

The Validity of the School Assessment in the Craft Subject

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In this research project, the validity of the school assessment is examined in the craft subject in Finland's basic education. The criteria for the school assessment are based on the Finnish National Core Curriculum (FNCC) in which the idea of the Entire Craft (EC) is highlighted. However, the discussion as to whether or not the school practice is based on the idea of EC, or whether the teachers are still focused on the technical details of products in reflecting on the pupils' tool-handling skills, is still an ongoing debate. Learner-centred learning is implicated in EC since the pupils are expected to set goals for the implementation of their own ideating, planning and constructing. And, finally, in such a process, the self-reflection of the implemented outcomes against the goals will take place. Altogether 73 craft teachers from 59 upper level schools participated in this research project. The pupils' (N = 982) success was assessed during an EC period using the indicator validated by the previous nation-wide evaluation by the Finnish National Board of Education (FNBE). Since the valid school assessment was expected to reflect the success in the Entire Craft Assessment Period (ECAP), the outcomes were assessed against the criteria of the FNCC and compared to the pupils' school scores. The data was analysed using the Linear Regression Analysis (Enter Method). The central observation was that the pupils' success in the criteria of the EC do not reflect the 7th grade school scores, in all respects. Moreover, the pupils' success does not reflect the 6th grade school scores. The instructions and supplementary education of the FNCC criteria are needed for craft teachers, especially for class teachers at the lower level. In Finland, also the craft subject is taught by the class teachers at the lower level while, at the upper level, the subject teachers take their place. According to the new FNCC, the number of class lessons will be diminished at the upper level and increased at the lower level. This might challenge the assessment in the craft subject in basic education. Special attention should be paid to the school assessment in 2016, at the latest, when the new National Core Curriculum comes into force.

Keywords: School Assessment, Entire Craft, National Core Curriculum

Introduction

The research task is to examine the validity of the school assessment in the craft subject in the Finnish basic education. The criteria for the school assessment are based on the Finnish National Core Curriculum (Finnish National Board of Education, 2004) in which the idea of the Entire Craft (EC) is highlighted. However, the discussion as to whether or not the school practice is based on the idea of EC, or whether the teachers are still focused on the technical details of products in reflecting on the pupils' tool-handling skills, is still an ongoing debate. Craft as an entire process is not merely practicing technical skills through the constructing of craft products by copying models. The conceptual development of EC has been followed by the development of the national curriculums, at the earliest in the Curriculum of the Finnish Comprehensive School (1970), in which the 'Subject Area Work' was established as a new pedagogical model of craft teaching. This trend of the 1970s and the 1980s had its theoretical basis in cognitive psychology; nevertheless, the main purpose was still in copying products on teachers' models and learning to handle the tools. In EC, the learning tasks are more open and the learners are involved in problem solving (Metsärinne, 2003). EC is a more improved and more advanced version of the 'Subject Area Work' (Hilmola, 2009). EC is based on the cognitive constructivism with existential

and situational emphasis developed after Heidegger and Dewey (Kallio & Metsärinne, 2016, cf. Peltonen, 1988). From the 1990s it has been the theoretical background for learning and teaching craft in basic education.

The FNCC includes the criteria for the assessment in the craft subject in basic education. The criteria is adopting EC as a process. The learner-centred learning is involved in EC since the pupils' are expected to set goals for the implementation of their own ideating, planning and constructing. And, finally, in such a process, the self-reflection of the implemented outcomes against the goals will then take place (Kallio & Metsärinne, 2016). The school assessment is represented in the scores which craft teachers award their pupils in craft. The research question is: *Does the school scores reflect the criteria of the National Core Curriculum?*

To examine the research question, the pupils (N = 982) success was assessed during the Entire Craft period by the craft teachers. The indicator, used to assess the pupils' Entire Craft Assessment Period (ECAP), consists of the criteria of the FNCC. The indicator is validated by the Finnish National Board of Education (FNBE) in the previous nation-wide evaluation. The data was compared to the pupils' school scores in craft. The valid school scores are expected to correlate with the data.

Previous research

According to previous research (Hilmola 2011) only a little over one third of pupils (34 %) think that they have learned to master EC often or very often by the time they receive their final grade of basic education. About two thirds of these pupils (64 %) studied craft during three school years at the upper level. Nevertheless, only about one fifth of the pupils (22 %) think that they have mastered the EC process seldom or never. About two thirds of these pupils (63 %) studied craft only during one school year at the upper level (7th to 9th grades). This result suggests that EC is learned only at the upper level. Furthermore, over two-thirds (69 %) of craft teachers have taught, in their opinion, EC often, on average (Hilmola 2011, 155, 159–160). Examined by gender and in the carrying out of craft teaching, a systematic negative variation has been perceived in the scores of the pupils. Boys and girls are assessed on different grounds of the assessment on the upper level. Equality is not a reality in the school assessment of craft and the assessment criteria express varying criteria between the pupils. The conclusion is that unequivocal criteria for the assessment are needed in the craft subject in basic education (Hilmola & Syrjäläinen, 2014, 46–47). Or, perhaps, the existing criteria should be taken into use.

The variation in the teachers' assessment methods is observed internationally. According to several researches, teachers' assessment varied considerably. The teachers on the lower level usually awarded the scores on the basis of an observation or class work. In turn, the teachers on the upper level awarded scores on the basis of a test, which indicates the progress of the pupils (cf. Gullickson, 1985; Cizek, Fitzgerald, Shawn & Rachor, 1995/1996; McMillan, Myran & Workman, 2002). The teachers' knowledge, skills, and use of the separate assessment methods varied considerably (Phye, 1997, 35–40). However, the teachers try to award grades justly and fairly and they try to clarify the grounds for awarding grades to their pupils. Teachers can award better grades to pupils who tried hard (cf. Brookhart 2007, 48). Teachers, however, do not necessarily like the practice of giving pupils grades. It is experienced as a negative duty which belongs to their work (Green & Emerson, 2007, 495). The official documents or recommendations which direct the assessment has little effect on the practice which is related to the awarding of grades (Brookhart, 1994, 229).

The Entire Craft as a concept

Juhani Peltonen (1988), the originator of the concept of the Entire Craft, stated that the craft process must contain problem-solving at all levels of the operation and, moreover, craft cannot be the mere copying of models, based on imitation. EC must contain three major phases: 1. the definition phase, 2. the implementation phase, and 3. the evaluation phase. In the initial definition phase, the pupils set goals for the entire craft process. The implementation phase contains ideation, planning and constructing the product (and other outcomes). The outcomes of the implementation are tested in the evaluation phase against the defined goals. (Kallio & Metsärinne, 2016; cf. Peltonen, 1988.)

During the last two decades, the concept of EC has been examined thoroughly by the researchers of craft education (see for example Pöllänen & Kröger, 2005; Kaukinen, 2006; Suojanen, 1993; Kojonkoski-Rännäli, 1995; Rönkkö, 2011). They have pointed out that EC encompasses the producing process in which the same person carries out all the phases of the craft process himself/herself. The same person sets goals, creates ideas, makes visual designs and technical plans, constructs the product, and finally reflects on the production entity. If any stage fails to come about, the process will be *a divided craft*. In the divided craft, the visual design or technical plan, for instance, is made by another person, so that the model of the product, instructions or material solutions are ready-made. The product might be a concrete example, photograph or picture from an instruction book. The technique or material or even both that are used in the implementation have been predefined. It is a central feature of the process to implement a product in which an instruction (which proceeds phase by phase) is used to assist. The person also knows that when following the instructions, the finished product will be achieved. The risks and the potential of craft is outsourced from a pupil to the teacher (Kallio, 2014).

Motivation is required in establishing the entire craft; but, to become motivated, the novice needs support, an idea for instance, in the starting point for the task (Pöllänen & Kröger, 2005). Therefore, paradoxically, pursuing EC requires dividing it into stages. For example, the brainstorming process might become concrete following the stages of visual design and technical planning. The visual and technical design contains task-specific limitations determining the designer's work. Limitations also direct and frame the problem-space. The limitations which are important from the viewpoint of the problem-solution are connected with the definition of the purpose of use (Seitamaa-Hakkarainen, 2007). Teaching designing and planning requires pedagogic functions and solutions that are different from teaching the process of craft-making (Syrjäläinen, 2009, 21). Planning is cognitively challenging and requires the clear pedagogic structures of the teacher so that problems in planning are solved sensibly (Kangas, Seitamaa-Hakkarainen & Hakkarainen, 2013). Moreover, when exploring the potential, some knowledge and practice of techniques might be needed, at first. Establishing EC requires development of abstract thinking since it is not a simple task to reshape the material using complex technologies. A learning task should encourage pupils to design, solve problems, and to create products. The pupils have to make plans together, produce prototypes, and test and analyse them. Furthermore, the pupils have to gather information, use literature and cooperate. Such tasks challenge not only the pupils, but also challenge the craft subject and the craft teachers as well.

Methods

Data

The data was collected during the school year 2013–14 with the support of the craft teachers. Altogether 73 craft teachers from 59 schools from the opposite sides of Finland participated in the assisting work. The pupils' sample (N = 982) represents the whole country comprehensively. The relative share of the boys is 46 per cent (n = 450) and the relative share of the girls is 54 per cent (n = 532). In addition, the different geographical areas (Southern Finland 40 %, Western Finland 27 %, Eastern Finland 7 %, Area of Oulu 22 % and Lapland 4 %) and municipality types (township 60 %, densely populated area 25 % and rural area 15 %) are well represented.

In Finland, the craft subject consists of two different tracks: technical craft and textile craft. As a rule, different teachers teach the subjects of technical craft and textile craft at designated schools. So the relative share of the pupils whose data is based only on the assessment of the technical craft teacher is 42 per cent (boys 77 %, girls 13 %) and the relative share of the pupils whose data is based only on the assessment of the textile craft teacher is 51 per cent (boys 11 %, girls 85 %). In addition a couple of teachers have done their assessment together. So the relative share of the pupils whose data is based on the assessment of both technical and textile craft teachers is seven per cent (boys 12 %, girls 3 %).

The craft subject is studied from the 3rd grade to the 7th grade and it is optional in the 8th and 9th grades. Only 2.8 per cent of the boys who are studying optional craft have chosen the textile craft; so, 97.2 per cent of the boys are studying technical craft. Correspondingly, 14.1 per cent of the girls who are studying optional craft have chosen the technical track; so 85.9 per cent of the girls are studying textile craft (Koulutuksen tilastollinen vuosikirja [Educational Statistics] 2014). Moreover, while the age group has decreased by two per cent from 2008 to 2010, the number of pupils studying the technical craft has decreased by only one per cent, while the number of pupils studying the textile craft has decreased by up to ten per cent (Koulutuksen tilastollinen vuosikirja [Educational Statistics] 2012).

According to this data 29 per cent of the pupils (boys 52 %, girls 9 %) have studied only technical craft and 34 per cent of the pupils (boys 1 %, girl 63 %) have studied only textile craft in the 7th grade. Furthermore, 15 per cent of the pupils (boys 30 %, girls 3 %) have studied the craft which contains more technical craft and less textile craft and, correspondingly, 7 per cent of the pupils (boys 0 %, girl 13 %) have studied the craft which contains more textile craft and less technical craft. In addition, 15 per cent of the pupils (boys 17 %, girl 13 %) have studied the craft which contains as much technical craft as textile craft.

Measures

The data has been collected using an electrical indicator. The indicator is validated by the nation-wide evaluation by the Finnish National Board of Education in 2010. The FNBE has not given the official permission to publish an original indicator. However, the construction of the original indicator is described insofar as it is necessary in this context on the following table (Table 1). In this study, each craft teacher assessed a various number of pupils. The number of pupils was based on the consent given by the parents. The craft teachers took a stand on the pupils' outcomes in the above-mentioned application of the original indicator. The indicator contained five sections, every one of which contained seven alternative descriptions of criteria to choose from. The alternatives were set on the scale between reject (4) and excellent (10). There are descriptions of the pupil's good skills (8) at each stage of the entire craft process on the following table (Table 1). According to the indicator, the Entire Craft is divided into five criteria, respectively: planning, intensiveness, orientation, work safety and self-assessment.

Table 1: The assessment indicator

<i>Entire Craft in Assessment Indicator</i>
<i>Description of the pupil's good skills</i>
<p>Visual Design and Technical Planning</p> <p>➡ Planning</p> <p>“In the plans there are no visual shortcomings and the pupil's own ideas become clear from them.”</p>
<p>Construction</p> <p>➡ Intensiveness</p> <p>“The pupil works actively and attempts to work independently.”</p> <p>➡ Orientation</p> <p>“The pupil knows basic techniques so that the products are properly finished and suitable for their purpose.”</p> <p>➡ Work Safety</p> <p>“The pupil can use protection tools and safety devices independently and appropriately.”</p>
<p>Self-Assessment and Considering of the Process.</p> <p>➡ Self-Assessment</p> <p>“The pupil is able to assess his/her own work with the help of the school grades, in which case he/she perceives the strengths and weaknesses of the process.”</p>
<p><i>The Finnish National Board of Education 2010 – Assessment and Learning outcomes.</i></p>
<p><i>Cf. Hilmola 2011a, 216 – 218; The National Core Curriculum in Finland 2004, 239 – 244.</i></p>

The criteria of the visual design and technical planning consists in the pupils’ independent problem identification, developing creative ideas and design of products with the help of the teacher. The pupil understands that the products will be interpreted by others as a message in the environment. Furthermore, the pupil documents the process of ideation, planning and construction.

The construction consists in the pupils’ appropriate and careful work, observing work safety, and attention to the order and comfort of their working environment. The pupils will know how to work purposefully, either alone or in teams. The pupils will master basic techniques, so that the product is appropriate for its purpose, polished, ecological, and aesthetically pleasing. The pupils will know how to apply advanced technology, with guidance, in their work; they will understand technological concepts and systems, and their applications. The pupils will know how to apply the knowledge and skills they have learned in other subjects (Finnish National Board of Education, 2004, 244).

The self-assessment consists of the pupils’ own examination of their personal work and learning. The pupils will observe the strengths and weaknesses in a process that includes assessing the results. The pupils will assess their ideas and products by the criteria of aesthetics, economy, ecology, and appropriateness for purpose. The pupils will form a realistic picture of their skills and potential for improvement.

In addition, the pupils will demonstrate a tolerance to criticism in the assessment process and should desire to direct their actions in accordance with the feedback (Finnish National Board of Education 2004, 244).

Procedure

Since the descriptive statistics are presented as an overview to the data, the differences between the genders are tested using the Mann Whitney U test. The Spearman’s rank order correlation coefficient (rho) is used as a methodological solution when the purpose is to describe the inter-correlations between different criteria of the EC and the grades of the school assessment. On this basis, the values of the good quality of the correlation coefficients are estimated (cf. Metsämuuronen 2003, 305). Linear regression analysis by the enter method is used as the methodological solution when the purpose is to find different determinants for the school assessment. Since the assumption of the normal distribution is rejected, the non-parametric tests are used. According to Metsämuuronen (2003, 460), the statistical significance of the different tests is reported so that the test statistic will either be extremely significant statistically ($p < .001$) or significant statistically ($p < .050$).

Results

The results reveal that the success in the ECAP and the school scores are mainly on the ‘good level’ (table 2).

Table 2: Pupils’ success in the ECAP criteria and the school scores

<i>Descriptive Statistic</i>				
<i>Averages and standard deviation</i>				
		Entire Sample (N = 982)	Boys (n = 450)	Girls (n = 532)
Planning		7,7	7,4	8,0
	Std. Deviation	1,25	1,37	1,07
Intensiveness		8,2	8,0	8,3
	Std. Deviation	1,14	1,14	1,11
Orientation		7,8	7,6	8,1
	Std. Deviation	1,12	1,22	0,98
Work Safety		8,4	8,2	8,6
	Std. Deviation	0,97	0,91	0,97
Self-assessment		8,0	7,7	8,3
	Std. Deviation	1,18	1,23	1,08
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The school assessment				
in the 6th grade		8,4	8,2	8,5
	Std. Deviation	0,78	0,75	0,78
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The school assessment				
in the 7th grade		8,3	8,1	8,4
	Std. Deviation	0,84	0,81	0,85
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The differences between the boys and the girls are extremely significant statistically ($p < .001$) by Mann-Whitney U test				
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The criterion of ‘Planning’ got the lowest ratings and the criterion of ‘Work Safety’ got the highest ratings. Down the line, the girls succeeded better than the boys. The Standard Deviation of the ratings is a little higher for the boys than for the girls, except for the criterion of ‘Work Safety’. The school scores at the 6th grade (the final grade in the lower level) and at the 7th grade (the first year of the upper level) of basic education are also on a ‘good level’ for both genders, on average. For the girls, the Standard Deviation of the school scores is a little higher than that of the boys. All of the differences between the boys and girls are statistically extremely significant ($p < .001$). The Descriptive Statistics of the ratings reveal that pupils have succeeded in the ECAP. The school scores also reflect good success in crafts. The standard deviations of the ratings of the boys are on a higher level than those of girls, generally. On the other hand, the Standard Deviation of the girls' school scores are higher than those of boys.

Table 3: The correlation matrix of the ECAP criteria and the school scores

Nonparametric Correlations								
Spearman's rank order correlation coefficient (ρ)								
		The school assessment in the 7th grade	The school assessment in the 6th grade	Planning	Intensiveness	Orientation	Work Safety	Self-assessment
The school assessment in the 7th grade	r	1,000	,519**	,612**	,732**	,735**	,549**	,572**
	p		$p < 0,001$	$p < 0,001$	$p < 0,001$	$p < 0,001$	$p < 0,001$	$p < 0,001$
The school assessment in the 6th grade	r		1,000	,414**	,500**	,477**	,361**	,375**
	p			$p < 0,001$	$p < 0,001$	$p < 0,001$	$p < 0,001$	$p < 0,001$
Planning	r			1,000	,639**	,703**	,561**	,613**
	p				$p < 0,001$	$p < 0,001$	$p < 0,001$	$p < 0,001$
Intensiveness	r				1,000	,746**	,578**	,615**
	p					$p < 0,001$	$p < 0,001$	$p < 0,001$
Orientation	r					1,000	,620**	,651**
	p						$p < 0,001$	$p < 0,001$
Work Safety	r						1,000	,636**
	p							$p < 0,001$
Self-assessment	r							1,000
	p							

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

The Spearman's rank order correlation coefficients (Table 3) reveal that almost all of the correlation coefficients are on the high (.06 – .08) or on the moderate (.04 – .06) level, except for the coefficients between the school scores in the 6th grade and the criteria of the ‘Self-assessment’ and ‘Work Safety’. However, the aforementioned correlation coefficients are clearly over the critical point ($r > .02$). All the correlation coefficients are extremely significant statistically ($p < .001$). The ECAP Ratings in all criteria and the school scores are valid predictors for the pupils' success in craft. The 7th grade school scores correlates strongly with the success in the criteria of the ‘Intensiveness’ and ‘orientation’. In addition, the correlations between the criteria of the ‘Orientation’, ‘Planning’, and ‘Intensiveness’ are also at high

level. Finally, the correlation matrix reveal that all of the applied variables are suitable for the regression analysis to describe the coefficients of determinations (cf. Metsämuuronen 2003, 581).

Table 4: The central determinants for 7th grade school scores

<i>Linear Regression Analysis by Enter Method</i>				
<i>The school assessment in the 7th grade as a regressand</i>				
		Model 1	Model 2	
		Entire Sample (N = 982)	Boys (n = 450)	Girls (n = 532)
Regressors		Regression (B)	Regression (B)	
Planning		0,040 ³	0,019 ⁴	0,079 ³
Intensiveness		0,293 ¹	0,263 ¹	0,289 ¹
Orientation		0,257 ¹	0,266 ¹	0,268 ¹
Work Safety		0,045 ⁴	0,068 ⁴	0,024 ⁴
Self-assessment		0,015 ⁴	-0,035 ⁴	0,072 ³
		↓	↓	↓
Regressand		The school assessment in the 7th grade	The school assessment in the 7th grade	
Coefficient of Multiple Correlation	R	0,778	0,765	0,787
Coefficient of Determination	R ²	61 %	59 %	62 %
¹ p < 0,001 ² p < 0,010 ³ p < 0,050 ⁴ p ≥ 0,050				

The regression analysis, particularly the Model 1, reveal that the criteria of the ‘Planning’, ‘Intensiveness’ and ‘Orientation’ are valid determinants for the 7th grade school scores (Table 4). For the ‘Intensiveness’ and ‘Orientation’, the regression values are extremely significant statistically ($p < .001$) and for the ‘Planning’ the regression value is significant statistically ($p < .050$). The criteria of ‘Work safety’ and ‘Self-assessment’ are not valid determinants for this model at all ($p \geq .050$). The coefficient of determination is sixty-one per cent ($R^2 = 61\%$), which is in turn related to the criteria of the ‘Planning’, ‘Intensiveness’, and ‘Orientation’. According to the Model 1, the criteria of the ‘Planning’, ‘Intensiveness’, and ‘Orientation’ have a central role to play in 7th grade school scores. The criteria of ‘Work safety’ and ‘Self-assessment’ do not reflect the previous school scores.

The regression values of Model 2 (Table 4) reveal differences between the boys and the girls. For boys, only the criteria of the ‘Intensiveness’ and ‘Orientation’ reflect the school scores in the 7th grade. The regression values are extremely significant statistically ($p < .001$). For girls, all the criteria of the ‘Planning’, ‘Intensiveness’, ‘Orientation’, and ‘Self-assessment’ predict the 7th grade school scores. The regression values of the criteria of the ‘Intensiveness’ and ‘Orientation’ are extremely significant statistically ($p < .001$) and those of the ‘Planning’ and ‘Self-assessment’ are significant statistically ($p < .050$). This means that, for girls in the 7th grade, school scores reflect the success in ECAP as being more versatile than the boys are. However, for both genders, only the criterion of ‘Work safety’ does not reflect the 7th grade school scores ($p \geq .050$). The value of the coefficient of determination for the boys is fifty-eight per cent ($R^2 = 58\%$) and for the girls is sixty-two per cent ($R^2 = 62\%$). Between the genders the differences of the coefficients of determination are not worth mentioning. For both genders, the undetermined share is about forty per cent.

Table 5: The central determinants for the 6th grade school scores

<i>Linear Regression Analysis by Enter Method</i>				
<i>The school assessment in the 6th grade as a regressand</i>				
		Model 1	Model 2	
		Entire Sample (N = 982)	Boys (n = 450)	Girls (n = 532)
Regressors		Regression (B)	Regression (B)	
	Planning	0,032 ⁴	0,044 ⁴	-0,011 ⁴
	Intensiveness	0,189 ¹	0,176 ¹	0,204 ¹
	Orientation	0,129 ¹	0,096 ¹	0,167 ²
	Work Safety	0,039 ⁴	0,082 ⁴	-0,003 ⁴
	Self-assessment	0,026 ⁴	-0,014 ⁴	0,058 ⁴
		↓	↓	↓
Regressand		The school assessment in the 6th grade	The school assessment in the 6th grade	
Coefficient of Multiple Correlation	R	0,526	0,508	0,510
Coefficient of Determination	R ²	28 %	26 %	26 %
¹ p < 0,001 ² p < 0,010 ³ p < 0,050 ⁴ p ≥ 0,050				

The results of the regression analysis, especially for Model 1, reveal that the criteria of the ‘Intensiveness’ and ‘Orientation’ are the only valid determinants for the 6th grade school scores. The regression values are extremely significant statistically ($p < .001$), except for the girls’ success in the criterion of ‘Orientation’ ($p < .010$). However, the coefficient of determination is only twenty-eight per cent ($R^2 = 28\%$). So the undetermined share is as much as seventy-two per cent. In addition, no differences between the genders are observed in the regression analysis (Model 2 in Table 5). Finally, the success in ECAP reflect only a little over a quarter ($R^2 = 26\%$) of the 6th grade school scores, according to the gender-separated analysis.

Discussion

The 7th grade pupils’ success in ECAP, assessed using the FNBE indicator, reflects the 7th grade school scores at the level of sixty-one per cent. The girls’ 7th grade scores reflect more versatile success than the same grade scores of the boys. Sixty-two per cent of the scores of the girls reflect the criteria of ‘Intensiveness’, ‘Orientation’, ‘Planning’ and ‘Self-assessment’. So, thirty-eight per cent of the girls’ scores are based on unknown arguments. Fifty-nine per cent of the boys’ scores reflect only the criteria of ‘Intensiveness’ and ‘Orientation’. So, forty-one per cent of the boys’ grades are based on unknown arguments. For boys, ‘Attention’ is not fixed on the versatile school assessment in which attention is paid to the several stages of EC. Such a result demands further research: How is the school assessment put into practice in the upper level?

The 7th grade pupils’ success in ECAP reflects the 6th grade (final assessment at the lower level) school scores at the level of twenty-eight per cent. Only twenty-eight per cent of the scores in the 6th grade reflect the criteria of the ‘Intensiveness’ and ‘Orientation’. So, for all pupils, seventy-two per cent of the scores at the lower level are based on unknown arguments. Only about a fourth of the scores in the 6th

grade can be explained with the criteria of 'Intensiveness' and 'Orientation'. The school assessment has only a loose connection to the criteria as based on the FNCC. Further research is needed: On which criteria are the lower level school scores based?

As stated in previous researches in the field, the assessment varied between the teachers at the lower and upper level. Obviously, at the lower level of basic education, assessment of the pupils' success is measured qualitatively, on the one hand, while at the upper level, assessment is measured quantitatively, on the other hand. The pupils' efforts reflected the scores at the lower level more than at the upper level. However, it is a fact that craft teachers' views on pupils' success is not based on the criteria of the FNCC, in all respects. The instructions and supplementary education of the FNCC criteria are needed for craft teachers, especially for class teachers at the lower level. In Finland, also the craft subject is taught by the class teachers at the lower level while, at the upper level, the subject teachers take their place. According to the new FNCC, the number of class lessons will be diminished at the upper level and increased at the lower level. This might also challenge the assessment in the craft subject in basic education. Special attention should be paid to the school assessment at the latest in 2016, when the new Finnish National Core Curriculum comes into force.

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