Preparing for school in Norwegian daycare centers: Developing self-regulatory and social skills among young children to promote equal opportunities for learning

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1. Relevance

The Norwegian daycare centers (barnehager) have recently been incorporated into the Norwegian Ministry of Education and Research. Life-long learning has been introduced as a goal, and daycare centers are now to focus even more of their efforts towards preparing young children for school entrance. An intriguing question in this regard is what daycare centers should prioritize when it comes to preparing children for school. What would be the most appropriate content of early interventions that aim at enhancing children´s school performance? As will be described more closely in this research proposal, the international research literature suggests that young children´s attention skills, ability for self-regulation, and positive relationships with teachers and peers seem to be predictors of achievement and adjustment in early school years. In many ways learning to learn, focus and relate to others seem just as important as (or maybe even more important than) cognitive abilities and skills achieved during daycare years. Factors that may reduce young children´s chance of succeeding in school include: children's socio-emotional problems, parental education, family economy, minority background, parental divorce, a poor relationship between the child´s home and school/daycare, and other stressful factors. In what way can Norwegian daycare centers *compensate* for such vulnerability among young children and contribute to social equality?

This research project aims at looking more closely at these possible predictors and inhibitors of learning among young Norwegian children. The present proposed research project seeks to reply to central topics in sections A and D in the work program for "Norwegian Educational Research towards 2020 (UTDANNING2020)". In relation to section A we seek to meet the challenge related to gaining knowledge about the impact of daycare on children's learning and development. In relation to section D we intend to focus on social background's possible negative effects on learning, but also on equalizing children's opportunities by developing an intervention that is intended to help enhance the possibility to succeed in school for all children – especially children that are disadvantaged in various ways as they enter into school. International literature suggests that interventions directed towards helping this group need to be targeted at specific, well-documented pedagogical areas in order to have a chance to make a difference. These areas (attention, self-regulation, and relational skills towards teachers and peers) will be closely studied in the present project, both through a multi-informant multivariate longitudinal design, through supplementary Q-studies and qualitative studies, and by developing and piloting an intervention directed towards enhancing children's abilities within these fields.

2. Aspects relating to the research project

(The objectives are described in the grant application form.)

2.1. Background and status of knowledge

Norwegian daycare centers – need for new research and new approaches

International research points towards positive long-term effects of early pedagogical efforts (especially for deprived children) when it comes to education, employment and income (see Mogstad & Rege, 2009). Early intervention is essential in central Norwegian documents (Kunnskapsdepartementet, 2006b; Midtlyng et al., 2009). The new National Framework Plan (Kunnskapsdepartementet, 2006a) focuses on the quality of the relationships between staff and children. A need for evidence based knowledge and practice in daycare centers is emphasized (Kunnskapsdepartementet, 2009) and so is a systematic mapping of young children`s adjustment and development (Flatø et al., 2009). In a report looking at Norwegian pedagogical research it is concluded that qualitative research methods strongly dominate this field (Askling, Egelund, Englund,

Halldén, & Hansén, 2004). Another report looking at Scandinavian research in daycare institutions concludes that qualitative research is the most common and that quantitative studies are rare and mainly characterized by simple descriptive presentations of data (Nordenbo, et al., 2008). Also The Research Council of Norway's (RCN) program UTDANNING2020 calls for quantitative projects. We intend to meet this challenge. The Center for behavioral research (CBR) has a long tradition of applying quantitative research designs, and has conducted both large scale quantitative data-collections (The school environment assessment) and advanced statistical analysis previously (see CVs). In the proposed research project we aim at gaining comprehensive knowledge about factors related to learning among Norwegian daycare center children as they enter into the first grade of school. In order to elaborate on complex connections between predictors and inhibitors, and on the most influential factors, we will conduct a longitudinal, multivariate quantitative study, in addition to qualitative and Q-methodological studies with subgroups of the involved participants. Several sub-themes will be studied, see the section on "Hypotheses".

Factors that may predict learning
What are the most important factors to predict learning in school? Is it to start to teach children their ABCs at a very young age or can other factors also be important? There is a growing body of international research that points to early attention skills and self-regulation skills as being crucial for children's early learning. Work related skills (e.g. independent work, and compliance with work instructions) have been found to be important for academic outcomes both at school entrance and at the end of second grade (McClelland, Morris, & Holmes, 2000). Behavioral regulation in preschool has been found to predict kindergarten literacy, vocabulary, and math skills. Moreover, growth in behavioral regulation predicted growth in emergent literacy, vocabulary, and math skills over the prekindergarten year (McClelland, et al., 2007). Lack of sustained attention during preschool has been found to be a possible explanation for how family environment affects school performance (NICHD Early Child Care Research Network, 2003). Nathanson, Rimm-Kaufmann, and Brock (2009) found that lax parental control combined with low levels of inhibitory control in children gave especially high scores on adjustment problems in kindergarten.

A recent study found that early behavior regulation was positively related to academic performance and classroom behavior in school. In this study behavior regulation seemed to be relatively more important than intelligence for academic progress even at a very early age (von Suchodoletz, Trommsdorff, Heikamp, Wieber, & Gollwitzer, 2009). Another study showed that task accuracy served as a protective factor, where children with high task accuracy performed well academically despite a lack of positive teacher-student relationships. On the other hand, positive teacher-student relationships served as a compensatory factor for children with low task accuracy (Liew, Chen, & Hughes, 2010).

Some research suggest differences in learning strategies among children that are highly able in comparison with normal and low performing children (Barfurth, Ritchie, Irving, & Shore, 2009). It is necessary to identify target processes like attention skills, self-regulation, task orientation, that distinguish children with high achievement, and to discover the correlates, predictors and consequences of these processes. High achieving children are known for having exceptional level of performance on the skills mentioned above (Gross, 2009; Moss, 1992). Preschool high achievers may give us insight into efficient learning strategies and self-regulatory skills that may be adopted into teaching for all children. In this project we will enlighten self-regulatory strategies and learning strategies among these children in an effort to gain knowledge that can be utilized in future interventions.

Research indicates that executive attention (executive functions are related to self-regulation) improves strongly during early childhood (4 – 6 years), and that this development is partly under genetic control. However, it also appears to be affected by educational intervention during this period

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(Rueda, Rothbart, McCandliss, Saccomanno, & Posner, 2005). A recent study showed that children with low initial self-regulation in the intervention group, showed significant improvements in self-regulation, and it was also found that all children in the intervention group demonstrated significantly stronger gains in reading over the preschool year (Tominey & McClelland, Submitted). Thus, there seems to be a potential to compensate for poor executive attention and self-regulation by introducing an educational intervention.

Healthy relationships are related to well-being and learning among children. The teacher-child relationship quality seems to be associated with changes in skill levels (Pianta & Stuhlman, 2004). Teacher-child closeness during kindergarten has been shown to be associated with academic performance in school (Birch & Ladd, 1997). Conversely, relational negativity in kindergarten (teacher-child) has been found to be related to negative academic and behavioral outcomes through eighth grade (Hamre & Pianta, 2001). Children's relationship to other children also seems to have impact. Peer acceptance during kindergarten promotes increased academic achievement (Buhs, Ladd, & Herald, 2006). Conversely, peer rejection in kindergarten may lead to peer abuse and peer exclusion in school and subsequent school avoidance and classroom disengagement (Buhs, et al., 2006). Thus, besides self-regulation and attention among young students, a positive teacher-child relationship and positive relationships to other children seem to be of utmost importance for children's learning and development (see Downer, Booren, Lima, Luckner, & Pianta, 2010). *In summary,* these three broad themes; (1) self-regulation (including subthemes such as attention, inhibitory control, and task orientation), (2) relationship with teacher, and (3) relationships with friends will be central *both* in the proposed research project and in the daycare intervention that will be developed in this project. The development of the intervention will be based on findings from studies in the present project related to these themes, and on relevant international studies.

Background factors that may inhibit learning
Several background factors related to the child and family are known to inhibit learning. A recent study showed that social withdrawal during kindergarten was related to chronic peer exclusion from kindergarten throughout fourth grade and that this had negative impact on school attendance and school achievement (Buhs, et al., 2006). The social transference of low education from parents to children is thoroughly described by Mogstad and Rege (2009). Lax parental control has been found to give school adjustment problems in early years (Nathanson, et al., 2009). Parental divorce is associated with academic problems (Amato, 2001; Potter, 2010; Størksen, Røysamb, Holmen, & Tambs, 2006; Størksen, Røysamb, Moum, & Tambs, 2005). Children with a minority background show poorer results in school than do children of native Norwegian background (Taguma, Shewbridge, Huttova, & Hoffman, 2009) and they can also show other kinds of psychosocial adaption problems (Fandrem, 2009).

Need for research
There is a need for more Norwegian quantitative research in the above mentioned areas (predictors and inhibitors), since most daycare research in Norway has been based on qualitative studies. Our research project will have the potential to enlighten many possible predictors and inhibitors of learning and how they interplay in a Norwegian daycare setting. However, a special attention will be given to attention and self-regulation and social relationships with teachers and peers as possible mediators between a disadvantaged background and risk for school failure. Research from other countries indicate that disadvantaged background factors may lower children`s ability for attention and that this may affect school performance (NICHD Early Child Care Research Network, 2003). However, there is still a need for more research on whether children with a disadvantaged background are at risk for early school failure, and whether this may be explained by poor attention, self-regulation and relationship skills. Finally, a few studies from other countries indicate that self-regulation can be trained (e.g. Tominey & McClelland, Submitted). Piloting a similar intervention in the Norwegian daycare setting may give preliminary results related to the practical field, and such an

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intervention could be followed up in subsequent experimental studies. Sektnan, McClelland, Acock, and Morrison (2010 - article in press) found that among young children with the same number of risk factors, those with higher behavioral regulation managed better academically. Since we know that these factors can be affected by intervention (Tominey & McClelland, Submitted), this research points to promising possibilities. More research in these areas is needed. Our intention is that the present study will be *a first step towards an evidence based intervention* targeted at the most crucial areas for young children's learning. We intend to seek future funding to evaluate the proposed intervention experimentally, either from PraksisFou, Utdanning2020 or other sources.

2.2. Approaches, hypotheses and choice of method

Hypotheses

(1) Individual and environmental background factors seen already in daycare - such as children's socio-emotional problems, parental education, family economy, minority background, parental divorce, single parenthood, and other stressful factors - may affect children's attention skills, ability for self-regulation and relational skills, and thereby reduce young children´s ability to succeed in school. (2) Young daycare children´s cognitive abilities, attention skills, ability for self-regulation, and positive relationships with teachers and peers will predict successful school achievement in first grade. (3) Pilot testing of a daycare intervention aimed at enhancing young children's attention skills, ability for self-regulation, and positive relationships with teachers and peers will indicate a potential for such an intervention to enhance children's abilities in these areas, as well as, for improving school achievements.

Summing up the project's possibilities; in this study we want to explore how the possible predictors and inhibitors of successful school achievement interplay. We also consider it very interesting and important to explore young children´s own subjective opinions of their own learning strategies and self-regulation abilities, and the self-regulation, attention, and social relationships among high achievers. The results from this project and results and findings from other countries will help us develop a feasible intervention that will be piloted in the current project. We have high expectations that the new knowledge generated through this project will have impact for the practical field, for Norwegian preschool teacher educations, and for the scientific field related to early education.

Approach and study design

In order to address the above-mentioned hypothesis and research topics we will apply a combination of longitudinal and experimental quantitative design and additional Q-studies and qualitative studies (will be described later). The longitudinal design is necessary in order to investigate the predictive properties of the factors studied. There will be two data collection points included in this currents study (T1 and T2; last year of daycare and first year of school), and we will seek the possibility to expand with one more data collection (T3; second year of school) given that we manage to establish a financial foundation for this. A total of 250 children aged 5 years old from Norwegian daycare centers will be included in the study. The children will be followed as they enter into school. Power analyses for multiple regression including 8 predictors and power $(1 – ß)$ set to .80. indicate that a sample of 250 will make it possible to detect even relative weak associations. *Please see Table 1 for general study design*.

Daycare centers will be recruited from the South-West area of Norway. The CBR has a widespread network of collaborating daycare centers and schools in this area from previous practical work and research. Parents that are willing to let their 5 year old children participate in the study will be asked whether we can follow the children into 1. and possibly also 2. grade of school.

Table 1. *General study design: T1, T2, Intervention, Q-studies.*

Spring (2011)	Fall (2011) last year of daycare for target group	Spring (2012) last year of daycare for target group	Fall (2012) first year of school for target group	Spring (2013) first year of school for target group	Fall (2013)
Plans for data collection: • Arrange workshop with international contacts • Select scales and measures • Apply to REK • Apply to NSD • Establish contacts with municipalities • Inspirational lectures to inform and recruit daycare centers and parents	Continue making plans for data collection: • Pilot scales and measures • Standardize data-collection and scoring procedures • Work towards a feasible package of tests and scales that will not overwhelm participants • Make practical arrangements with daycare centers	**T1 (data-collection)** • Data on attention, self-regulation, and relational skills, and on relevant background variables • Data collection from 250 children, and their teachers and parents	Plans for new data collection: • Arrange workshop with international contacts • Select scales and measures • Possible need for adjustment of descriptions to REK and NSD • Make arrangements with schools • Arrange for and plot data in SPSS	**T2 (data-collection)** • Attention, self-regulation, relational skills, achievement in reading, mathematics and language • Data from 250 children, and their teachers and parents	Analyses and publication from main (quantitative) study: • Arrange all data in SPSS • Conduct multivariate statistical analyses • Write out papers and articles • Apply for continuous funding
Q studies with sub-groups of the children to enlighten children's own perceptions of self-regulation and learning. Qualitative studies with especially gifted. **Develop, pilot and evaluate intervention.** Publication from supplementary Q studies and qualitative studies.					

Scales and Measures

Well-known and well-validated quantitative scales will be applied in the data-collection points of the longitudinal quantitative study. One of the first activities of the project will be to arrange a workshop where we will invite our national and international collaborators to work with us on study design, scales, and on the development of the intervention. A suitable battery of tests and scales will be carefully elaborated for each of the data-collection points that gives rich information of the children, their background and development, without exhausting the children and their families during data-collection. Attention, self-regulation, and relationships with peers and teachers will be measured at all data-collections. In the first assessment background variables will be gathered. When the children reach school (T2), we will gather information of their learning outcomes. We will draw upon the comprehensive experience from all our collaborators at CASTL, from Dr. McClelland and her colleagues, and from Dr. Rimm (see international collaborators below).We have also previously collected data from very young children ourselves in the Bambi-project (www.uis.no/bambi). Based on this experience (see Thorsen & Størksen, 2010) we will limit each data-collection session with each child to a maximum of 1 hour. We will make an effort to elaborate a test situation with the children that they can easily engage in, i.e. by including some computer based tests or tests that are based on games or play. Table 2 includes various tests and scales that might be included in suitable batteries for each data-collection point. Data will be gathered from children, their teachers and parents. Granted permission from NSD we will seek the possibility to link the data from this study with register data.

Table 2. *Table of some scales and measures that are to be included in the study.*

Variable	Measure	Reference
Background data on child and family	Teacher and parent report in questionnaires	
Behavioral/emotional problems and symptoms and special strengths	Strengths and difficulties questionnaire (SDQ), Child behavior checklist (CBCL)	(Heyerdahl, 2003; Nøvik, 1999; Obel, et al., 2004)
Self regulation/attention	Activities/tests adapted from other studies, e.g.: Inhibiting activity / taking turn, "Delaying treat", Adaption of the	(Kochanska, Murray, & Harlan, 2000;

	Stroop Test, The Head –to-Toes Task, Continuous Performance Task	McClelland, et al., 2007)
Intelligence	Wechler Preschool and Primary Scale of Intelligence (WPPSI-R) Leiter	(Méio, Lopes, Sichieri, & Morsch, 2001)
Student-teacher relationship, Peer interaction, Task orientation	The Individualized Classroom Assessment Scoring System (InClass) or other measures of relationships	(Downer, et al., 2010)
Intervention	Dichotomous variable according to group	
Daycare & school characteristics	Reports from daycare and school personnel (e. g. size of group/daycare/school, and age and gender of teacher)	
Achievement in school (To be included in the battery for children when they reach 1. grade of school)	Norwegian conventional school tests, e.g.: Carlsten-testen, "Alle Teller!", "Nye rådgiveren" and Numicom	

Quantitative analysis including Structural equation modeling (SEM-analyses)
Complex multivariate developmental models will be tested within the framework of structural equation modeling (SEM) and through multivariate regression models. The research group is experienced in these frameworks (Bru, Stephens, & Torsheim, 2002; Hagtvet, 1998; Idsoe, Hagtvet, Bru, Midthassel, & Knardahl, 2008; Kim & Hagtvet, 2003). The programs employed by the research group are Mplus (Muthén & Muthén, 2010), Lisrel 8.80 (Jöreskog & Sörbom, 2008) and Amos (Arbuckle & Wothke, 1999). SEM is a fruitful framework for path analyses, latent variable modeling (confirmatory factor analyses, path analyses) and growth modeling. SEM can for example be used to 1) model growth processes for the study of variables over time-points and see how they are inter-related, 2) study how baseline self-regulation and relational scores affect learning over time, and 3) study how background variables affect learning over time. SPSS (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) will be employed for conventional regression analyses, analyses of variance, principal components analyses, and analyses of covariance.

Additional Q studies and Qualitative studies
Traditional research on children´s development has been criticized for being more concerned with valid and reliable child variables and scientific status than with children themselves (Greene, 2006). In the present study we will grasp the children's own subjective perspectives on learning and self-regulation among subgroups of the participants. Being aware of one's own strategies for learning may reduce stress and enhance coping (Lazarus, 1991). By studying the children's own perspectives on their learning and self-regulation with Q-methodology, the factors that are revealed can be seen in connection with the children's *actual performance on tests and scales* in the quantitative study. This will give us new insight into young children's conception of their own self-regulation and learning strategies, and whether this corresponds with parents' and teachers' perceptions on these issues as reported in questionnaires. In addition, Q results can enhance the development of an intervention. We have good experience from Q-sorting with children from previous studies (Ellingsen, Størksen, & Stephens, 2009; Størksen, Thorsen, Øverland, & Brown, Submitted; Thorsen & Størksen, 2010) and we will also seek expertise from Prof. Montgomery and Prof. Kvalsund regarding this sub-study.

Concerning the study of high achievers, we will base this on a qualitative study of 5 year old especially gifted children. We plan to recruit a group of 10 - 20 children by contacting organizations for especially gifted adults and children. While performing the same tests and games that we introduce for the children in the longitudinal study, we will ask the children to describe their strategies for solving the problems included in the tests. These qualitative descriptions may give us insight and ideas for age appropriate strategies and self-regulatory skills that can be adapted in various ways and brought into the intervention for all children. Results from this qualitative study and from the Q studies described above will be published as sub-studies in this project.

Developing and piloting an intervention
In order to explore more of the possibilities the findings may give for the Norwegian daycare context, we will develop an intervention that will be piloted and evaluated in a qualitative sub-study in this

project. The CBR group has previously developed successful programs for schools (e.g. RESPEKT and ZERO, see www.uis.no/saf). Development of this intervention will be done in close collaboration with our contacts at CASTL, with McClelland's research group, and Dr. Rimm, see international collaborators. The intervention will contain training and guidance for daycare personnel regarding ways of enhancing healthy relationships between children and between children and teacher, and also training and guidance related to self-regulation and attention among children. The intervention will also contain exercises to promote these skills among the children. Based on resent research on training of self-regulation through the intervention "Red light, purple light" (Tominey & McClelland, Submitted), and based on experiences from the Social and Academic Learning Study http://www.responsiveclassroom.org/pdf_files/sals_booklet_rc.pdf (Rimm-Kaufman, 2006), and from a web-based professional development resource on teacher-child interaction in pre-kindergarten (MyTeachingPartner, http://www.myteachingpartner.net/) (Pianta, Mashburn, Downer, Hamre, & Justice, 2008), and other programs such as "Tools of the mind" (Barnett, et al., 2008), we will adapt ideas and elaborate and pilot an intervention that may be suitable for Norwegian daycare centers.

2.3. The project plan, project management, organization and cooperation

The project will be conducted in accordance with the "Main activities and milestones" as listed in the E-application. The core-group is located at CBR at the UiS, and main activities will be conducted in daycare centers and schools located in the South-West of Norway. *Associate Professor Ingunn Størksen* will direct the work in close collaboration with the core-group at CBR. Størksen has her training and PhD in psychology, and has focused her research on parental divorce and emotional, behavioral, and educational adjustment among children, adolescents, and adults. She has worked both with quantitative and more qualitative/Q-methodological research approaches, see CV. She has previously directed two projects funded by the RCN; a R&D project with focus on daycare children and parental divorce (www.uis.no/bambi) and a Q-conference in 2009. *Edvin Bru* is a Professor within Educational Psychology. He has directed and participated in several research projects within special education and other fields. He has supervised several PhD projects, and he has specialized over many years within quantitative methodology. *Associate Professor Arlene Arstad Thorsen* has her training as a preschool teacher and she has her master and PhD in the field of special education. Thorsen has been one of very few researchers that have applied Q methodology in Norway, and has recently edited a book on Q (Thorsen & Allgood, 2010). She has also previously worked with the transition from daycare to school. *Associate Professor Elena Maria Cosmovici* has her education and her PhD in psychology, and has specialized on gifted children. *Associate Professor Thormod Idsøe* has a master degree and PhD in psychology. He has specialized on traumas related to bullying. Idsøe is very competent in all psychometric questions, and has a broad experience with SEM-analyses. *Unni Vere Midthassel* is the director of the CBR. She has her training and PhD within special education, and has done research on efficient implementation strategies for school programs. *Associate Professor Hildegunn Fandrem* has her training and PhD in the field of special education, and she has specialized on adjustment among immigrant children. *Christina Salmivalli* is a Professor II at the CBR, and has an outstanding career of publishing and conducting comprehensive longitudinal research projects. As can be seen, this core group consists of highly qualified researchers in relevant areas. We also collaborate with other excellent and very competent researchers.

National collaborators include: *Professor of Economics Mari Rege* (UiS) currently directs the VAM project "Early Intervention and Social Mobility: Improving the Opportunities of Disadvantaged Children" which is very related to the present project. *Professor Knut Hagtvet* (UiO) was one of the first to introduce SEM analysis in Norway, and he has very high competence in conducting such research. *Professor Rangvald Kvalsund* (NTNU) was one of the first to introduce Q methodology in Norway and most of his research in the field of counseling is based on this research method.

International collaborators include: *Associate Professor Sara Rimm-Kaufmann* who directs the University of Virginia Social Development Laboratory at the Center for the Advanced Study of

Teaching and Learning (CASTL), University of Virginia. She conducts research on children's social and academic growth in early years in ongoing studies such as the Responsive Classroom Efficacy Study and the Early Learning Study with focus on self-regulatory competencies in kindergarten and first grade. *Senior Scientist Jason Downer* (CASTL) focuses on improving teacher-child interactions in early childhood classroom contexts, and the transition from preschool through kindergarten to first grade. *Senior Scientist Andrew Mashburn,* also at CASTL, is engaged in Pre-k policies, contextual influences on development, and educational measurement. A current research project both Downer and Mashburn are participating in is MyTeachingPartner (MTP), providing teachers with professional development resources to help young children to succeed. Arlene A. Thorsen at the CBR has previously worked at CASTL for three months, and has had continuous contact with this very competent research group. *Dr. Sylvia Rimm,* Family Achievement Clinic, and Clinical Professor at Case Western Reserve University School of Medicine, USA, is a psychologist and author who has devoted much of her time to gifted children, underachievement, raising resilience and guiding children towards achievement. *Associate Professor Megan McClelland,* Oregon State University, USA has focused her research on optimizing children's early social and cognitive development, and on school success. This includes developing measurements of and an intervention for behavioral self-regulation and charting pathways to school readiness using multilevel growth curves and clustered data. *Diane Montgomery* is a Professor of Education at the Oklahoma State University, USA. She will contribute with her experience of using Q methodology in educational research. As can be seen, all the collaborators will have important contributions to make to our study (see also attached letters of support). The collaborators will be invited to a workshop in the very beginning of our project to support us to design a high quality study. This may enable comparative analyses between countries. They will also collaborate on the elaboration of a Norwegian intervention. Finally, our national and international collaborators will contribute to methodological questions and in the publication of results from the project.

2.4. Budget
The present project will be conducted by staff at CBR who will put into the project their research time financed by the University of Stavanger. Additionally we apply for funding to finance more research time for the core members and for a research assistant, and for funding of equipment, R&D-costs, and other operating costs, see Cost-plan in E-application. The data in this study are very expensive due to the fact that we need to personally meet and test approximately 250 children in the longitudinal study. We still believe that this investment is worthwhile because the area of investigation seems so important for the early education system in Norway.

3. Perspectives and compliance with strategic documents

3.1. Compliance with strategic documents. Early intervention as a platform for life-long learning is strongly emphasized by the Norwegian government both through a parliament report (Kunnskapsdepartementet, 2006b), through Norwegian Public Expositions (Flatø et al., 2009; Midtlyng et al., 2009) the Daycare Center Law (Kunnskapsdepartementet, 2005), and through the Framework Plan for daycare centers (Kunnskapsdepartementet, 2006a). A need for compulsory pedagogical activities in daycare is proposed by an expert panel that looked at ways to even out economical differences in society. International research points towards positive long-term effects of early pedagogical efforts (especially for deprived children) when it comes to education, employment and income (Mogstad & Rege, 2009). The new National Framework Plan (Kunnskapsdepartementet, 2006a) focuses on the quality of the relationships between staff and children and its influence on establishing and enhancing learning among children. A need for evidence based knowledge and practice in daycare centers is emphasized (Kunnskapsdepartementet, 2009) and so is a systematic mapping of young children`s adjustment and development (Flatø et al., 2009). The CBRs research program (program-område) aims at finding feasible working models for school and daycare centers in order to compensate for vulnerability among children. This proposed project fits very well with the

aim of the research program. The proposed research project in many ways serves as a continuation of our previous RCN research project (www.uis.no/bambi).

3.2. Relevance to society. As argued above, all efforts towards optimal school success for all children in daycare and school will be of great value for the Norwegian society, both on an individual, family, community, and national level.

3.3. Environmental perspectives. The proposed project does not represent a special threat towards the environment. However, the project will seek to consider environmental issues with regard to use of resources such as paper and transportation.

3.4. Ethical aspects. The project will be signed in for NSD (The Norwegian Social Science Data Services) and REK (The Regional Committees for Medical and Health Research Ethics) and all ethical guidelines will be strictly followed. Ethical considerations in research with young children have been highlighted in our other projects (Thorsen & Størksen, 2010).

3.5. Gender equality and gender perspectives. The balance between female and male researchers at CBR is quite good, and this is also reflected in the core group of this project. The project represents a possibility for several of the core group members to work towards Professor competence, including also female members.

4. Communication with users and exploitation of results

4.1 and 4.2 Communication with users and dissemination plan. Through CBR's existing network as a National competence-center there will be many possibilities to spread knowledge from this project throughout the country. The results will be published in national and Scandinavian vocational journals, international referee-based scientific journals, and through book chapters, newspaper chronics, master theses, seminars, conferences and our own Internet pages (www.uis.no/saf). There will also be set up a special web page for the project. CBR staff members teach at the masters and PhD level at UiS, and we have plans to expand our teaching to preschool education through courses and seminars.

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