This paper is taken from

***Citizenship Education: Europe and the World
Proceedings of the eighth Conference of the
Children's Identity and Citizenship in Europe
Thematic Network***

London: CiCe 2006

edited by Alistair Ross, published in London by CiCe,   ISBN 1 899764 66 6

Evaluation of Instrument of Cross-cultural Curriculum Research: Supporting Validity and Reliability

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Introduction

This research study focuses on an answer to the following question which is the research problem: '*What aspects can be characterized as structural elements of valid and reliable research instruments of cross-cultural curriculum?*' The aim of the research is to substantiate validity and reliability of the cross-cultural curriculum instrument. The objective of the research is the evaluation of the cross-cultural curriculum's instrument.

Theoretical background

The research is based on the qualitative and quantitative methodology and is orientated to estimate three significant cross-cultural curriculum levels:

- Curriculum content;
- Organizational level;
- Personal level.

Three characteristics were chosen to evaluate the cross-cultural curriculum for a few reasons. First of all, analysis of *curriculum* concept when definitions of Adaskeviciene (2003), Saugeniene (2003b), Ramanauskaite (2002), Lauzackas (2000, 1997), Siauciukeniene, Stankeviciene (2002), and Lewy (1998) were explored proved that all the above-mentioned elements are closely interrelated. The analysis highlighted that *curriculum* is a flexible and complex system that includes teaching and learning aims, knowledge, methods, teaching material, school supplies, skills, values, norms of communication, learning experience and creative activities; and this system has to be managed. On the grounds of the said statement it was chosen to study the curriculum management system and the *Model of Cross-cultural Curriculum Management* was constructed by the paper's author.

The Model of Cross-cultural Curriculum Management

According to Day *et al* (1998) curriculum management system encompasses *curriculum* management and *human resources* management. These activities are interrelated because of the realization of four functions: *preparation for curriculum construction, planning, realization* and *evaluation* (see Figure 1).

Jucevicius, Juceviciene, Janiunaite, and Cibulskas (2003) argue that *curriculum construction* is a basic function at school level. According to authors it is a distinguishing school feature and it ought to
    (1) be grounded on a specific educational and philosophical theory,

(2) guarantee realization of a school's educational activities,
(3) satisfy pupils', parents' and community' outside school needs and
(4) it requires an effective teachers' team.

Figure 1 Model of Cross-cultural Curriculum Management (Jonusaite S., 2005)
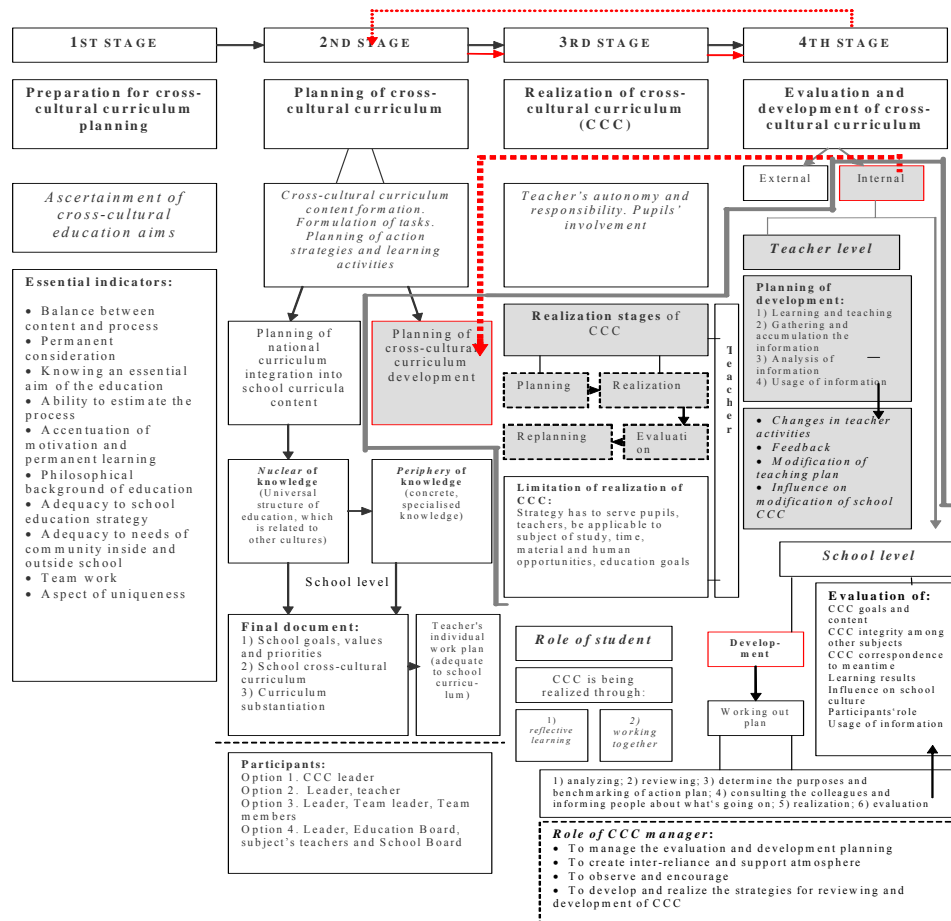
On the planning level it is important to provide and incorporate different aspects of curriculum such as (1) national curriculum integration in school curricula, (2) development planning, (3) pupils' learning experience (Day *et al,* 1998), (4) 'knowledge nuclear', (5) specialised knowledge – 'knowledge periphery' (Blinstrubas, Merkys, 2003), and (6) educational goals, tasks and values (Saugeniene, 2003). Saugeniene (2003 b) and Motiejuniene (2002) indicate planning levels (etc., state, region, school, team or group and teacher) and participants (etc., headmaster, teacher – see Picture 1). According to Motiejuniene (2002) the teacher should permanently plan her/his activities linking them with school curriculum and resources as it is one of the most significant parts of the curriculum planning process. As a result it is important to prepare a final report which includes three elements: (1) school goals, values and priorities, (2) school cross-cultural

curriculum and (3) curriculum substantiation (Everard and Morris, 1997). On the fourth level there arises the significance of teacher's autonomy and his/her personal responsibility for the effectiveness of the *realization process* as well as the ability to involve pupils in activities, to motivate them to learn to be reflective and work in a team (Saugeniene, 2003, Day *et al,* 1998). According to Saugeniene (2003) there are four stages of curriculum realization: *planning, realization, evaluation and replanning.* Their effectiveness depends on the teacher's teaching strategy. But it should satisfy pupils' and colleagues' needs and respond to the teaching subject, time limits, material and human resources and education goals. The final level is a *curriculum evaluation and development* which is set to receive information about the realization process. The evaluation should occur through curriculum revision and creation of research community members that would be capable to think about changes and plan their activities. Bagdonas (2002), Palevicius *et al* (2000), Day *et al* (1998) accentuate the significance of internal and external audits. In this case, an internal audit is more important. A cross-cultural curriculum manager should administrate an audit inside the school, especially when it is related with evaluation and development of cross-cultural curriculum (peculiarities of the manager's role are described on Figure 1). This process is endless. Lauzackas (2000) emphasizes two levels of evaluation: (1) school and (2) teacher. According to Bagdonas (2002) criteria for cross-cultural curriculum evaluation could be an estimation of: (1) school vision and aims, (2) structure, (3) integrity of curricula subjects, (4) effectiveness of curriculum management, and (5) curriculum correspondence to meantime requests. Saugeniene (2003) also proposes to assess curriculum participants' role and significance, curriculum influence on school culture and usage of cross-cultural information and knowledge. On the teacher's level it is important to estimate: (1) the kind of changes in teacher's activities, (2) success of feedback, (3) possibility to modify teaching plan and (4) ones activities' influence on school cross-cultural curriculum. In both cases it is important to replan the curriculum process: define the priorities, analyze, review, to determine the purposes and benchmark action plan, consult colleagues and inform people about changes that are in process.

Methodology

According to the theoretical background there were deduced 3 characteristic levels, 10 criteria and 39 indicators (see Table 1).

Table 1 Characteristics of the Research: criteria and indicators

Characteristic levels	Criteria	Indicators
CURRICULUM LEVEL	**Cross-cultural knowledge**	1.1. Ethnic identity
		1.2. Religious/spiritual orientation
		1.3. Activities of daily living
		1.4. Relations between family members
		1.5. Communication
		1.6. Health practises
		1.7. Quality of life
		1.8. Illness beliefs
		1.9. Death beliefs
		1.10. Food practises

Characteristic levels	Criteria	Indicators
PERSONAL LEVEL	**Values**	Individual *(tolerance, respect)*
	Personal characteristics	3.1. Orientation to *Oneself*
		3.2. Orientation to *Other*
	Attitudes	4.1. Orientation to *Oneself*
		4.2. Orientation to *Other*
		4.3. Orientation to Community
	Skills	5.2. Communicating and collaborating with *clients* and colleagues
		5.3. Self estimation and evaluation of the situation
		5.5. Intervention
	Knowledge	Information about pupil
	Cultural competence	7.1. Cultural destructiveness
		7.2. Cultural incapacity
		7.3. Cultural blindness
		7.3. Cultural pre-competence
		7.4. Cultural competency
ORGANIZATIONAL LEVEL	**Organizational policy**	8.1. Organizational structure
		8.2. Dominating values
		8.3. Dominating standpoints and attitudes
		8.4. Orientation to further context
		8.5. Orientation to closer context
	Cross-cultural curriculum management	9.1. Preparing for curricula planning
		9.2. Curricula planning
		9.3. Curricula realization
		9.4. Curricula evaluation
	School cultural competence	10.1. Cultural destructiveness
		10.2. Cultural incapacity
		10.3. Cultural blindness
		10.3. Cultural pre-competence
		10.4. Cultural competency

At *curriculum level* it was chosen to estimate the existence of 10 specific aspects of ethnic groups' life: ethnic identity, religious orientation, activities of daily living, communication and other aspects that were studied by Lipson *et al* (1996). At the *personal level* it was chosen to evaluate a person's knowledge, skills, values and personal characteristics (Lynch, 1999; Williams, 2001) and the level of cultural competence (Williams, 2001; Cross, 2001; Hanley, 1999). Tolerance, respect, flexibility and empathy (Lipson *et al,* 1996), orientation to oneself, other and community (Williams, 2001; Hanley, 1999) are significant in the formation of a person's system of attitudes. *Orientation to oneself* encompasses experience and self-actualization, *orientation to other* - equal opportunities and non-discriminating behaviour. *Orientation to community* according to Day *et al* (1998) is collectiveness and according to Lipson *et al* (1996) is orientation to family and socio-cultural characteristics. The criteria and indicators of *organizational level* were chosen following up the model of cross-cultural curriculum and ideas of above-mentioned authors on organizational cultural competence evaluation (etc., Williams, 2001; Cross, 2001; Hanley, 1999). According to the authors it is recommended to analyze organizational rules, attitudes, values and structure when estimating cultural competence. Curriculum management was chosen as an inherent element of school cross-cultural curriculum.

The research instrument

The instrument of the research is a semi-standardized questionnaire consisting of nine diagnostics blocks: 1) *personal demographical characteristics,* 2) *cross-cultural knowledge,* 3) *personal characteristics,* 4) *values*, 5) *personal skills,* 6) *attitudes*, 7) *organizational policy,* 8) *cross-cultural curricula management and* 9) *cultural competence continuum*. The research instrument is constructed of 141 questions and/or items: 127 of them are *closed-ended* questions (seven of them are demographical) and ten *open-ended* type questions. One question is a control question (see Table 2).

Table 2 Type and number of Questionnaire items

	Diagnostic block	Indicators	Type and number of items		
			Closed	Open-ended	Total
1.	Personal demographical characteristics	*Sex, age, nationality, working, experience, work status, education*	7		*7*
2.	Cross-cultural knowledge	*Knowledge about other cultures and/ or ethnical groups in the school curricula*	32	1	*33*
		Respondent's knowledge about pupils from others than his/her ethnical group and/or nationality	10		*10*
3.	Values	*Individual*		1	*1*
		Organizational	2	1	*3*
4.	Personal characteristics	*Orientation to Myself and to Other (flexibility, empathy)*		1	*1*
5.	Personal skills	*Respondent's communication, cooperation, intervention and estimation skills*	9	5	*14*
6.	Attitudes	*Respondent's attitudes towards other*	7		*7*
		Standpoints and attitudes that dominate in organization	4		*4*
7.	Organizational policy	*Structure of organization*	1		*1*
		Orientation to socio-economical and political contexts	4		*4*
8.	Cross-cultural curricula management	*Preparing for curricula planning*	2		*2*
		Curricula planning	3		*3*
		Curricula realization	5		*5*
		Curricula evaluation	2		*2*
9.	Cultural competence continuum	*Personal cultural competence*	23		*23*
		Level of organization's cultural	19		*19*
		Concept of cultural competence		1	*1*
	TOTAL:		127	10	140

To measure the respondents' attitudes different formats of close-ended questions answers were chosen:

- 32 items on three-point Likert scale: *'Yes', 'No', 'I do not know'* (for measurement of cross-cultural knowledge in school curricula),
- Five-point Likert scale.

a) *'I absolutely disagree', 'I disagree', 'I do not know, it is difficult to decide', 'I agree', 'I absolutely agree'* (90 items) that were used to estimate (1) teachers' cross-cultural knowledge, attitudes towards other persons and cultural competence and (2) schools' organizational policy and cultural competence;

b) *'Negative', 'Sufficient', 'Neither good nor bad', 'Good, but it could be better', 'Excellent'* to estimate teachers' attitudes about their skills of communication with people from various cultural backgrounds (etc., *'Please, assess your ability to communicate effectively with pupils from minorities'*).

- Three dichotomy answers (etc., *'Are there any pupils from ethnic minorities in your school?'*).
- Five multiple-choice answers to gather the personal information about respondent.

The examples of items are listed below (see Table 3).

Table 3
The examples of Questionnaire Items

Indicators	Example Items
Sex, age, nationality, working, experience, work status, education	*What is your work experience?* ○ *Teaching experience........* ○ *Managerial experience.......*
Knowledge about other cultures and/or ethnical groups in the school curricula	*Pupils acquire knowledge about minorities' religions during learning process in our school*
Respondent's knowledge about pupils from others than his/her ethnic group and/ or nationality	*When I meet a new student I try to find out all about his/ her national and religious traditions*
Individual	*What values should have a teacher who work with foreigners or pupils from ethnical minorities*
Organizational	*Please, mention a few values that should occur in multicultural school*
Respondent's communication, cooperation, intervention and estimation skills	*Every time I see colleagues/ pupils treating people from other cultures unkindly I try to change the situation*
Respondent's attitudes towards other persons	*I accept every person's differences and I take into account his/ her origin, life style and standard of behaviour*
Standpoints and attitudes that dominate in organization	*Every person despite his origin, religion, life and thinking way is accepted and respectable in our school*
Orientation to socio-economical and political contexts	*School policy and activities depend on people who run the municipality*
Preparing for curricula planning	*Preparing for CCC planning members of our school community gather data about members of minorities in our school*
Curricula planning	*We plan the development process during curriculum planning*

Indicators	Example Items
Curricula realization	*I have noticed changes in my teaching activities when I started CCC realization: I give a new information about other cultures and I notice changes in pupils' attitudes toward 'different others'*
Curricula evaluation	*We have a team that control and evaluate process of CCC realization*
Personal cultural competence	*In my opinion, Lithuanian culture is the most important so others must be destroyed*
Level of organization's cultural competence	*There are pictures, journals, books and other learning tools that reflect life of ethnic minorities in our school*
Concept of cultural competence	*Please describe how do you understand definition 'cultural competence' in a few sentences?*

Sample

The Research sample consisted of 133 teachers and managers from 6 Lithuanian towns (Kaunas, Vilnius, Siauliai, Radviliskis district, Mazeikiai district, and Kybartai) and 12 schools. 54.9 % of all respondents work at secondary schools, 21.8 % in gymnasiums, 13.5 % in elementary schools, 9 % in basic school. 17 men (12.8 %) and 109 (82 %) women were questioned. The average age was 42.29 years; youngest respondent was 23 years old, the oldest one − 73 years old. 89.5 % respondents were teachers, 7 % school leaders and 5 % members of school administration. The average of pedagogical experience was 18.9 years (min 1 year and max 46 year). The average of managerial experience was 12.3 years. 50.4 % of respondents have a bachelor's degree, 22.6 % are masters, 5.3 % did not answer and 18.8 % responded 'higher education'.

200 questionnaires were spread out or sent by post. 140 questionnaires came back; seven of them were not filled. Reversibility of questionnaires is 66.5 %. The reason of this low rate is the big size of the questionnaire and its complexity that demands a lot of time and resources from the respondents.

Results of Research

Evaluation of the instrument's statistical validity and reliability was realized by SPSS for Windows 11.5 version. Factor analysis was applied: a Cronbach-α coefficient was calculated with the application of Varimax rotation with the Kaiser normalization. The items of the instrument were united several times to subscales according to a particular criterion/indicator. Covariance matrix method was used for reliability analysis. Significance and Mean were calculated.

Three level factors were calculated. For the highest level factors statistical characteristics are thus: a) *personal level factor* Cronbach $\alpha = 0.72$, Sig = 0.000, three of four criteria's factorial weight is $L > 0.6$ (when sample N = 133), b) *organizational level* factor Cronbach $\alpha = 0.66$, Sig = 0.000 (when sample N = 123, see Table 4).

Table 4: Validation and reliability rates of highest level factors

Factor	Criteria/ indicators	Number of respondents	Mean	Factorial Weight (L)	Signifi cance	ά
Personal level	Attitudes	133	4.62	0.68	0.000	0.71
	Skills	133	4.01	0.87		
	Knowledge	133	3.31	0.32		
	Cultural competence	133	3.93	0.67		
Organizational level	Policy	123	3.98	0.56	0.000	0.66
	Curriculum management	123	3.12	0.75		
	Higher level cultural competence	123	3.33	0.81		

Variable *knowledge* was computed as second level factor and its Cronbach α = 0.84 (see Table 5). Five of ten its variables factorial weight is $0.74 \geq L \geq 0.64$ and satisfies condition that at least three items correlate with factor in expression with the value of L ≥ 0.6 (Zydziunaite, 2003; Merkys, 1999).

Table 5
Validation and reliability rates of factor *Cross-cultural knowledge* (Sample N = 133)

Factor	Variables	Mean	Factorial Weight (L)	Significa nce	ά
Cross-cultural knowledge	Activities of daily living	2.13	0.52	0.000	0.84
	Relations between family members	1.62	0.74		
	Communication	1.85	0.69		
	Quality of life	1.59	0.75		
	Illness beliefs	1.83	0.59		
	Death beliefs	2.18	0.64		
	Food practises	1.89	0.65		

More then 85 % variables of second level factors factorial weights are $0.5 \geq L \geq 0.97$. With Factors' *'Attitudes', 'Cultural Competence', 'Policy'* and *'Cross-cultural curricula management'* Cronbach α rates fall within interval $0.76 \geq \alpha \geq 0.54$ (when sample N = 133).

Almost 76 % of first level factors' Cronbach $\alpha > 0.5$ were settled, when the total number of first level factors is N = 36. About 60 % of them place in rates' interval $0.9 \geq \alpha \geq 0.6$, about 20 % factors $\alpha \geq 0.8$ and only 18 % Cronbach α is lower then 0.5, but these factors encompass only two or three variables. Analysis highlighted that the weakest part of the questionnaire is estimation of skills on a personal level: Cronbach α = 0.4, Sig = 0.001, factorial weight interval is $0.62 \geq L \geq 0.23$, when sample N = 131. So it is necessary to review and change and/or add extra items of this subscale.

Conclusion

The results of the evaluation proved the validity and reliability of the instrument. The questionnaire in general is valid and reliable to evaluate the cross-cultural curriculum,

including estimation of: a) organizational and personal cultural competence, b) school cultural policy and curriculum management, c) personal (e.g. teacher's) values, characteristics, standpoints and knowledge which are necessary for effective cross-cultural communication at schools. The complexity, large size and a not fully developed part that is focused on the evaluation of personal skills are the negative aspects of the questionnaire.

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