

Research Article

Parents' and Teachers' Views on Digital Communication in Finland

Anne-Mari Kuusimäki ¹, Lotta Uusitalo-Malmivaara,¹ and Kirsi Tirri ²

¹Faculty of Educational Sciences, University of Helsinki, 00014 Helsinki, Finland

²Helsinki Collegium for Advanced Studies and Department of Education, University of Helsinki, 00014 Helsinki, Finland

Correspondence should be addressed to Anne-Mari Kuusimäki; anne-mari.kuusimaki@helsinki.fi

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Parents' and teachers' well-functioning communication supports their partnership and also benefits pupils' well-being. Today, communication largely takes place using electronic tools. In the current study, Finnish parents' ($N = 1123$) and teachers' ($N = 118$) opinions on digital communication in urban and rural areas were studied by applying a new 14-item Digital Communication Scale (DCS) created for the purpose. The three-factor structured DCS was used to elucidate parents' and teachers' views on their partnership, feedback, and clarity of messaging. In contrast to some negative headlines and myths, the main finding of our study was overall satisfaction with digital communication, which was seen as supporting the parent-teacher partnership and providing valuable information on pupils' development and their everyday issues. In particular, rural parents seemed satisfied with digital communication as a partnership-building tool. However, the view of parents was that they received less encouraging feedback about their children than teachers believed they had given. On the other hand, teachers experienced more ambiguity in digital communication than parents. This was more salient among urban teachers than among rural teachers. To summarize, rural parents and rural teachers saw digital communication as serving their collaboration better than did their urban peers. The results of the current study can be used for further development of parent-teacher communication in digital environments.

1. Introduction

In this paper, we investigate Finnish parents' and teachers' views on how digital communication (DC) promotes their partnership. A plentitude of previous studies indicate that collaboration between parents and teachers is important in fostering pupils' well-being and academic achievements [1–5]. Furthermore, parent-teacher collaboration has positive effects on school climate and teachers' work in different cultural contexts and family populations [1, 6–8]. According to Finland's national curriculum, parents' and teachers' collaboration should be an integral part of education irrespective of a pupil's developmental level [9]. Efficient communication is a prerequisite for fruitful collaboration. We argue that well-working digital communication between parents and teachers supports partnership and contributes to pupils' optimal holistic development.

Several European studies have reported interesting results in their educational programmes that prepare future teachers to support family-school partnerships [10]. The present article contributes to this discussion with a study of a little researched area of such partnership, namely, parents' and teachers' views on *digital* communication (hereafter DC). In our study, Epstein's definitions of parent-teacher partnership have been adopted [1]. She emphasises the shared responsibility of a community in taking care of a child's holistic development. Effective two-way communications, such as parent-teacher conferences, telephone calls, text messages, and e-mails, are essential factors in building and maintaining the partnership [2]. Two-way communication invites parents to communicate actively with the school and negotiate their child's needs together with teachers [3, 11]. Additionally, two-way communication enables parents and teachers to give and receive feedback [12].

In Finland today, DC is the primary means of communication between parents and teachers, and face-to-face meetings are rare [3]. Digital devices have intensified such communication, as smartphones allow quick online feedback. However, despite the change in communication and feedback practices, teachers do not have much training in digital communication skills, a lack that sometimes leads to misunderstandings between parents and teachers [12, 13]. Thus, there is a salient need to understand and learn more about the specific nature of DC in schools. We set out to fill this gap with the first large-scale research on parents' and teachers' views of DC in Finland. We also wanted to show the benefits of DC and how this communication can be improved in order to serve better the delicate home-school partnership.

1.1. Communication in Parent-Teacher Partnership. Epstein's and her colleagues' [1, 2] findings on successful parent-teacher collaboration are set forth in her theory of "Overlapping Spheres of Influence". In this theory, parent-teacher partnership is divided into six spheres: *parenting, communicating, volunteering, learning at home, decision-making, and collaborating with the community*. The theory's main idea is the benefit of multiple interactions, which support pupils in their overall school work and academic achievement [2]. *Communication* is at the heart of the theory as it enables the other spheres and paves the way for successful overall collaboration (see also Bouffard [14]). In a perfect communication, the elements of *clarity, readability, frequency, quality, effectivity, and informativity* should be considered [2]. These elements provide a framework for our research on parents' and teachers' views of DC.

Epstein's ideas are confirmed by a study showing that parent-teacher collaboration is best achieved by deploying multiple communication channels. In particular, finding the most convenient way to communicate is crucial in trying to form well-functioning working relationships with cultural and linguistically diverse families [12]. Although study outcomes encourage a close parent-teacher partnership, the reality may be different. If communication practices are not carefully considered, schools seem to provide corrective feedback more than appreciative feedback on student accomplishments [1]. A recent Finnish study on technology-enhanced feedback confirms that many students receive more negative or neutral feedback than encouraging feedback [15]. Without sufficient knowledge and open discussion, the rules of communication remain unclear, and myths arise about *what communication should be* [16]. Feedback practices should be encouraging, sensitive, and regular in promoting the best way to enhance a child's learning progress [9]. Conflicts in communication arising from ambiguous messages can be detrimental to a parent-teacher partnership. Misunderstandings can create mistrust, which has negative effects on collaboration overall. Parent-teacher communication should provide a firm basis for mutual respect and a willingness to strive towards common goals. More information on this crucial area of partnership is needed, as teachers often find partnership to be challenging,

especially in communicating about pupils' difficulties in school [12].

1.2. Parent-Teacher Digital Communication in Finnish Teacher Education. Finnish teachers are highly appreciated, thanks to their pupils' success on educational achievement tests [17–19]. Among historical and sociological factors, high-quality teacher education has been identified as a contributor to this success [20]. Even though parent-teacher partnerships have been shown as strongly influencing pupils' well-being and learning results, Finnish teacher education programmes still need more explicit content related to communication between parents and teachers [21]. At the moment, there is a lack of detailed knowledge of the nature of parent-teacher digital communication and of the specific needs of both parties. In Finland, the parent-teacher partnership is considered important at the national level, and teacher education departments are expected to provide instruction in this area. In a study by Alanko [13], 64 percent of teacher educators responded as having taken courses that included teaching about parent-teacher partnership. The courses also involved discussions of digital communication, yet only one respondent of the eleven mentioned that this topic was handled in detail.

Digital platforms have crept into the field of Finnish school communication with only a few general guidelines given by the educational authorities. This has led to a variety of teacher interpretations about the nature, quantity, and content of the feedback given by pupils and parents [19]. In the most-often used DC platform (in more than 90 percent of Finnish schools), teachers can inform parents about the events of the schooldays, provide shorter or longer written feedback on pupils' studies and their grades, furnish information about timetables, and maintain diverse communication with parents. In the first Finnish study on parent-teacher DC, it was shown that a relatively small number of pupils received a great deal of feedback, while the majority of pupils received only minimal feedback or none at all [19]. However, teacher praise was the most commonly given type of feedback (70 percent of pupils got these markings). The largest proportion of pupils (76 percent) received feedback about things they had forgotten. According to this study, boys received more negative feedback [19]. Thus, it seems as if pupils did receive some encouraging feedback via digital communication. However, encouraging feedback is unevenly given to individuals. The need to develop DC feedback practices seemed obvious. As demonstrated by Alanko [13], also more practical training should be included in teachers' professional development in Finland (see also [22]).

In order to study parent-teacher DC in detail, we developed a new measuring instrument, the Digital Communication Scale (DCS). With this scale, we sought to understand the differences between parents' and teachers' views of DC in three different domains: partnership, feedback, and clarity of messaging. To further validate our study, we compared parents' and teacher's views in two different

locations in Finland, one urban municipality and one rural municipality.

Our research questions are as follows:

- (1) How suitable is the new Digital Communication Scale for studying the qualities of digital communication between parents and teachers?
- (2) How do parents and teachers from two different locations view the role of digital communication in
 - (a) building and maintaining partnerships,
 - (b) receiving and giving feedback,
 - (c) conveying understandable messages?

2. Data and Methods

2.1. Sample. Participants in the current study were urban parents ($n = 1003$, response rate 9%) and urban teachers ($n = 94$, response rate 16%) from a large municipality in Finland and rural parents ($n = 120$, response rate 14%) and rural teachers ($n = 24$, response rate 45%) from a medium-size municipality in Finland. They were selected on a voluntary basis from grades 1–9 in public schools. The participating parents were primarily mothers ($n_{\text{mothers}} = 895$, $n_{\text{fathers}} = 208$, $n_{\text{others}} = 20$). The participating teachers ($n_{\text{female}} = 99$, $n_{\text{male}} = 19$) were teaching grades 1 to 9.

An invitation to participate in the study was sent to two selected municipal education administrators in the spring semester of 2016. The administrators were then asked to send an informative e-mail to all elementary principals as well as a web link to the questionnaire. The principals, in turn, were asked to forward the link to the parents and teachers in their schools. The administrators received two reminders about the study. The purpose of the chosen procedure was to obtain a large sample of parents and teachers from different parts of Finland. In addition to the quantitative Digital Communication Scale, the questionnaire included open-ended, qualitative questions. These results will be reported elsewhere.

2.2. Digital Communication Scale (DCS). In order to study parents' and teachers' views on digital communication, we constructed a new instrument, the Digital Communication Scale (DCS). The DCS was planned to take into consideration the prior literature and the authors' long-term practical knowledge on parent-teacher partnership and communication. Epstein's [2] theory of "Overlapping Spheres of Influence" and its emphasis on well-functioning communication was adopted as a starting point for developing the scale. According to Epstein et al. [2], three dimensions define communication: (1) *clarity and readability*; (2) *informativity, frequency, and effectivity*; and (3) *quality*. We created 22 items for the DCS to correspond to these dimensions (Table 1). The teachers' version consists of 17 items, and the parents' version, 20 items. Fifteen items are the same in both versions of the scale. Items were rated on a 4-point scale (1 = strongly disagree, 2 = disagree somewhat, 3 = agree somewhat, and 4 = strongly agree). Respondents could also choose if they felt unable to answer the question. In Table 1,

the means and standard deviations of responses of all parents and teachers are shown.

2.3. Statistical Analyses. The psychometric qualities of the DCS were examined in three phases. First, a principal component analysis was conducted in order to test the suitability of the data for exploratory factor analysis. Second, the factor structure of the DCS was analysed with an exploratory factor analysis. Third, the internal consistency was confirmed using Cronbach's alpha [23].

Using extracted DCS factors as dependent variables, the differences between parents' and teachers' views were examined with a one-way analysis of variance (ANOVA).

3. Results

The results are reported in the order of the research questions.

3.1. The Psychometric Properties and the Factor Structure of the Digital Communication Scale. Sampling adequacy was confirmed by a Kaiser–Meyer–Olkin test (0.92 for parents and 0.76 for teachers). The correlation matrices were analysed using Bartlett's test of sphericity ($ps < 0.000$). Exploratory factor analysis was conducted using maximum likelihood extraction with a direct oblimin rotation. From the original pool of 22 items, 14 and 10 items were extracted for parents and teachers, respectively. Factor extraction was based on consistency between the two respondent groups (items 4 and 13 for teachers and items 4, 13, 18, 19, and 20 for parents were not comparable, Table 1), on scree plot criterion and on communality. Items loading ≥ 0.35 were included in the structure, resulting in three common factors with eigenvalues above 1 for both parents and teachers. Additionally, for teachers, a unique factor was extracted with only one item loading on it (*it is important to inform parents about their child's conflicts*). The three common factors explained 51 percent (parents) and 42 percent (teachers) of the total variance in the data. The unique factor explained 7 percent of the variance in teachers' data. The common factors were named F1: *partnership*, F2: *encouraging feedback*, and F3: *unclear communication*. There was a positive correlation between F1 and F2, $r = 0.526$, $p < 0.000$. No other significant correlations appeared between the factors. The extracted factor structure was clear, with only one parental item (*teachers' feedback is encouraging to my child*) and with loading on two factors, F1 and F2. The rotated factor solution is presented in Table 2.

Cronbach's alphas [23] confirmed the internal consistency of the three factors (F1: $\alpha = 0.88$ parents, $\alpha = 0.81$ teachers; F2: $\alpha = 0.90$ parents, $\alpha = 0.76$ teachers; F3: $\alpha = 0.49$ parents, $\alpha = 0.58$ teachers). F3 included only two items, which lowered the reliability values for both groups.

3.2. Parents' and Teachers' Views on Digital Communication

3.2.1. Building and Maintaining the Partnership. Parents and teachers largely viewed digital communication as serving their partnership well (see Table 3 for descriptive

TABLE 1: The Digital Communication Scale (DCS).

Item/label	Parents <i>M</i> (SD) <i>N</i> = 1009–1121	Teachers <i>M</i> (SD) <i>N</i> = 102–118
<i>(1) Clarity and readability of digital communication</i>		
1. I would like my child's conflicts to be communicated other than through DC/It is better to inform parents about pupils' conflicts in ways other than through DC	2.79 (0.96)	2.98 (0.73)
2. School sends overlapping digital messages/School sends overlapping digital messages	2.01 (0.95)	2.20 (0.82)
3. Digital communication involves misunderstandings with teacher/with parents	1.74 (0.82)	2.05 (0.80)
4. I read all the messages that teacher sends	3.79 (0.53)	
5. We discuss the contents of the digital messages with both parents	3.46 (0.78)	
6. Teachers throughout the school have a one-way approach to informing parents about child- related issues	2.34 (0.98)	
<i>(2) Informativity, frequency, and effectivity</i>		
7. I get various kinds of information about my child's studies/I can give various kinds of information via digital communication about my pupils' studies	3.10 (0.83)	3.13 (0.72)
8. I get enough information about happenings in the classroom/I can give sufficient information about happenings in the classroom	3.11 (0.83)	3.13 (0.72)
9. I get information about my child's strengths/I can give sufficient information to parents about the pupils' strengths	2.44 (0.98)	2.89 (0.86)
10. I get information about my child's successes/I can give sufficient information about my pupils' successes	2.72 (0.93)	3.10 (0.78)
11. It is important to know about my child's conflicts via digital communication/It is important to inform parents about pupils' conflicts via digital communication	3.40 (0.78)	2.78 (0.92)
12. It is important to know about my child's memory lapses and delays/It is important to inform parents about pupils' memory lapses and delays	3.51 (0.71)	3.36 (0.68)
13. I get enough information about all school matters	3.37 (0.71)	
14. I get too few messages about my child's schooling	2.28 (0.95)	
15. I get responses from parents to my messages concerning pupils		2.97 (0.63)
16. I get enough information from parents about matters affecting the pupils' schooling		2.64 (0.75)
<i>(3) Quality</i>		
17. Digital communication supports educational partnership	3.16 (0.83)	3.12 (0.72)
18. Digital communication supports co-operation	3.61 (0.60)	3.59 (0.56)
19. Digital communication supports trust between parents and teacher	3.23 (0.77)	3.05 (0.60)
20. Digital communication supports the feeling that I'm heard when speaking about my child's studies/. . . when I'm informing parents	3.07 (0.72)	3.06 (0.70)
21. I can support teachers' educational work with my digital communication/parents' educational work with my digital communication	3.00 (0.82)	3.14 (0.67)
22. Teachers' digital communication is encouraging to my child/My digital communication is encouraging to pupils	2.77 (0.98)	3.13 (0.69)

TABLE 2: Rotated factor structure of the DCS for parents and teachers.

Item	Factor 1	Factor 2	Factor 3	h^2
	Partnership Factor loading Parents/teachers	Encouraging feedback Factor loading Parents/teachers	Unclear communication Factor loading Parents/teachers	
1. Digital communication supports educational partnership ³	0.87/0.64			0.77/0.54
2. Digital communication supports co-operation ³	0.79/0.47			0.58/0.40
3. Digital communication supports trust ³	0.74/0.79			0.58/0.56
4. Digital communication supports the feeling that I'm heard in discussing my child's studies/. . .I'm heard when I'm informing parents ³	0.72/0.35			0.66/0.31
5. I can support teachers' educational work with digital communication/. . .parents' educational work with digital communication ³	0.65/0.81			0.43/0.60
6. I get versatile information about my child's studies/ I can give versatile information via digital communication about my pupils' studies ²	0.58/	/-0.42		0.57/0.40
7. I get enough information about happenings in the classroom ²	0.55/			0.41/
8. It is important to know about my children's memory lapses and delays via digital communication ²	0.51/			0.29/
9. It is important to know about my child's conflicts via digital communication/It is important to inform parents about pupils' conflicts ²	0.40/			0.24/0.999
10. I get enough information about my child's strengths/I can give parents sufficient information about their child's strengths ²		-0.85/-0.85		0.83/0.69
11. I get enough information about my child's successes/I can give sufficient information about my students' successes ²		-0.80/-0.88		0.80/0.68
12. Teachers' digital communication is encouraging to my child ³	0.41/	-0.51/		0.71/
13. School sends overlapping digital messages ¹			0.56/0.82	0.29/0.60
14. Digital communication involves misunderstandings with teacher/with parents ¹			0.56/0.49	0.43/0.40

¹Epstein's dimension clarity and readability of digital communication (Table 1). ²Epstein's dimension informativity, frequency, and effectivity of digital communication. ³Epstein's dimension quality of digital communication.

TABLE 3: Descriptive statistics and ANOVA results for partnership, encouraging feedback, and unclear communication among parents and teachers (scale 1-4).

	Parents <i>N</i> = 1123 <i>M</i> (<i>SD</i>)	Teachers <i>N</i> = 118 <i>M</i> (<i>SD</i>)	<i>F</i> , (<i>df</i>), <i>p</i> , (η^2)
Partnership	3.28 (0.70)	3.18 (0.62)	2.11, (1,1239), 0.147, (0.002)
Encouraging feedback	2.62 (0.97)	3.05 (0.77)	21.45, (1,1234), <0.000, (0.02)
Unclear communication	1.88 (0.74)	2.19 (0.69)	18.300, (1,1208), <0.000, (0.02)

statistics of the factors). Although parents wanted more versatile tools for home-school communication, the digital messages were read by almost all of them (Table 1). Moreover, the item rated highly on the entire DC scale by both parents and teachers was *digital communication supports co-operation* (Table 1). Also, the item *Digital communication supports trust between parents and teachers* was rated high. However, the statement “*Digital communication supports the feeling that I'm being heard*” was agreed on only somewhat by both parents and teachers.

Being informed of and giving information about pupil memory lapses and delays was appreciated by both the parents and the teachers.

A one-way ANOVA showed no statistically significant difference between parents' and teachers' views on digital communication in building and maintaining their partnership (Table 3). When parents from urban and rural areas were compared, a significant difference was detected: $F(1,1107) = 7.32, p = 0.007, \eta_p^2 = 0.007 = (M_{\text{urban parents}} = 3.26, SD = 0.71, M_{\text{rural parents}} = 3.45, SD = 0.62)$. Thus, parents from a

rural area more than parents from an urban area appreciated DC as a tool that serves parent-teacher partnership. No difference was found between teachers from the two different locations.

3.2.2. Receiving and Giving Encouraging Feedback. In all items loading on Factor 2, *Encouraging feedback*, parents were less satisfied than teachers (for item means in both groups, see Table 1). A one-way ANOVA showed a statistically significant difference between the two respondent groups when Factor 2 was entered as a dependent variable (Table 3). The parents appreciated DC for giving positive feedback less than did the teachers. When parents from urban and rural areas were compared, a statistically significant difference was detected: $F(1,1102) = 4.85$, $p = 0.028$, $\eta_p^2 = 0.004$ ($M_{\text{urban parents}} = 2.60$, $SD = 0.97$, $M_{\text{rural parents}} = 2.82$, $SD = 0.89$). The parents from the rural area saw DC as a useful tool for giving encouraging feedback more than parents from the urban area. No difference was found between teachers from the two different locations.

3.2.3. Passing on Understandable Messages. In both items loading on Factor 3, *Unclear communication*, the parents were more satisfied than the teachers (for item means in both groups, see Table 1). When Factor 3 was entered as a dependent variable in one-way ANOVA, a statistically very significant difference between parents and teachers was found (Table 3). Furthermore, when teachers from urban and rural surroundings were compared, the urban teachers experienced more ambiguous communications than did their rural colleagues: $F(1,112) = 9.64$, $p = 0.002$, $\eta_p^2 = 0.09$ (with $M_{\text{urban teachers}} = 2.29$, $SD = 0.67$, $M_{\text{rural teachers}} = 1.80$, $SD = 0.63$).

4. Conclusions

In this study, a new measure, the Digital Communication Scale (DCS) was developed to study parent-teacher communication on an electronic platform. Data were collected from volunteering parents and teachers from one urban and one rural municipality in Finland. The psychometric qualities of the DCS were satisfactory, showing a clear three-factor structure with 14 items. The factors were named as follows: F1 *partnerships*, F2 *encouraging feedback*, and F3 *unclear communication*. In order to generalize our results, the new instrument should be further tested in different populations and in different cultural settings. Moreover, qualitative interviews are needed to provide more detailed information about parents' and teachers' experiences in digital communication.

Building and maintaining partnership was reflected in the positive attitude to digital communication expressed by both parents and teachers. It was the parents' experience that they received less encouraging feedback about their children than the teachers believed that they had given. Digital messages were considered to be more understandable by

parents. Differences were found between parents and teachers in the two different areas. Rural teachers experienced digital communication as being more understandable than did their colleagues in the urban area. Rural parents viewed digital communication promoted parent-teacher partnership better than did parents in the urban area. Parents in the rural area also reported receiving more encouraging feedback. Parents' and teachers' positive attitudes towards digital communication as serving their partnership is in line with Epstein's [2] studies about effective two-way communication as an essential factor in building and maintaining a partnership. Digital communication is needed in information mediation, as great physical distance can be a hindrance in rural schools to arranging face-to-face meetings.

The findings of our study can be used to inform teacher education in Finland and elsewhere. It is important to include education for future teachers on how to use digital communication to improve parent-teacher partnerships. Digital communication can be seen as one of the necessary twenty-first-century skills, including both technical and communication competences [21]. Teachers should be given opportunities to practice giving truthful and supportive feedback to students and parents in different learning environments.

The participants of this study were primarily females. The gender distribution is in line with the previous studies [12, 24], showing that females, more often than males, participate in studies concerning home-school cooperation. This can be seen as a limitation, but it might also accurately represent the reality of mothers being more active than fathers in home-school communication. Furthermore, the great majority of teachers in Finland are female. The response rate was rather low in both cities which limits the generalization of our results. However, the total number of respondents was substantially high.

The cities in the current study represent large and small Finnish municipalities, giving a relatively good overview of rural and urban areas in Finland. Having more municipalities participating in the study and comparing, for example, Southern and Northern Finland would give a more comprehensive picture. In the future, studies on parent-teacher communication need to include more variety in locations and school contexts, starting from kindergartens. International comparisons of parent-teacher communication will be of particular interest.

Data Availability

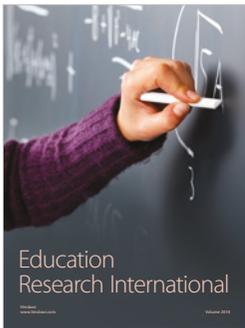
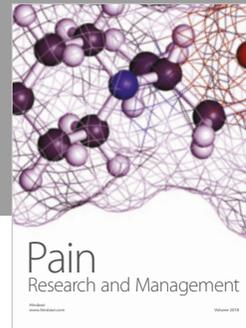
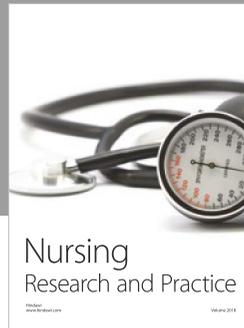
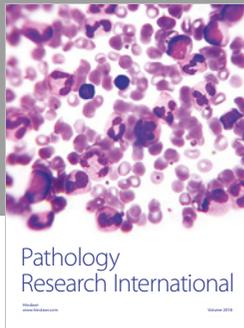
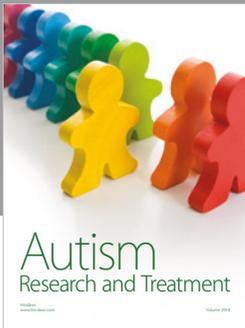
The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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