Creativity in circumpolar communities: An examination of Canadian, Norwegian, and Finnish results on the Torrance Test of Creative Thinking

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BACKGROUND

The goal of Western’s Human Ingenuity Project (Hansen, 2008) was to identify the characteristics of innovative people working in the trades, technical professions, and engineering. It aimed to identify the source(s) of innovative traits and help us better understand which experiences, inside and outside of the workplace, play a role in the development of inventive people.

Results of this earlier research suggested that these inventors and innovators believed their childhood experiences provided the building blocks for later creativity. Lengthy periods of time spent playing alone or exploring, coupled with limited adult intervention was given credit for their later success and inventive mindset.

Knowing that creativity is a complex phenomenon (Beghetto, 2010; Runco, 2007), the research team developed a three-stage investigation of creativity, aiming to better understand local as well as national culture. This poster presents the partial results of the first exploration into the role of the culture and social environment in fostering and nurturing creative potential.

By examining similar countries with contrasting educational philosophies, the evidence gathered allows more questions to be asked about the role of culture and formal education in the development of creative potential and innovative ideas.

OBJECTIVES

The purpose of this research was to explore the early determinants of human ingenuity by investigating environmental and cultural differences between Norway, Canada, and Finland.

To our knowledge no other studies have approached the topic of creativity with the intent to investigate national TTCT averages as well as collect classroom, curriculum, and community-size data.

METHOD

Researchers in each country measured the creativity of 364 eight year old children (167 Canadian, 89 Norwegian and 108 Finnish) using a standardized paper and pencil drawing exercise. All were given the Figural version of Torrance Test of Creative Thinking (Torrance, 1974). Children in Norway and Canada were tested during the spring of 2011 and children in Finland were tested in August 2013. Testing was done by members of the research team which included an individual native to each country who was comfortable with the language, customs, and culture. Written answers were translated by the research team.

Tests were administered as in-school exercises during the course of a regular day in the native language of each school. All tests were scored independently by Scholastic Testing Service. Average standard score for each subscale as well as percentile scores were returned for each child.

Analysis of the results was guided by the following questions:

- Are there any differences in the mean scores of Canadian, Finnish and Norwegian children?
- What, if any, differences exist between countries on the sub-score indices (fluency, flexibility, originality, titles, and resistance to premature closure)?
- What may account for differences, if any are observed?

During the testing process, team members collected detailed field notes and recorded the physical and atmospheric conditions present in each of the classrooms. These records allow for preliminary hypotheses to be drawn regarding observed differences in TTCT scores.

RESULTS

Standard scores provided by Scholastic Testing Service were analyzed using SPSS independent sample T-test comparisons of average and sub-scale means. Results of an overall analysis show significant between-group differences in the children’s Originality scores. Further analysis not shown here, which controlled for community size (small, medium and large) points to overall average differences, as well as sub-scale differences in fluency, originality, and titles.

**Figure 1: Average Overall TTCT Score with variance**

**Figure 2: Average Overall TTCT Subscale Scores**

Further ANOVA analysis indicated that significant differences were measured on overall average and sub-scale scores at the p<.001 level. These include the differences seen above and marked with an asterisk*. Additional research is needed to determine the meaning behind this data pattern.

DISCUSSION

Findings support further investigation of the specific ways that culture and pedagogy influence children’s creativity. It is important to recognize the fact that the approach to teaching children and the philosophical underpinnings of formal education in all three countries is different in important ways. Through analysis of results and discussions with educators in each country, it is also apparent that teachers view their roles in the classroom differently, and those roles are infused with unique culture-centric meaning. The measureable differences in the nature and length of teacher preparation, the curriculum content, and the role and pressure of state-sponsored testing likely also influence the ways in which creativity is demonstrated.

Of particular interest are our comparisons between community size, and type of school, as well as a more qualitative study of children’s environments in both countries. To date we have completed interviews with 26 Canadian parents of children enrolled in this study. Norwegian and Finnish interviews are currently underway. The interviews were chosen as the second stage of this study in order to better understand why we observed such significant differences between countries, as well as the differences found (not reported here) between children from small, medium and large communities.

Results of this study will be updated on the Human Ingenuity Research Group webpage as they become available. Please visit: www.edu.uwo.ca/hirg

REFERENCES


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