Cultural Differences on an Educational Intervention Program of Prosocial Behavior and Metacognitive Strategies

Ayumi Umino, University of Copenhagen, Denmark

The Asian Conference on Education & International Development 2016
Official Conference Proceedings

Abstract
We investigated cultural differences on children’s quality of life (QoL), perspective of prosocial behavior, writing skills, and teacher’s attitude in a child-centered intervention program. The intervention program contains prosocial experience and metacognitive strategies which include self-planning, acting and reflection. The intervention program was administrated in 11 to 12 year old elementary school children in Japan and Denmark for 3 months. The two countries represent different educational cultures and children’s psychological mental state; where Japanese children’s low self-esteem and Danish children’s high satisfaction. At the start and end of the intervention program, a self-reported questionnaire measuring the children’s QoL was applied to evaluate the effect of the intervention. Additionally, children’s prosocial behaviors were categorized and written essays were evaluated grammatically. Overall results showed that after the intervention the QOL well-being was improved among both Japanese and Danish children. Regarding type of prosocial behavior, Japanese children’s prosocial behaviors were treating others gently or working on their classroom environment, whereas Danish children’s were helping and teaching each other with their knowledge directly. We also found differences between children’s perspective regarding motivation for prosocial behavior. Danish children preferred helping others instead of receiving help from others, Japanese children were the opposite. According to the interviews and observations with the teachers, Japanese teachers did and thought more than was required. The effect of the intervention is discussed with respect to the difference in children’s perspective and teacher’s attitudes in Japan and Denmark, respectively.

Keywords: children’s quality of life, educational intervention program, prosocial behavior, metacognitive strategies, teacher’s attitude, educational cultural differences
Introduction

Prosocial intervention program and QoL
This study reported the effect of an intervention program for school children in different countries; 1) effect on children’s QoL, 2) effect on children’s writing skills, and also an investigation of potential cultural differences on this program; 3) children’s perspectives of prosocial behavior, 4) children’s type of prosocial behavior, and 5) teacher’s attitudes and perspectives. The intervention program contained prosocial behavior and metacognitive strategies. Prosocial behaviors are defined as a spontaneous act which consists of helping, sharing, comforting and cooperating, and each element can be interpreted in various ways (Brownell, Svetlova, & Nichols, 2009; Svetlova, Nichols, & Brownell, 2010; Warneken & Tomasello, 2007; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). These abilities are developed rapidly throughout school years and this social behavior plays an important role in the older children’s development during social interactions and peer acceptance competence (Dekovic & Janssens, 1992; Eisenberg et al., 1996). It is at this age when children are sensitive to understand other’s needs, and find solutions to overcome problems (Dunfield, Kuhlmeier, O’Connell, & Kelley, 2011). To develop prosocial behavior it is necessary that children are able to distinguish their own emotional states from others, and they also understand other’s needs. Then they share valuable resources to overcome problems or fulfill others’ needs and become more supportive and responsive. Their prosocial behavior and empathy have important implications by cognitive changes and socioemotional development (Eisenberg, Spinrad & Morris, 2013). As a consequence, children become more motivated to act pro-socially (Brownell, Svetlova, & Nichols, 2009; Hoffman, 2007; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). Prosocial behavior allows them to explore their physical and social environment more independently and the outcomes of their performance effect their satisfaction. It has been shown in experimental studies, that prosocial behavior in children is associated with QoL, self-esteem, and self-satisfaction (Gebauer, Riketta, Broemer, & Maio, 2007; Martin & Huebner, 2007). Succeeding in their use of prosocial behaviors makes them recognize that ‘I know I have abilities or I am a valuable person who can help one another’. This association also occurs more frequently in a school setting (Solomon, Battistich, Watson, Schape, & Lewis, 2000). As Anderson and Costello (2009) described, children’s abilities to consider other’s internal states, needs and prosocial behavior is a source to ensure other’s and own well-being. But there are few intervention studies which promote children’s prosocial behavior. Additionally as a methodological issue, these experimental studies demonstrated in test situations in which the instructor conducts a whole program, they aimed at specific prosocial behaviors, or with teachers evaluating children’s performance (Brownell, Rammani, & Zrewas, 2006; Brownell, Svetlova, & Nichols, 2009; Eisenberg-Berg & Lennon, 1980; Hawley, Little, & Pasupathi, 2002; Rheingold, Hay, &West, 1976; Yarrow et al., 1976). However prosocial behavior can be a more independent act in natural school settings and demonstrated by student themselves. Prosocial behavior can be acted in a variety of ways and ideas depending on each child. We can expand the possibilities of children’s performance by using a more natural situation.

Another area that is recently gaining knowledge is metacognition which comprises planning, monitoring and evaluation (Flavell, 1979, 1987; Schraw & Dennison, 1994; Schraw & Gregory, 1998). It is individual ability to use prior knowledge to plan a
strategy for approaching a learning task, take necessary steps to problem solve, reflect on and evaluate results and modify one’s approach as needed. Previous research have shown that the abilities are rapidly growing in school aged children and they also improve academic performance through training of metacognitive skills (Brown & Smiley, 1977). Individuals with well-developed metacognitive skills can be more independent. Researchers have studied how children use metacognitive skills, for instance, in language learning (Anderson, 2008) and mathematics (Garofalo & Lester, 1985). These studies, among others, have focused on children’s objective learning outcomes. In the metacognitive strategies he/she is able to connect plan, act and evaluate oneself (Dirkes, 1985). The feeling of self-planning, decision and accomplishment might affect their self-satisfaction. Researchers have discussed the relationship between metacognitive skills and their QoL (Zimmerman, 2002). But few studies have been addressed and it has been pointed out that goal setting and self-reflection can raise children’s QoL.

Prosocial behavior and metacognitive strategies can be combined as an intervention program carried out in an everyday school context and in a way that is child-centered without any structured setting, expecting specific behavior, or instructions. Umino and Dammeyer (submitted) tested an educational intervention program focusing on children’s prosocial experiences and metacognition in a school setting. In the intervention program, children plan, do and reflect their own prosocial behavior themselves on a daily basis. The first evaluation of the program showed that the intervention had positively improved the Danish children’s overall QoL (Umino & Dammeyer, submitted). The study’s intervention program, children comprehend their own goals and assess not only how well they have done but also how much they are satisfied with their performance.

**Cultural differences**

This study investigated how children in different countries respond or give feedback to this intervention program. We compared Japanese and Danish children. The two countries mark distinctly different types with regard to children’s QoL. According to a report on children’s self-reported health by UNICEF (2007), 30% of Japanese adolescence up to the age of 15 agreed with the statement “I feel lonely”, which is almost three times higher than the next highest-scoring country. Additionally, the percentage of Japanese young people saying “yes” to the statement “I feel awkward and out of place” was above 15%, which was the highest score out of 24 OECD countries. But in contrast, almost one-fifth of Danish children agree with the statement “liking school a lot”, 90% agree that they are highly satisfied with their school life, and only 5% agreed with the statements “I feel like an outsider or left out of things” and “I feel lonely”. The proportion answering “yes” to “I feel awkward and out of place” exceeded 15%. Furusho (2009) proposed reasons for Japanese children’s low self-esteem, (1) large average class size drives teachers underground to support students who need it, (2) strong hierarchical relationships between students and teachers make students more likely to be afraid to behave naturally, hiding their worries and feel throttled, (3) bullying and truancy are defined as severe problems (Ministry of Education, 2015), (4) teachers are more focused on student’s basic academic skills and encouraging children’s home work (Benesse Education Research and Development Center, 2006; 2014). Danish teaching methods focus on cooperative learning activities which include experimental, play and creative activities in the learning process as a means to improve learning. Teaching is based on discussion
rather than instruction and peer-cooperation instead of competing for grades (Dolin, 2007; Ministry of Higher Education and Science, 2015). However the educational methods are not reflected in student’s academic achievement level (OECD, 2014); compared to Japanese children’s high academic achievement, Danish school children score lower. Summing up, the different children’s self-esteem and educational cultures might indicate differences in children’s perspective, behavior and their teacher’s attitudes toward this study’s intervention program. Nevertheless, we hypothesis that even if they have different perspectives and behaviors, QoL will be improved in both countries.

Methods

Participants
The data collection and intervention was administrated at different primary schools in Japan and Denmark. Thirty-five 6th grade native Japanese students (49% boys; $M = 11.5$ years of age, $SD = 0.46$) from one school. Forty-five 5th grade Danish students (50% boys; $M = 11.9$ years of age, $SD = 0.68$) from two different schools and were native Danish speakers. Parents of all children signed a written informed consent form of participation before the intervention.

Intervention program
The children were supposed to do prosocial behavior by using their strength during the school day at a time in the day that suits the child. During the intervention, they wrote a planning and reflection sheet to plan and reflect their prosocial performance. The sheet consisted of three pages, one for every Monday, Wednesday and Friday. On the Monday page, the children set up a goal of how they want to help or do something nice for their class mates. They had to write up goals. The pages for Wednesday and Friday were self-reflection where the child reflects his/her prosocial performance from three perspectives: (1) objectively: how well they have done their own performance, (2) subjective satisfaction: how much they feel satisfied with their performance, (3) other’s perspective: how they think others perceive their performance. The response categories were 1 = poor, 2 = fair, 3-good, 4 = very good, 5 = excellent. The intervention lasted 10 weeks.

Questionnaire
Self-rating scales were filled out by the children at the start and end of the intervention in order to investigate the effects of the intervention with regard to QoL. The Health-Related Quality of Life in Children and Adolescents Revised Version (Kid-KINDL$^{R}$; Bullinger et al., 1994; Ravens-Sieberer & Bullinger, 1998): (1) physical well-being, (2) emotional well-being, (3) self-esteem, (4) family (5) friends and (6) everyday functioning. High scores indicate good QoL.

Children’s perspective regarding prosocial behavior
To assess the children’s perspectives of prosocial behavior, they were asked two general questions at the start and end of the intervention program: “Do you want to help others?” and “Do you want others to help you?”. The children were asked to respond to the statement using a five-point Likert scale with the categories: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always.
Coding of children’s prosocial behavior
Prosocial behavior and what each child wrote on the sheets were coded into the categories defined by Barrett and Yarrow (1977), Brownell, Svetlova, and Nichols (2009), Dunfield, Kuhlmeier, O’Connell and Kelly (2011), and Serow and Solomon (1979): (1) happy: praise, reassurance, comfort or encouraging others physically and verbally, express sympathy or affection, (2) protect: protect or defends others, (3) jokes: making others laugh with a joke, (4) inquire: pay attention to other’s motives, feelings or perspectives, (5) greet: salute others with a nice way or respond warmly to others, (6) materials: sharing materials, (7) turn: give others a turn, (8) join: invite others to join in or work together, (9) knowledge: shares one’s knowledge, skills, or ideas with others, (10) chores: do classroom chores or roles, (11) cleaning: keeping classroom or materials clean or tidy, (12) teaching: teach academic information, solve the problem or substantive help, (13) help: help others or ask others for help, (14) quiet: ask others to be quiet during lesson.

Written essays
Children’s essays that they wrote at start and end of the intervention program were evaluated. Two university students for each country’s essays, blind to the study purposes, rated the quality of writing by means of a 5 point Likert scale. Danish written essays were evaluated according to the general aim of Danish language learning at school of Denmark (Fælles Mål 2009) and criteria in the national guidelines (Fælles Mål 2009). The Japanese written essays were evaluated according to general aim of Japanese language learning at school (curriculum guideline, 2008).

Interrater reliability
The reliability of the agreement rate of coding of children’s prosocial behavior and grammatical accuracies for essays was evaluated by comparing ratings of the two raters independently for each of the parameters. Kappa statistics with quadratic weights were used to evaluate the degree of agreement (Fleiss & Cohen, 1973). According to Fleiss and Cohen (1973) a Kappa coefficients of <.40 is fair, .41 to .60 is moderate, .61 to .80 is substantial, and >.81 almost perfect. Interrater reliability for the parameters in coding children’s prosocial behavior was more than .60 and written essays evaluations were all between .55 - .82.

Teacher’s role and interview
The author interviewed with all teachers at the beginning, middle and end of the intervention with a focus on their experiences and perspective of the intervention program and the children.
Results

One hundred percent of the QoL self-reported questionnaire was answered by the children of both countries. One hundred percent of the two questions concerning prosocial behavior were answered as well. Eighty eight percent of all written essays were returned from the Japanese children and ninety three percent of all written essays were returned from the Danish children.

Effect of the QoL questionnaire at end of the intervention program
The emotional well-being subscale of the Kid-KINDL$^R$ was significantly higher ($t(32) = -2.13, p < .05$) at end of the intervention compared to the start among Japanese children. Danish children also showed a significantly higher total score on the Kid-KINDL$^R$ ($t(41) = -2.03, p < .05$) and the self-esteem subscale of the Kid-KINDL$^R$ ($t(41) = -3.41, p < .01$).

Children’s prosocial behavior in two countries
Inquire, greet, join, chore, and clean category of Japanese children’s goal setting were significant higher than Danish. Whereas teach, help and quiet category of Danish children’s goal were significant higher than Japanese. Overviews of the results with respect to country are shown in Table 1.

Table 1: Comparison of scores on goal setting by Japanese and Danish children, respectively, at start and end of the intervention program

<table>
<thead>
<tr>
<th>Group</th>
<th>Japanese</th>
<th></th>
<th>Danish</th>
<th></th>
<th>df</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inquire</td>
<td>.20</td>
<td>.484</td>
<td>.00</td>
<td>.000</td>
<td>29.0</td>
<td>2.26</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Greeting</td>
<td>2.73</td>
<td>2.60</td>
<td>.00</td>
<td>.000</td>
<td>29.0</td>
<td>5.76</td>
<td>&lt;.000</td>
</tr>
<tr>
<td>Join</td>
<td>1.38</td>
<td>2.12</td>
<td>.33</td>
<td>.577</td>
<td>37.7</td>
<td>2.63</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Chores</td>
<td>1.22</td>
<td>2.15</td>
<td>.10</td>
<td>.436</td>
<td>34.8</td>
<td>2.87</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Clean</td>
<td>.69</td>
<td>1.66</td>
<td>.05</td>
<td>.218</td>
<td>32.63</td>
<td>2.16</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Teaching</td>
<td>.31</td>
<td>.738</td>
<td>1.14</td>
<td>1.35</td>
<td>27.89</td>
<td>2.57</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Help</td>
<td>.63</td>
<td>.907</td>
<td>2.14</td>
<td>1.82</td>
<td>26.56</td>
<td>3.54</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Quiet</td>
<td>.03</td>
<td>.177</td>
<td>.71</td>
<td>1.27</td>
<td>20.51</td>
<td>2.45</td>
<td>&lt;.05</td>
</tr>
</tbody>
</table>

Children’s perspective regarding prosocial behavior
Scores on the question “Do you want to help others?” was rated significantly higher among Danish children compared to Japanese children at the start ($r_i = .72, p < .001$) and at the end ($r_i = .10, p < .01$) of the intervention program. In contrast, the questions “Do you want others to help you?” was rated significantly higher by Japanese children compared to Danish children at the start ($r_i = .92, p < .001$) as well as at the end ($r_i = .10, p < .01$) of the intervention.
Written essays
There were not significant differences between start and end of the intervention of both countries’ children.

Teacher’s attitude
Due to school or class events, the intervention program was suspended in both countries a few times. Japanese teachers constantly expressed that they were terribly sorry in regard to not following the intervention, meanwhile Danish teachers just reported that they temporarily had to halt the intervention. The teachers were only asked to hand out the planning and reflection sheets to the children and remind them to complete it, but nothing else. Nevertheless, Japanese teachers collected the papers from the students every week. The teachers explained that they wanted to make sure that all students completed the sheets and carried out the prosocial performance. In contrast, the Danish teachers simply handed out the paper to the students as they were instructed to do. Further, they only occasionally reminded the students to write in the sheets, and often forgot to do so or simply did not find the time for it. Further, a Japanese teacher left comments on all children’s sheets such as “you have to do it (helping others) harder!”, “keep going!”, and “keep it up!” despite that the teachers were not asked to do so.

Discussion
The intervention program which contains prosocial experiences and metacognitive strategies of self-planning, acting and reflection had a positive impact on both children’s overall well-being of QoL despite that their writing skills were not improved in the ten weeks. The association between prosocial behavior and positive well-being is in line with previous research (Gebauer, Riketta, Broemer, & Maio, 2007; Martin & Huebner, 2007; Solomon, Battistich, Watson, Schape, & Lewis, 2000). We found not only an improvement in QoL but also differences in the children’s goal setting in relation to the intervention program. Japanese children’s goal setting was more likely to improve the learning environment or comfort others while Danish children’s goal setting involved helping or teaching others directly. A likely explanation may be that of Furusho (2009) and Ishikawa, Sato, & Sasagawa (2009); 1) Japanese children prefer their own inner contentment by other’s treatment instead of doing for other’s concrete benefit, 2) their relative lack of experience in helping others with their own idea (independently) in school setting, or 3) they were afraid to do the acting autonomously due to educational culture. Danish children’s goal setting can also be considered in connection to their experiences in school with teacher’s teaching methods. Children’s different perspectives regarding prosocial behavior (if they want to help others or if they want to be helped by others) were also found. In contrast to Danish children, Japanese children preferred others help instead of helping others. Ishikawa, Sato, & Sasagawa, (2009) pointed out that Japanese children are expected to be well-behaved, disciplined and strictly follow the school’s rules. Their study also suggested that adults of western culture expect children to develop autonomy from heteronomy in a child’s growth and development. Presumably, Danish children might be encouraged to behave the way they think with their own motive, judgement and desire in every single situation and teachers and parents maintain a permissive attitude towards them. It follows that Japanese educational culture may be related to children’s passive and non-directed behavior toward others, whereas Danish children’s more directed behavior. The different teacher’s attitude
might effect on children’s attitude or mental state. Whereas Japanese teachers tried to maintain children’s motivation to carry out the intervention program or moving the program forward successfully by collecting, checking and commenting on their working sheets. But that behavior might have influenced children’s attitude or motivation toward this intervention program. Research has shown that teachers’ behavior has an impact on student’s motivation (Christophel, 1990; Urdan & Schoenfelder, 2006; Reeve, 2009). We carefully explained to teachers what was expected of them and the purpose of intervention program to set a similar condition in different country for future study. However both children’s Qol was improved even if they have different educational cultures such as children’s goal setting, perspective of prosocial behavior, and teachers’ attitude. Additionally, this child-centered intervention program can be considered an easily applicable approach which takes virtually no time at all, never interrupts daily school lessons nor requires teacher’s to invest extra time and labor, and it was not needed to train teacher to conduct the intervention program. More research is needed to clarify the each country’s children’s psychological traits and associations with their educational culture and teaching methods.

The main limitations of this study were the small sample sizes. More subjects in both countries are needed using a similar intervention program to investigate if and which parts of the intervention are effective and how educational culture plays a part. We also need to make sure children understand prosocial behavior and the reflectin system. To examine precisely the effect or the intervention program a control group could be essential, a group which belongs to the same school and same grade but different class.

**Acknowledgements**

I would like to thank the all children and teacher who made this work possible.
References


**Contact email:** umino.ayumi@psy.ku.dk