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Procedia - Social and Behavioral Sciences 171 (2015) 820 – 829

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**Procedia**  
Social and Behavioral Sciences

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ICEEPSY 2014

## How does continuing training on social interaction skills benefit teachers?

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### Abstract

Teachers benefit from social interaction skills, and studying such skills is often recommended. In the present study, we explored whether comprehensive school teachers of Finland participating in the three credit follow-up training learned to use social interaction skills during the intervention. The studied skills were based on Gordon's theory (2003). The participants were 20 teachers who attended the training, and 20 teachers not attending the training. The effects of the intervention on teachers were examined by using the DCI-instrument (Talvio, et al., 2012). Qualitative, theory-driven content analysis was used to classify the data. The statistical differences between the pre-test and post-test scores were examined with the Wilcoxon signed rank test. After the intervention, teachers who participated in the training used significantly more active listening skills and communicated in constructive ways. In the comparison group, no differences between pre- and post-tests were perceived. To conclude, the teachers' course on social interaction skills appeared to achieve its goals, since the teachers learned to apply the studied skills during the intervention. This study adds to the development of continuing teacher training.

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Peer-review under responsibility of the Organizing Committee of ICEEPSY 2014.

*Keywords:* Teacher training; social interaction skills; Dealing with Challenging Interaction (DCI) method; content analysis;

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### 1. Introduction

Teachers interact with tens or even hundreds of pupils every day. In the classroom, their main task is undoubtedly to teach the subject matter. However, to be able to support pupils' learning in the classroom, teachers give feedback, encourage and comfort their pupils. In addition, it is important to deal with (or preferably prevent) pupils' behavioural challenges, such as off-task or sometimes even aggressive behaviour. Thus, teachers' contribution in helping students to collaborate with each other and participate in learning activities is essential. According to our previous studies, teachers need continuing education to be able to promote ideal social interaction in the classroom (Talvio, Lonka, Komulainen, Kuusela, & Lintunen, 2013; Talvio, Lonka, Komulainen, Kuusela, & Lintunen, in

press). In conclusion, teacher interaction is diverse in many ways and during a school day teachers need various skills to maintain successful interaction at school.

It is also important for a teacher to know what skills should be used in each situation. Hamre, Hatfield, Pianta and Jamil (2014) divided teachers' interactions in classroom into general and domain-specific elements. Domain-specific elements include teachers' proactive management and routines, motivational support and cognitive facilitation. General elements include specific features of responsive teaching such as cue detection, contingent responding and active engagement. It was suggested that both the elements in effective and targeted interactions are needed in contributing to children's learning and development (Hamre et al., 2014). Thus, competent teachers vary their ways of interacting according to the needs of pupils' growth.

Teachers' skilful ways of interacting with the members of the school community are not relevant only because of the interaction itself. Teachers are also role-models whose interactive behaviours show the pupils how respectful adults communicate and take care of problems (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Jennings & Greenberg, 2009). Thus, by looking at adults, pupils determine the appropriateness of the behavior (Bandura, 1977). For a pupil's growth, that example can be either positive or negative (Hurd, Zimmerman, & Xue, 2009). In addition, by using interaction skills, teachers create an autonomy supportive climate in the classroom and promote an atmosphere for students to feel included (Leroy, Bressoux, Sarrazin, & Trouilloud, 2007). For example, listening to pupils about their difficulties, instead of giving straight answers, help pupils to solve their own problems, and thus regulate their own learning. To conclude, the need for teachers' social interaction skills is vast, to enable taking care of all the tasks that the teaching profession demands.

With the concept of social and emotional learning (SEL) social interaction skills can be linked with learning and development in educational psychology. SEL is defined as a comprehensive approach to reduce risk factors, and foster protective mechanisms for positive life development. SEL includes the skills that are needed to regulate oneself and human relationships (Durlak et al., 2011). The proximal goals of SEL programmes are to foster the development of five components of SEL, namely, self-awareness, self-management, social awareness, relationship skills and responsible decision making (Collaborative for academic, social and emotional learning, 2014; Zins & Elias, 2006).

Teachers are able to improve their social and emotional competence through developing the components of their SEL. By improving their self-awareness, teachers learn to recognize their own emotions and emotional patterns, tendencies and own capabilities, as well as their own weaknesses and strengths. By developing their social awareness, they understand the emotions of others and also, how their emotions affect their interaction with others. By fostering their relationship skills, they are able to build strong and supportive relationships, and can effectively negotiate solutions to conflict situations. They are also culturally sensitive and understand perspectives of other people. Finally, teachers with good competence in social and emotional learning make responsible decisions that respect others involved (Jennings & Greenberg, 2009).

Gordon's theory (2003) provides concrete tools for improving teacher's competence of SEL. Humanistic psychology and its idea of individuals having the will to develop themselves influenced Gordon's thinking. By using tools provided by Gordon's theory, *receiving* and *sending* messages may be more effective. The skills taught include Listening skills, I-Messages and avoiding Road blocks. Active listening is a special method of a listening skill in which the listener reflects back to the speaker his or her understanding of what the speaker has said (Ivey, Bradford Ivey, & Zalaquett, 2009). An I-Message is a statement that describes the speaker's feelings and experiences (Adams, 1989). By using positive or confrontation I-Messages that are special cases of I-messages (Gordon, 2003), constructive feedback can be given. In contrast, messages that damage fruitful interaction are called Road blocks (Gordon, 2003).

Even though social interaction skills are basic and essential tools in the teaching profession, they are not necessarily thoroughly studied in teacher training (Lintunen, 2006; Scott & Nelson, 1999). According to Jennings and Greenberg (2009), the general assumption is that teachers adopt the social interaction skills as part of their teacher's role. Elliot et al.(2011) supported this, by suggesting that social interaction skills are part of the tacit knowledge of the teaching profession and are thus not, easily communicated, and therefore not systematically taught or studied. In any case, the lack of research in this field could possibly be explained by the lack of a scientific

approach to social interaction skills in teacher training. Since they are not considered as a part of pedagogical methods that can be developed, they are not worth researching.

Our previous studies (Talvio, Lonka, Komulainen, Kuusela, & Lintunen, 2012; Talvio et al., 2013; Talvio, Ketonen, & Lonka, 2014; Talvio et al., in press) indicated, however, that there are such interaction skills that can be learned and that will benefit teachers. The participants attended Gordon's Teacher Effectiveness Training (2014), and the quantitative and qualitative change in their knowledge and their applied knowledge were investigated. The TET course consisted of social interaction skills, such as listening skills and sending I-messages, which give feedback in constructive way, and avoiding so called road blocks that might hinder effective interaction i.e., judging and ordering. The results showed that teachers' constructive ways of communicating in challenging situations improved. During the interaction course, teachers learned the above-mentioned skills, and were able to apply the studied skills in given situations. In addition, teachers' ability in supporting pupils' autonomy improved. To conclude, teachers benefitted from training in social interaction skills. The skills also appeared to be somewhat sustainable, because after nine months, teachers still remembered the central skills, and were able to reflect their own behaviour from the perspective of the TET skills. Barton-Arwood et al. (2005) came to a similar conclusion. The participants were 22 female educators working at elementary or high school level. During one-day interaction training, the changes in participants' knowledge and their perceptions of their development in social interaction skills were tested. All their results indicated increased learning of the studied skills during the training.

There has been increased research in education about how emotional-regulation skills, social-cognition skills, and positive communicative behaviours are developed (Brophy-Herb, Lee, Nievar, & Stollak, 2007). Also, there is research available about interaction programs in school, but most of it is focused on the students (Lintunen, 2006). Active research in the area of social interaction skills is provided in health sciences, medical-, and communication education. According to a systematic literature review (Aspegren, 1999), communication skills can be taught and learnt during courses, but are easily forgotten if not habitually practiced. It was also found that basic skills can be learnt during a short period of training. Surprisingly little research exists about how teachers develop and improve social and emotional skills necessary for them to collaborate with each other, and facilitate pro-social behaviours with their students.

In the present study we explored whether the teachers participating in a follow-up training on social interaction skills became more competent in social and emotional learning (SEL). We have some evidence that the teachers participating in in-house training learned the studied skills (Talvio et al., 2013; Talvio et al., 2014; Talvio et al., in press). The intention of this study, however, was to explore the possible benefits for teachers during an open course.

## 2. Method

### 2.1. Participants

The participants were 40 teachers from Finland working in comprehensive schools. The intervention group consisted of 20 teachers participating in the training of social interaction skills and the comparison group consisting of 20 teachers not participating in the training. The course was open to anybody, and the participants were accepted to the course in the order of registration. The mean value of the course participants' age was 37 ( $SD = 10.47$ ) and on average, they had plenty of credits from previous studies ( $M = 177.13$ ,  $SD = 63.16$ ). The course participants typically had slightly less than five years of teaching experience ( $M = 4.46$ ,  $SD = 6.62$ ). Of the 20 course participants, three were men.

The comparison group consisted of teachers participating in another course that did not include studies of social interaction skills. The data were collected approximately at the same time from both the intervention group and the comparison groups. By using the Chi-square test, it was concluded that the background (age, gender, amount of studies and work experience) of the members of the comparison group and intervention group was quite similar, thus making them suitable for comparing the effects of the intervention.

## 2.2. Context of the study and procedures

The intervention explored in this study was a three-credit course organized at the special education department of the Open University of Helsinki. The intention of the course was to increase the participants' understanding of emotions and social interaction in learning, and of teachers' responsibility for creating a supportive learning environment. Lectures, demonstrations, practice, reflection in small groups, self-studying and learning diaries were used as teaching methods of the course, which was organised on five afternoons an over two-week period during school holidays. The course included studies of Gordon's theory (2003) and SEL, which were approached from the viewpoint of modern educational psychology.

## 2.3. Measures and data analyses

The data were collected in the two weeks right before (pre-test) and right after (post-test) the intervention. The questionnaire used to collect the data in both pre- and post-tests was a modified version of the Dealing with Challenging Interaction (DCI) instrument (Talvio et al., 2012; Talvio et al., 2013; Talvio et al., in press), including five descriptions of challenging situations at school. These challenging situations given were typical for teachers when dealing with their pupils, pupils' parents and teachers' colleagues. The participants were to write in their own words how they would respond to these given situations.

The answers were content analysed, classified and quantified (Frey, Botan, Friedman, & Kreps, 1992; Weber, 1990) in categories that were drawn from Gordon's theory (Gordon, 2003). During the process of classification, peer debriefing among the authors was utilized in an effort to achieve consensual validation, and thereby increase the credibility of the analysis. The second author, responsible for the process of analysis, consulted the other authors regularly, to discuss any difficulties that arose during the analysis. During peer debriefing, when perspectives differed, discussion was used to achieve consensus.

Altogether five categories, namely Listening, Active listening, I-messages, Road blocks and Supporting autonomy, were used as category variables. In each category, an answer was given the possible numerical value of either 0 or 1 to show the presence of the category in the answer. The mean values and standard deviation values of the categories' sum variables were then calculated. The DCI method is described in more detail elsewhere (Talvio et al., 2012; Talvio et al., 2013; Talvio et al., in press).

By exploring the possible differences of the background variables between the intervention and the comparison groups, a Chi-square test was conducted. The statistical differences in pre-test and in post-test scores between the intervention and comparison groups were tested with the Mann-Whitney test, and the scores between pre- and post-tests were examined by using the related samples Wilcoxon signed rank test. The possible associations between background variables and the change in the intervention group were examined using the Kruskal-Wallis test. The sum scores were calculated by adding up the remainders of the pre- and post-test scores in each category.

## 3. Results

### 3.1. Quantitative results

The starting level of the studied skills might affect learning during a course. For example, if the participants know the studied skills already before the training, their learning does not necessarily increase. Therefore, before the intervention of the current study, the results are presented by first exploring the differences in the levels of the studied skills between the intervention and comparison groups. The possible changes during the intervention will then be examined. Finally, the differences between the intervention the comparison groups in the post-test will be provided.

Table 1 shows that there were no statistical differences in the use of Listening, Active listening or I-messages between the intervention and the comparison groups in the pre-test. However, the intervention group used

significantly more Supporting autonomy-messages and significantly fewer Road blocks that the comparison group before the intervention.

Figure 1 shows that after the intervention, the participants of the interaction course used significantly more Listening and Active listening ( $p < .01$ ). However, no statistical changes were found among the comparison group between the pre-test and the post-test.

Table 1.

Mean values, standard deviations and their statistical significances between intervention and comparison groups in each category before the intervention

Studied skills	Intervention group	Comparison group	p
	(n=20)	(n=20)	
Listening	M(SD)	M(SD)	
Listening	0.30(0.47)	0.10(0.31)	.289
Active listening	0.05(0.23)	0.05(0.22)	1.000
I-messages	0.30(0.57)	0.15(0.37)	.565
Road blocks	2.60(1.60)	3.95(1.32)	.003*
Supporting autonomy	0.80(0.52)	0.30(0.47)	.011*

Note. \*  $p < .05$

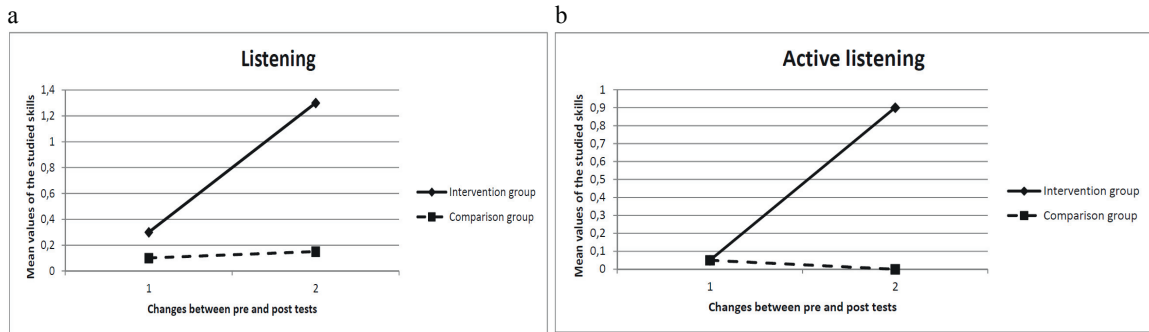


Fig 1. (a) Change between the pre-and post-test in Listening; (b) Change between the pre-and post-test in Active listening

I-messages were also used significantly more ( $p < .001$ ) after the course than before the intervention. Road blocks were used significantly less ( $p < .001$ ) after the intervention. In the comparison group, no statistical changes between the pre-test and the post-test were found (Figure 2).

a b

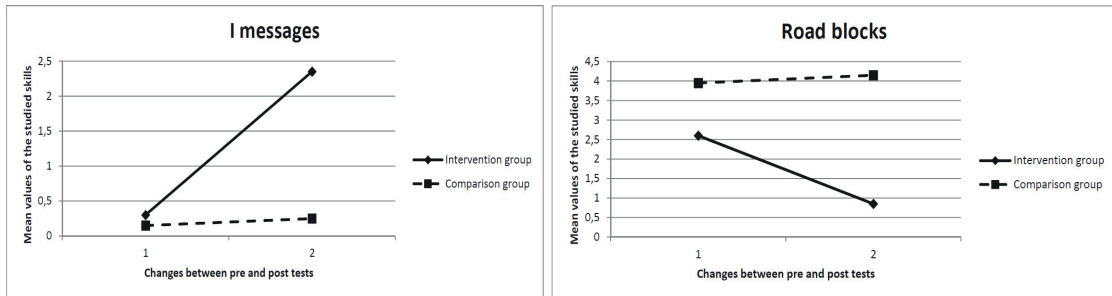


Fig 2. (a) Change between the pre-and post-test in I-messages; (b) Change between the pre-and post-test in Road blocks

In the Supporting autonomy category, no statistical change ( $p = .79$ ) was observed during the interaction course among the intervention group. However, the participants of the comparison group used significantly more ( $p = .013$ ) messages of Supporting autonomy at the second measuring point (Figure 3).

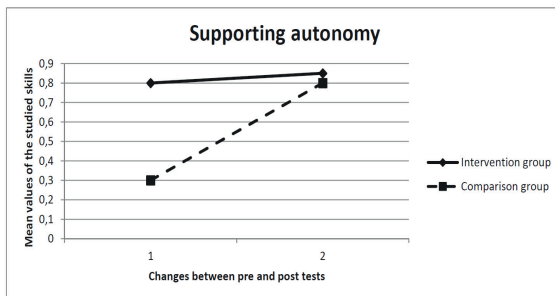


Fig 3. Change between pre-test and post-test in Supporting autonomy

Table 2 shows that after the interaction course, the intervention group used significantly more messages of Listening and Active listening categories, as well as I-messages, than the comparison group. In addition, after the course, the intervention group used significantly less Road blocks than the comparison group. After the training, however, the difference in the use of Supporting autonomy between the interaction and comparison groups was not significant.

Table 2.

*Mean values, standard deviations and their statistical significances between intervention and comparison groups in each category after the intervention*

Studied skills	Intervention group (n=20)	Comparison group (n=20)	p
	M(SD)	M(SD)	
Listening	1.30(0.47)	0.15(0.37)	.001*
Active listening	0.90(0.23)	0.00(0.00)	.002*
I-messages	2.35(0.57)	0.25(0.44)	.000*
Road blocks	0.85(1.60)	4.15(1.46)	.000*

Supporting autonomy	0.85(0.52)	0.80(0.52)	.127
Note. * $p < .05$			

Finally, the possibility of gender, age, amount of previous studies or work experience affecting the change in SEL during the course was investigated. No associations between these background variables and learning the studied skills were found.

### 3.2. Qualitative results

As mentioned above, before the intervention, very few answers were classified in the *Listening* or *Active listening* categories. After the training, however, listening was mentioned in many answers as a word, or, it was described by using other words as the following example demonstrates: ‘I let the mother talk and I listen until she no longer looks indignant’ or ‘I am quiet and let the mother talk’. Also in the *Active listening* category, there were answers including mentions of that method, for example, ‘I would let Tom’s mother vent her feelings by using active listening. It helps her feel that she is being listened to and her feelings are being understood’. However, in most cases, active listening was not mentioned by name, but instead described as a process of active listening, for example, ‘I let Tom’s mother talk on the phone about her worries and calm down. I listen to her and I repeat her feelings to be clear about them’ or ‘I listen to my colleague’s reproofs and then I condense her message by saying that you are annoyed about not having a common course of this matter’.

*Road blocks* that included humiliation existed before the intervention in teachers’ answers: ‘First I would praise their “beautiful art” and then I would tell them that drawing on the wall is prohibited’. These road blocks disappeared during the intervention. Before the intervention it was also typical that the feedback given were road blocks, such as; questioning, ‘Do you think you should apologize?’, threatening, ‘I will explain the consequences’ or ranting, ‘I will tell him or her that calling someone names, whether they be pupils or teachers, is not appropriate’. After the intervention, the answers included usually described teachers’ own feelings, the behavior of a pupil and tangible consequences, in other words *I-messages*, as the following example describes: ‘I am annoyed about your comment of my poor action in that situation. It makes me distrust my teaching skills’. However, lecturing as a type of road block still existed in some answers after the intervention: ‘I am really sorry about the situation but I can’t help saying that Tom himself has behaved aggressively. I guarantee that we will discuss this at school and in class as well as with the boys. However, I would like you to talk at home with Tom about this and his earlier behavior’.

As mentioned, the number of teachers’ answers classified in the *Supporting autonomy* category did not change significantly during the intervention. The quality of these answers did not change during the intervention either. A typical answer in this category stressed the pupil’s need for trust shown by a teacher and an experience of autonomy, as the following example describes: ‘In the confidential posts that have been agreed together, a pupil really needs teacher’s trust and the experience of success. I believe that if pupils feel that they are being trusted their behavioral problems will decrease’.

## 4. Discussion

The aim of present study was to investigate possible changes occurring during the course in teachers’ thinking with regard to social and emotional learning (SEL), within typical situations at school. It can be concluded that after the training, teachers’ skills to communicate in constructive ways increased, and cases of hindering interaction decreased. Teachers learned to receive messages in a helpful way, by using listening and active listening skills. In addition, in their answers after the course, teachers often used *I-messages* that were very rare before the intervention. Hence, teachers learned to express their feelings, describe the behavior in a neutral way and communicate the concrete consequences of the behavior. Among the comparison group, no change was perceived between the pre-test and the post-test.

However, teachers' messages that support autonomy did not increase during the SEL course. It is possible that teachers really did not learn supporting autonomy on the course. In fact, the course did not explicitly provide skills to support pupils' autonomy, but as a result of constructive ways of communicating, the teachers' skills implicitly tend to support pupils' autonomy. It is possible, however, that the teachers learned to support pupil's autonomy, but the modified version of the DCI-method used in the present study could not capture the teachers' learning. This assumption might explain why messages of supporting autonomy increased significantly without any training among the comparison group. In any case, conclusions of teachers' supporting autonomy can't be made by using the results of the present study. Another limitation was that the sample was quite small. More participants should be investigated to generalize the results. On the other hand, excluding supporting autonomy, the results were similar to previous studies, and thus concurrent validity was supported.

In addition, since the teachers attended the course on a voluntarily basis, they were likely to be motivated to develop their skills in SEL. Thus, we cannot conclude that teachers always benefit from such courses, only that motivated teachers appeared to learn the skills during the intervention. This is relevant when organizing SEL courses for the entire staff of a school. When developing the culture of social interaction at school, it is important that every professional in the school community attends the training. However, participants who feel they are forced to attend the training will probably not benefit from it. In the light of the results of the present study we cannot ensure that SEL courses organized for an entire school staff will always improve the culture of social interaction of the school. On the other hand, motivation may be increased if the school staff, including its administration, is involved in the SEL process. Hence, it is important that teachers' motivation should be supported, to enable them benefitting from courses in SEL. This is also recommended by Jennings and Greenberg (2009).

There are, however, quite a few advantages to this study. It is quite common that the courses are evaluated only by asking for the participants' feedback. It is also quite typical to investigate the change in teachers' perceptions about social interaction skills (Barton-Arwood et al., 2005). It is easy to collect such data but they do not necessarily tell much about learning. Another, more advanced way to investigate the outcome of courses is to test the participants' development of their knowledge although it does not tell whether the participants can apply the skills. The results of the present study suggested that the teachers who participated in this relatively short course learned to form more constructive ways of written communication. Even though we cannot prove that the teachers started to use their new skills in real situations, we know that their thinking altered, which is the precondition for changing behavior. By using the DCI-method in this study, the difference in teachers' ways of thinking about their behavior during the SEL course could quite easily be captured.

This study showed that even the well-trained teachers do not necessarily know how to interact in constructive ways with their pupils, if the training of social interaction skills is not provided. Finland, for example, has reaped many rewards in international comparisons of school achievements (Mullis, Martin, Foy, & Drucker, 2012; Mullis, Martin, Foy, & Arora, 2012; OECD, 2010), thanks to teachers with a high expertise in the subject they teach (Ahtee, Lavonen, & Pehkonen, 2008; Sarjala, 2005). However, there are several studies showing pupils' relationships and school enjoyment in Finland are poor compared to other countries (Currie et al., 2008; Samdal, Dür, & Freeman, 2004). We suggest that instead of domain-specific skills, teacher training should be focused more on general pedagogical skills that lead to safe learning environment, participation, well-being and strong relationships. Our results showed that teachers learned the studied skills, and were able to use those skills in interactions driven from the real school situations. Hence, according to the present study, more systematic training on social interaction skills and SEL might be needed in teacher education.

Social and emotional learning is a long and complex process. To be able investigating the sustainability of the SEL courses' outcomes, longitudinal data should be collected. In addition, observation or video recordings of classroom interaction might give valuable information about applying the SEL skills in real life. However, these methods need considerable resources, and investigating the benefits to all participants of SEL courses might be insuperable. Therefore, our suggestion for future study would include observation of a few participants. Teachers' learning diaries of SEL after the course would also be most interesting. Naturally, exploring the teachers' interaction skills using feedback from their pupils would help us to understand the phenomenon of SEL better.



## Acknowledgements

This research was funded by the Finnish Funding Agency for Technology and Innovation (TEKES) project RYM Indoor environment (462054). In addition, we would like to thank Mr. Jeremy Stukins and Ms. Anna Rawlings for their contributions to this article.

## References

- Adams, L. (1989). *Be your best*. New York: The Putnam Publishing Group.
- Ahte, M., Lavonen, J., & Pehkonen, E. (2008). Reasons behind the Finnish success in science and mathematics in PISA tests. *Problems of Education in the 21st Century*, 6, 18-26. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=ejh&AN=33019889&site=ehost-live&scope=site>
- Aspegren, K. (1999). BEME guide no.2: Teaching and learning communication skills in medicine--a review. *Medical Teacher*, 21(6), 563-570.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, N.J: Prentice-Hall.
- Barton-Arwood, S., Morrow, L., Lane, K., & Jolivet, K. (2005). Project IMPROVE: Improving teachers' ability to address students' social needs. *Education and Treatment of Children*, 28(4), 430-443.
- Brophy-Herb, H. E., Lee, R. E., Nievar, M. A., & Stollak, G. (2007). Preschoolers' social competence: Relations to family characteristics, teacher behaviors and classroom climate. *Journal of Applied Developmental Psychology*, 28(2), 134-148. doi:DOI: 10.1016/j.appdev.2006.12.004
- Collaborative for academic, social and emotional learning. (2014). Implementation » overview. Retrieved from <http://www.casel.org/implement/index.php>
- Currie, C., Gabbainn, S., Godeau, E., Roberts, C., Smith, R., Currie, D., . . . (Eds.). (2008). *Inequalities in young people's health: HBSC international report from the findings of the 2005/2006 survey*. Edinburgh: Child and Adolescent Health Research Unit (CAHRU).
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A Meta-Analysis of School-Based universal interventions. *Child Development*, 82(1), 405-432. doi:10.1111/j.1467-8624.2010.01564.x
- Elliott, J. G., Stemler, S. E., Sternberg, R. J., Grigorenko, E. L., & Hoffman, N. (2011). The socially skilled teacher and the development of tacit knowledge. *British Educational Research Journal*, 37(1), 1-21. doi:10.1080/01411920903420016
- Frey, L. R., Botan, C. H., Friedman, P. G., & Kreps, G. L. (1992). *Interpreting communication research : A case study approach*. Englewood Cliffs, NJ: Prentice Hall.
- Gordon, T. (2003). *Teacher effectiveness training*. New York: Three rivers press.
- Hamre, B., Hatfield, B., Pianta, R., & Jamil, F. (2014). Evidence for general and domain-specific elements of teacher-child interactions: Associations with preschool children's development. *Child Development*, 85(3), 1257-1274. doi:10.1111/cdev.12184
- Hurd, N. M., Zimmerman, M. A., & Xue, Y. (2009). Negative adult influences and the protective effects of role models: A study with urban adolescents. *Journal of Youth and Adolescence*, 38(6), 777-789.
- Ivey, A. E., Bradford Ivey, M., & Zalaquett, C. P. (2009). *Intentional interviewing and counselling: Facilitating client development in a multicultural society* (7th ed.). Belmont CA: Cengage Learning.
- Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, 79(1), 491-525.
- Leroy, N., Bressoux, P., Sarrazin, P., & Trouilloud, D. (2007). Impact of teachers' implicit theories and perceived pressures on the establishment of an autonomy supportive climate. *European Journal of Psychology of Education - EJPE (Instituto Superior De Psicologia Aplicada)*, 22(4), 529-545. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=ejh&AN=28832877&site=ehost-live&scope=site>
- Lintunen, T. (2006). Social and emotional learning in the school physical education context. In F. Boen, B. De Cuyper & J. Opdenacker (Eds.), *Current research topics in exercise and sport psychology in Europe* (1. th ed., pp. 25-33). Leuven: Lannoo Campus.
- Mullis, I. V., Martin, M. O., Foy, P., & Arora, A. (2012). *TIMSS 2011 international results in mathematics*. Chestnut Hill, MA: TIMMS & PIRLS International Study Center, Boston College.
- Mullis, I. V., Martin, M. O., Foy, P., & Drucker, K. T. (2012). *PIRLS 2011 international results in reading*. Chestnut Hill, MA: TIMMS & PIRLS International Study Center, Boston College.
- OECD. (2010). *PISA 2009 results: What students know and can do* Organisation for Economic Co-operation and Development. doi:10.1787/9789264091450-en
- Samdal, O., Dür, W., & Freeman, J. (2004). School. In C. Currie, C. Roberts, A. Morgan, R. Smith, W. Settertobulte, O. Samdal & V. Barnekow Rasmussen (Eds.), *Young people's health in context. health behaviour in school-aged children (HBSC) study: International report from the 2001/2002 survey* (pp. 42-51). Copenhagen: World Health Organisation.
- Sarjala, J. (2005). Why Finland ranks high in public education. *Our Schools, our Selves*, 14(4), 95-107.
- Scott, T. M., & Nelson, C. M. (1999). Functional behavioural assessment: Implications for training and staff development. *Behavioral Disorders*, 80, 249-252.

- Talvio, M., Ketonen, E., & Lonka, K. (2014). How long lasting are the effects of training on interaction skills? teachers' sample. *Proceedings of 2014 International Conference on Advanced Education and Management (ICAEM2014)*, Beijing, China. 125-131.
- Talvio, M., Lonka, K., Komulainen, E., Kuusela, M., & Lintunen, T. (2012). The development of the dealing with challenging interaction (DCI) method to evaluate teachers' social interaction skills. *Procedia: Social and Behavioral Sciences*, 69, 621-630.
- Talvio, M., Lonka, K., Komulainen, E., Kuusela, M., & Lintunen, T. (2013). Revisiting gordon's teacher effectiveness training: An intervention study on teachers' social and emotional learning. *Electronic Journal of Research in Educational Psychology*, 11(3), 693-716.
- Talvio, M., Lonka, K., Komulainen, E., Kuusela, M., & Lintunen, T. (in press). The development of teachers' responses to challenging situations during interaction training. *Teacher Development*.
- Teacher effectiveness training. (2014). Retrieved from <http://www.gordontraining.com/schools-teacher-effectiveness-training.html>
- Weber, R. P. (1990). *Basic content analysis* (2nd. ed. ed.). Beverly Hills, Calif: Sage.
- Zins, J. E., & Elias, M. J. (2006). Social and emotional learning. In G. G. Bear, & K. M. Minke (Eds.), *Children's needs III* (pp. 1-13). Bethesda, MD: NASP.