some organisational factors (number of employees, number of foreign markets).
H5: Regression model shows no influence from educational independent variables (attendance in intercultural communication education, number of different ways to gather knowledge) on dependent variable (to cultural intelligence).
H6: There are no discriminant functions which distinguish more culturally intelligent student from less culturally intelligent ones.

3. Method

3.1. Participants

Data was collected from 107 part-time students of second Bologna level at Faculty for Commercial and Business Science Celje (study programs: commercial science, business informatics, tourism); 74 women and 33 men with average age 34,4 years who participated in the study.

3.2. Materials and data collection

Empirical method was used; data was collected with Culture intelligence scale (Ang, Dyne and Koh, 2006) and Survey about intercultural education and experiences.

All questionnaire items, originally published in English, were translated into Slovene; the students joining the subject Intercultural negotiation got written instructions and sent the completed questionnaires by e-mail.

4. Results

Cultural intelligence dimensions	N	Minimum	Maximum	Mean	Std. Deviation
Metacognitive	107	1,75	7,00	4,8902	1,30771
Behavioural	107	1,60	7,00	4,7570	1,19212
Cognitive	107	1,67	6,17	3,8240	0,97259
Motivational	107	1,40	7,00	5,2449	1,19221
Total score CQ	107	2,20	6,70	4,6350	0,95476

Table 1: *Descriptive Statistics for Cultural intelligence dimensions*

Students get the highest average score on motivational dimension (M=5,24, SD=1,19) and the lowest in cognitive dimension (M=3,82; SD=0,97). The average score of the whole scale is above the middle of the scale (M=4,63; SD=0,95).

Results in table 1 show that student have good metacognitive, behavioural and motivational cultural intelligence and average cognitive cultural intelligence. Compared to the results of Arg et al. (2007), the score does not differ much from the average of the USA students' sample; who score a little higher on metacognitive dimension (M=5,00, SD=0,93) and motivational dimension (M=5,35, SD=0,93) and are lower than our sample in behavioural dimension (M=4,18. SD=1,18) and cognitive dimension (M=3,67; SD=0,97).

The influence of the gender on cultural intelligence was tested with t-test, there were no statistically significant differences between men and women. The differences between the age groups and also between groups concerning years of working experience were tested with ANOVA, and no significant differences were found. Work experience is not correlated with cultural intelligence scores.

Results support the hypothesis 1: There are no differences in cultural intelligence score according to gender, age of respondents and years of working experiences.

Cultural intelligence dimensions	Working place	N	Mean	Std. Deviation	F	Sig
Metacognitive	intercultural communication	6	5,7500	1,03682	1,544	0,218
	management	24	4,9688	1,37784		
	others	77	4,7987	1,29272		
	Total	107	4,8902	1,30771		
Behavioural	intercultural communication	6	5,7000	0,68993	2,185	0,118
	management	24	4,8167	1,41902		
	others	77	4,6649	1,12317		
	Total	107	4,7570	1,19212		
Cognitive	intercultural communication	6	4,6944	1,00784	3,406	0,037
	management	24	3,9792	0,96348		
	others	77	3,7078	0,94364		
	Total	107	3,8240	0,97259		
Motivational	intercultural communication	6	6,2333	0,52789	3,240	0,043
	management	24	5,4750	1,28782		
	others	77	5,0961	1,16013		
	Total	107	5,2449	1,19221		
Total score	intercultural communication	6	5,5583	0,69528	3,564	0,032
	management	24	4,7375	0,98469		
	others	77	4,5312	0,92984		
	Total	107	4,6350	0,95476		

Table 2: *F-test of differences according to working place in Cultural intelligence dimensions*

We divided the respondents in three groups, according to their working place; part-time students who have a job with intensive intercultural communication, managers and others. Scores of the cognitive, motivational and total score are significantly different, depending on working place. Results in table 2 do not support the hypothesis H2: There are no differences in scores on cultural intelligence scale according to the working place.

Cultural intelligence dimensions	Number of languages spoken	N	Mean	Std. Deviation	F	Sig
Metacognitive	1,00	40	4,5438	1,21012	4,090	0,020
	2,00	37	4,8378	1,43761		
	3,00 or more	30	5,4167	1,12252		
	Total	107	4,8902	1,30771		
Behavioural	1,00	40	4,3350	1,30827	5,242	0,007
	2,00	37	4,8378	1,23903		
	3,00 or more	30	5,2200	0,71506		

	Total	107	4,7570	1,19212		
Cognitive	1,00	40	3,6083	0,70261	6,454	0,002
	2,00	37	3,6396	1,08832		
	3,00 or more	30	4,3389	0,97033		
	Total	107	3,8240	0,97259		
Motivational	1,00	40	4,7900	1,20932	7,254	0,001
	2,00	37	5,2649	1,25968		
	3,00 or more	30	5,8267	0,78912		
	Total	107	5,2449	1,19221		
Total score	1,00	40	4,2725	0,82166	9,002	0,000
	2,00	37	4,5851	1,03949		
	3,00 or more	30	5,1800	0,76874		
	Total	107	4,6350	0,95476		

Table 3: *ANOVA of differences according to number of foreign languages spoken in Cultural intelligence dimensions*

Scores of the metacognitive, behavioural, cognitive, motivational dimension and total score are significantly different depending on knowledge of foreign languages. Students with the knowledge of 3 and more foreign languages score higher on all culture intelligence dimensions. Results in table 3 do not support the hypothesis H 3: There are no differences in scores on cultural intelligence scale according to the knowledge of foreign languages.

The correlation between organisational factors and cultural intelligence were not significant; results do not support the hypothesis H4: There are no differences in score on cultural intelligence scale according to some organisational factors (number of employees, number of foreign markets).

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(Constant)	4,067	1,001		4,063	,000
Gender	,041	,178	,020	,232	,817
Age	-,018	,031	-,156	-,581	,562
Work experience in years	-,002	,026	-,024	-,089	,929
Frequency of international communication in private time	-,261	,091	-,312	-2,878	,005
Frequency of international communication in working time	-,118	,070	-,188	-1,680	,096
Frequency of international travels	,266	,122	,254	2,182	,032
Organisation – number of employees	-1,219E-6	,000	-,003	-,033	,974
Organisation – number of foreign markets	,000	,002	-,018	-,193	,847
Number of learning sources	,153	,048	,363	3,204	,002
Working place	,011	,086	,013	,130	,897
Number of foreign languages knowledge	,240	,112	,203	2,144	,035

Table 4: *Regression analysis - Coefficients of factors influencing cultural intelligence (total score of CQ)*

Regression analysis of factors influencing cultural intelligence showed that the multiple correlations between 11 independent variables and cultural intelligence are 0,619. With the variables included in the model we can explain around 40% cultural intelligence variance (square R is 0,383; F=5,301, Sig. 0,000). In table 4 we can see high value of Beta coefficient for variable Number of learning sources (0,363; persons who use more sources of knowledge have higher cultural intelligence), frequency of international communication in private time (-0,312; higher frequency of private conversation with the people from different nations is connected with higher cultural intelligence (frequency scale: very often=1, not at all 5), frequency of international business travels (0,254; lower frequency of international travel connected with work is connected with higher cultural intelligence (frequency scale: very often=1, not at all 5) and the number of foreign languages knowledge (0,203).

The Regression analysis of factors influencing specific dimensions of cultural intelligence showed some significant correlations:

- Metacognitive dimension is explained with number of learning sources (Beta=0,278, t=2,181, Sig.=0,032);
- Behavioural dimension with number of learning sources (Beta=0,289; t=2,333, Sig.=0,022), frequency of international communication in private time (Beta=-0,236; t=-1,989, Sig.=0,050) and frequency of international business travels (Beta=0,263, t=2,062, Sig.=0,042);
- Cognitive dimension of cultural intelligence with Number of learning sources (Beta=0,301, t=2,528, Sig.= 0,013) and frequency of international communication in private time (Beta=-0,277, t=-2,432, Sig.=0,017);
- Motivational dimension of cultural intelligence with Number of learning sources (Beta=0,291, t=2,458, Sig.=0,016), frequency of international communication in private time ((Beta=0,313, t=2,755, Sig.= 0,007) and frequency of international travels (Beta=0,268, t=2,202, Sig.= 0,030), number of foreign languages knowledge (Beta=0,196, t=1,979, Sig.=0,051).

Results of regression analysis do not support the hypothesis H5: Regression model shows no influence from educational independent variables (attendance in intercultural communication education, number of different ways to gather knowledge) on dependent variable (cultural intelligence). There are some factors influencing total score: number of learning sources, frequency of international communication in private time, frequency of international travels and number of foreign languages knowledge.

Independent variables	1 N=15		2 N=73		3 N=19	
	Mean	Std.deviation	Mean	Std.deviation	Mean	Std.deviation
Work experience in years	13,87	11,01	9,80	9,08	15,42	9,73
Frequency of international communication in private time	3,47	1,06	2,78	1,07	1,84	0,90
Frequency of international communication in working time	3,40	1,64	2,58	1,44	1,58	1,22
Frequency of international travels	4,47	0,92	4,16	0,83	3,47	1,17
Number of learning sources	2,33	1,18	3,27	1,76	6,33	2,77
Organisation – number of employees	250,07	423,27	928,08	2438,33	818,84	1849,35
Organisation – number of foreign markets	0,73	2,09	19,51	52,68	11,74	16,28
Age	36,40	8,02	33,15	7,81	37,84	9,08
Number of foreign languages knowledge	1,47	0,52	1,88	0,82	2,42	0,69

Table 5: *Differences between more and less culturally intelligent students*

Students were divided into 3 groups according to their score on cultural intelligence scale; (AS=4,64, SD=0,955; group 1: less than 3,68; group 2: 3,68-5,59; group 3: more than 5,60).

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation	Wilks' Lambda	Chi-square	df	Sig.
1	,618[a]	86,0	86,0	,618	,562	57,116	18	,000
2	,100[a]	14,0	100,0	,302	,909	9,479	8	,304

Table 6: *Summary of Canonical Discriminant Functions*

Discriminant analysis eliminated 1 discriminant function which divides individuals who have high, moderate and low cultural intelligence (table 6).

Independent variables	Correlation Function 1
Number of learning sources	,841*
Fequency of international communication in private time	-,567*
Number of foreign languages knowledge	,465*
Frequency of international communication in working time	-,441*
Frequency of international business travels	-,365*
Work experience in years	,159
Age	,155
Organisation – number of foreign markets	,033
Organisation – number of employees	,063

Table 7: *Structure matrix*

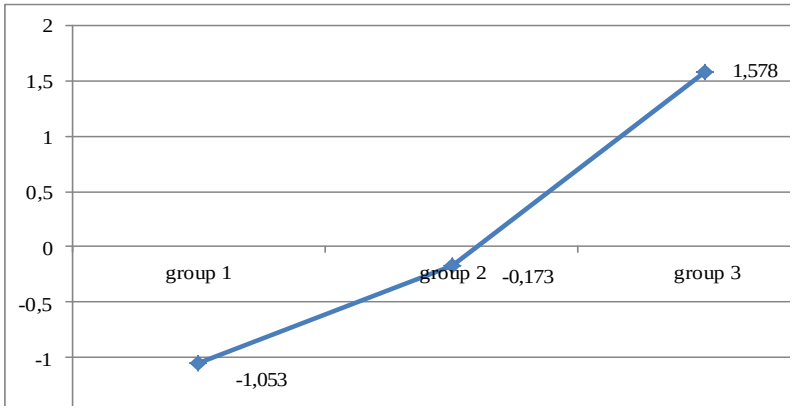

Chart 1: *Unstandardized canonical discriminant functions evaluated at group means*

Results do not support the hypothesis H6: There are no discriminant functions which distinguish more culturally intelligent students form less culturally intelligent students. The discriminant function shows the difference variables: number of learning sources, frequency of international communication in private time, number of foreign languages knowledge, frequency of international communication in working time, frequency of international business travels.

5. Discussion of results

Researchers have begun to study new concepts of practical intelligence to find the answer to the question why some individuals perform better than others in situations which involve interaction with people from different cultural background. Cultural intelligence was conceived in the new century, when we have experienced a great expansion of globalization. Effectiveness in global environment is vital for a great number of organisations, which need leaders and employees who are capable of understanding, functioning, and managing in the global environment. They can bring the organisations a competitive advantage (Ang and Inkpen, 2008).

In the study, whose main aim was to assess the relationship between cultural intelligence and cultural education, language knowledge, work experience and some organisational factors, we measured the cultural intelligence of the students, who listened to the subjects Intercultural negotiation and Intercultural communication at second Bologna level. Their average score on the cultural intelligence scale was above the middle level of scale (M=4,63,

SD=0,95). Looking into the dimensions of cultural intelligence, we can see that the highest average score was in motivational dimension and the lowest in cognitive dimension. Only some students have work-experience in multicultural environment, and therefore their knowledge about rules in other cultures is limited. Metacognitive and behavioural cultural intelligence are also above the middle of the 7 level scale.

Students have above average capability to direct attention and energy toward learning about and operating in culturally diverse situations. Results of our students are similar to results of other students and higher than in employees involved in different studies conducted by Ang et al. (2007).

There is no influence of the gender, age, years of work-experiences, size of the company and number of international markets on cultural intelligence.

The working place is an important factor of cultural intelligence. Cognitive and motivational dimension and total score of cultural intelligence are significantly different depending on working place. Part-time students who have a job with intensive intercultural communication score higher than managers. The lowest score was found for students, who have others workplaces or are unemployed.

Those results support the findings about possibility to increase cultural intelligence through learning (Ng, Dyne and Ang, 2009).

Knowledge of foreign languages is a significant factor of cultural intelligence. Students with the knowledge of 3 and more foreign languages score higher on all culture intelligence dimensions. Learning new languages can increase the abilities for successful working in global environment.

Variables number of learning sources, frequency of international communication in private time and number of foreign languages knowledge positively correlate with cultural intelligence and explain more than one third of cultural intelligence variance.

Practical implications following from these findings are: organisations should provide more different knowledge source, the more sources will an individual use the bigger increase in cultural intelligence can be anticipated.

The correlation with business international travel is nominally positive, but because the scale of frequency was negative (from more frequent to less frequent), the number of international business travels does not increase cultural intelligence. Closer look into the results shows that only 4 students have frequent work obligation abroad and more than 75% have rare or no such situations.

Practical implications following from these findings could be that organisations should stimulate employees for bigger involvement in language courses, gathering knowledge in different ways and gathering experience with private involvement in intercultural situations.

Discriminant analysis showed factors which distinguish more and less culturally intelligent individuals: the number of learning sources, frequency of international communication in private time, number of foreign languages knowledge, frequency of international communication in working time, frequency of international business travels.
The results of the study support the findings from researchers who found that international experiences can increase cultural intelligence (Ang, Dyne, Tan, 2003) and supplement the range of organizational interventions for enhancing global leadership effectiveness which range from didactic programs to intensive cultural experiences (Caligiuri, 2006) with the promising positive influences of different experiences of communication with people from different cultures and the ability to converse in a different language. Crowne (2008) showed that number of countries visited correlates with cultural intelligence, presented study shows that also frequency of communication with other cultures correlates with cultural intelligence.

6. Conclusion

Cultural intelligence is a new construct that has no extensive attendance in Slovenia yet; the study advances the research on cultural intelligence with some new variables concerning educational factors and experiences.

The findings of this research identified a number of different ways of gathering knowledge as important possibility to enhance cultural intelligence and consequently success in global environment.

Important factors of cultural intelligence are, beside the number of intercultural knowledge sources, also the number of foreign languages knowledge, frequency of communication with persons from other cultures in private and business time and frequency of international travels which correlate significantly with the score of Cultural intelligence scale and its dimensions.

7. Bibliography

1. Ang, S. and Inkpen, A. C. (2008). Cultural intelligence and offshore outsourcing success: A framework of firm-level intercultural capability. Decision Sciences, 39(3), 33–358.
2. Ang, S., Van Dyne, L. and Koh, C. K. S. (2006). Personality correlates of the four factor model of cultural intelligence. Group and Organization Management, 31(1), 100–123.
3. Ang, S. et al. (2007). Cultural intelligence: its measurement and effects on cultural judgment and decision making, cultural adaptation, and task performance. Management and Organization Review, 3(3), 335–371.
4. Bradberry, T. and Greaves, J. (2009). Emotional Intelligence 2.0. San Diego: TalentSmart.
5. Caligiuri, P. M. (2006). Developing global leaders. Human Resource Management Review, 16(2), 219–228.
6. Crowne, A. (2008). What leads to cultural intelligence?. Business Horizons, 51(5), 391–399.
7. Downes, M., Varner, I. and Hemmasi, M. (2010). Individual profiles as predictors of expatriate effectiveness. Retrieved from 12. 01. 2013 from www.emeraldinsight.com/1059-5422.htm.
8. Earley, P. C. and Ang, S. (2003). Cultural Intelligence: An Analysis of Individual Interactions Across Cultures. Palo Alto (CA): Stanford University Press.
9. Gardner, H. (1983). Frames of mind: the theory of multiple intelligences. New York: Basic Books.
10. Gardner, H. (1995). Razsežnosti uma: teorija o več inteligencah. Ljubljana: Tangram.
11. Goleman, D. (1995). Čustvena inteligenca na delovnem mestu. Ljubljana: Mladinska knjiga.

12. Goleman, D. (2011). Čustvena inteligenca: zakaj je lahko pomembnejša od IQ (4th ed.). Ljubljana: Mladinska knjiga.
13. Legg, S. and Hutter, M. (2006). A Collection of Definitions of Intelligence. Retrieved 06. 01. 2013 from http://www.vetta.org/documents/A-Collection-of-Definitions-of-Intelligence.pdf.
14. Ng, K. Y., Van Dyne, L. and Ang, S. (2009). Developing global leaders: The role of international experience and cultural intelligence. In W. H. Mobley, Y. Wang and M. Li (eds.), Advances in Global Leadership (pp. 225–250). Bingley: Emerald Group Publishing.
15. Rehg, M. T., Gundlach, R. A. and Grigorian, R. A. (2012). Examining the influence of cross-cultural training on cultural intelligence and specific self-efficacy. Cross Cultural Management: An International Journal, 19(2), 215–232.
16. Salovey, P. and Mayer, J. D. (1990). Emotional intelligence. Imagination, Cognition, and Personality, 9(3), 185–211.
17. Sims, R. A. (2011). Cultural intelligence as a predictor of job satisfaction and intent to renew contract among expatriate international school teachers in Latin America (Doctoral dissertation). Cypress: [R. A. Sims].
18. Thorndike, E. L. (1920). Intelligence and its use. Harper's Magazine, 140, 227–235.