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Digital contexts mediated communication between teachers and parents: a transversal research in a multicultural school¹

La comunicazione scuola-famiglia mediata da contesti digitali: una ricerca trasversale in un istituto comprensivo con forte connotazione multiculturale

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Abstract. Mailing lists, social networks and group chats have become the stage of a very wide spectrum of formal and informal relationship dynamics where conflicts, discussions and misunderstandings are very common. Parents, school administrators and teachers experience situations which are often difficult to manage and where the boundaries between the private and the professional sphere are shady and often crossed. These complex dynamics, even more, complicated if one considers that schools are benefitted from families from different cultural backgrounds, are extremely difficult to investigate because they take place in border-lined spaces which often escape from the gaze of the school policies of the regulations and scientific debate. The research hereby presented, which has been in development for 18 months in a school institute in the metropolitan city of Bologna connoted by a very high degree of multicultural presence, aims to investigate how communicative exchanges mediated by digital contexts are able to influence the relational dynamics between teachers-teachers and parents-teachers.

Keyword: communication, family, professional development, school, technology.

Riassunto. Mailing list, social network e chat di gruppo sono diventati il palcoscenico di un amplissimo spettro di dinamiche relazionali formali e informali in cui conflitti, discussioni e incomprensioni sono molto comuni. Genitori, dirigenti scolastici e insegnanti vivono sovente situazioni molto difficili da gestire e in cui i confini tra la sfera privata e quella professionale sono sfumati e oltrepassati. Queste dinamiche complesse, ancor più complicate se si considera che nelle scuole sono presenti famiglie di diversa estrazione culturale, sono estremamente difficili da indagare perché avvengono in spazi di confine che spesso sfuggono allo sguardo delle politiche scolastiche, delle normative

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e del dibattito scientifico. La ricerca qui presentata, che si è sviluppata per 18 mesi in un istituto scolastico della città metropolitana di Bologna connotato da un altissimo grado di presenza multiculturale, si propone di indagare come gli scambi comunicativi mediati dai contesti digitali siano in grado di influenzare le dinamiche relazionali tra insegnanti-docenti e genitori-docenti.

Parole chiave: comunicazione, famiglia, formazione professionale, scuola, tecnologie.

1. SCHOOL-FAMILY COMMUNICATION DYNAMICS

The widespread use of digital technologies has become one of the greatest concerns for the school system: teachers, parents and students experience the pervasiveness of technology on many levels of their lives, not always with serenity. Although technology has lots of potential, this pervasion comes with a long list of elements which could represent some risks that deserve reflection and attention. A particular aspect which has been little explored by literature is the influence that technologies have on social and relational levels. Whilst it is undeniable that many studies in the field of Computer Mediated Communication (CMC) have traced pathways for an investigation in educational environments regarding the communication dynamics through digital tools, we must emphasise that most of these researches are focused on ‘traditional’ digital media such as IM, mailing lists, e-mails, wikis or forums (Bouhnik & Deshen, 2014; Cifuentes & Lents, 2011; Doering, Cynthia, George, & Nichols-Besel, 2008; Smit & Goede, 2012; Sweeny, 2010). This partiality is mainly caused by the period in which the first CMC studies started, that is before the advent of smartphones and social networks and also by methodological difficulties that these new digital contexts entail.

Moreover, lots of research that is focused on the new forms of communication offered by social networks is often conducted in other contexts rather than in school (Jenkins, Ito, & boyd, 2016; Turkle, 2012, 2016). When one considers the school system, it is possible to isolate elements that previously represented factors of complexity and that, with the introduction of technologies, have gradually enriched the world of education in terms of horizons, opportunities and challenges. Reference is made to all the relationship dynamics between teachers, parents and students. These exchanges have increased in complexity and one of the main causes can be identified in the multiplication of the channels where it is possible to communicate with others (messages, telephone calls, e-mail, audio messages, images, videos and other methods made possible by today’s social networks). The mentioned channels range from digital tools that can be considered ‘official’, to ‘unofficial’. Whilst the first category contains all those platforms created and made available

officially by the school for solely educational purposes, the second comprises all those channels spontaneously used by the actors involved to communicate (Soriani, 2019). Communicational exchanges mediated by technology – reference is made to the exchanges between students-students, students-teachers, teachers-teachers and teachers-families – not only never cease to occur, but also often shatter all the time/space boundaries of the school and end up strongly influencing the social climate of learning environments.

While research has already explored, albeit partially (Pacetti, 2019) these dynamics, there are others that still remain uncharted and that could contribute to improving the professional development of teachers, especially in how they cultivate the relationship with the students and their families.

‘Unofficial’ digital channels play an important role in schools’ communication dynamics. They not only cause conflicts and concerns and are perceived as an unnecessary burden and an additional load for teachers and parents, but they also facilitate communication and the sense of connection between the actors involved in the exchanges.

In this sense, a reflection must be made to address the following elements:

- The lack of research (especially in the Italian territory) which addresses the social-relational implication of the use of technologies in schools;
- The indefiniteness typical of the phenomenon, often difficult to identify, to investigate, and even more difficult to manage, which ends up being a source of concern for teachers and parents;
- The relational and logistical potentialities linked to this kind of exchange.

These problems affect all levels of the educational system, from kindergarten to higher education (Blau, Hameiri, 2017; Bordalba, Bochaca, 2019; Macia, Garreta, 2018; Soriani, 2019). Nowadays, due to the pandemic, during which computers have forcibly mediated all communication, this reflection has become even more urgent and important.

2. THE RESEARCH

2.1 Context and aim

The research presented in these pages has been in development since January 2019 in a school institute in the Metropolitan City of Bologna (Italy). The school institute comprises one kindergarten, two primary schools and one lower secondary school (pupils from 3 to 14 years old). The institute is in an area of Bologna which is home to an extreme mixture of different social-economical situations and is fully reflected in the complexity and in the diversification of the students and the families who benefit from the school's services.

The study aims to investigate how teachers and parents consider the issue of school-family communication (SFC). The research questions that guided the whole research are hereby listed:

- Are teachers' digital competencies enough to guarantee a good level of technology-mediated school-family communication?
- What is the teachers' perception, in terms of usefulness, of ICTs as a tool for communication between school and family and between colleagues?
- Are the communication protocols used by the schools effective?
- How can school-family communication processes be improved?

2.2 Methodological design

The research is designed on the Professional Development Research (PDR) methodology (Asquini, 2018). The term is translated from the Italian concept of "Ricerca-Formazione" developed by CRESPI (Centro di Ricerca Educativa Sulla Professionalità dell'Insegnante), the Centre for Educational Research on Teachers as Professionals (CERTP), who defined it as «a political and a methodological choice to do research together with teachers and caretakers in order to promote professional learning for all involved and produce an effective impact on and gain for schools and teacher education».

There are five guiding principles in this research approach, namely a clear explanation of the research's purpose in terms of professional development of the teachers directly involved and an attention to document and analyse the effects in terms of change; the creation of a PDR group in which the researcher(s) and teachers are part and in which the different roles, research objectives, values and methodological choices are clarified and negotiated; the centre of all the research phases on the contexts' specificities - institutional and non-institutional - in which the PDR takes place, by considering carefully the limits and the resources; a continuous and systematic confrontation between the research group about the documentation and the processes of the research; attention to the outcomes' effective impact on the school, both for educational and didactic innovation and for teacher training.

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The presented research, which took two years to complete, was structured as follows:

First-year:

- building of the research group and setting up of the research tools;
- planning of the teachers' and parents' surveys in collaboration with the research-group participants;
- data collection from teachers and parents of the comprehensive school. Online surveys collected: 51 teachers and 123 parents;
- sharing of the surveys' results to the research group;
- focus group co-planning and realisation. 6 focus groups were held: 3 with teachers and 3 with parents;
- first training initiative open to all the teachers and the parents of the school in collaboration with CERTP centre;
- establishment of a permanent and sustainable working committee that will help the school develop future training and future decisions concerning technology.

Second-year:

- identification of the aspects concerning school-family communication to focus on during the second year of research;
- setting up of the research tools: planning of the teachers and parents' surveys in collaboration with the research-group participants;
- data collection and analysis. Online surveys collected: 58 teachers, 11 educators and 566 parents of 639 pupils;
- first training initiative open to all the teachers with the objective being to point out the outcomes of the research;
- planning of a wider training initiative for parents regarding school-family communication;
- establishing a working committee for improving the school's communication strategies.

2.3 Partial results from the first year of research

Whilst the contribution focuses mainly on the results of the second year of the study, it is important to mention the main outcomes of the first year:

- although there are formal communication protocols that foresee the use of official digital channels, there

is an ‘underground world’ of communication situations that rely on unofficial channels and that involve both parents and teachers;

- the school regulations do not cover the above-mentioned cases and this causes some parents and teachers to be very wary of forms of communication through unofficial channels;
- communication through unofficial channels (e.g.: WhatsApp groups) is seen by many families as a powerful aggregative factor: it makes parents feel closer, more supported and better informed;
- some families remain excluded from the communication dynamics and struggle to communicate regularly with both other parents and teachers. The reasons for this exclusion are to be found not so much in the lack of devices on the part of some families (a phenomenon that exists, albeit to a limited extent, in families experiencing the greatest socio-economic difficulties) but, rather, in the management of family time (which during the COVID-19 situation has become even more difficult) and in the language barrier (present in some non-Italian-speaking families);
- presence of a large gap in perceptions regarding the issues addressed between parents with children in pre-school and parents with children in primary and secondary school. Whilst the latter group (parents with children at secondary school) is the one that has been less affected by the difficulties

of the lockdown, the second group (parents with children at primary school) experienced difficulties, especially in the first phase, and then found a stable balance. The first group (parents with children in kindergarten) suffered more from the transition to a forced communication dimension to the digital dimension only. The main reason for this gap is to be found mainly in the degree of use of digital communication dynamics already in place before the Covid viral emergency.

3. DATA ANALYSIS

3.1 Levels of digital competencies and of confidence in the use of ICTs for school-family

The teachers’ and parents’ section of the research shows, in general, a good consideration of their personal digital competency. By looking at Fig.1, we can highlight that parents and teachers from primary and secondary schools are those who have higher values when compared to those from kindergarten.

The same trend is observable in the table below that presents the level of confidence in using ICTs for school-family communications; in this case we can notice that the values are higher than those of the perceptions of one’s own level of digital competence.

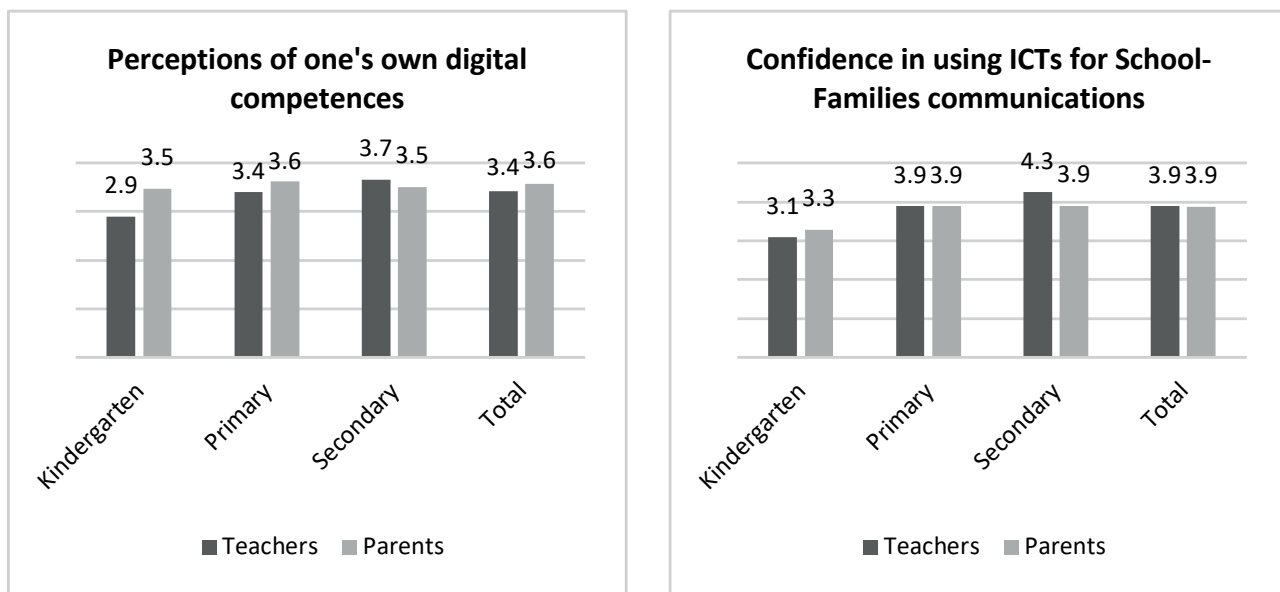


Figure 1. Teachers’ and parents’ levels of digital competencies and confidence in the use of ICTs for school-family – Likert scale: 1(min)-5(max).

3.2 Teachers and educators' data

Communication dynamics during lockdown

We will now present the results of the first two questions dealing with the practical aspects of technology-mediated communication with parents – which teachers appreciated the most and found to be more critical.

Among the aspects that teachers appreciated the most, we can list: the rapidity of communication exchanges (40,5%); the efficacy of online meetings (13%); the quality of parents' participation (11,6%). Among the aspects more criticised by the teacher we find: the lack of human contact (24,6%); the parents' lack of digital skills (20,3%); some families' lack of technological equipment (11,6%); the struggle in respecting timing with the increase of online meetings (8,7%).

The second part of the questionnaire focused on the practical aspects of technology-mediated communication with the other teachers which teachers appreciated the most and found to be more critical.

Among the aspects that teachers appreciated the most we can identify: the clarity and the immediacy of the communication exchanges (31,8%); the increase in the frequency of the relationships with colleagues (18,8%); the official digital channels' efficacy (15,9%); the easier participation in school's dynamics (14,5%).

Among the aspects more criticised by the teacher emerged: the lack of human contact (21,7%); the difficulty in communicating through digital tools which makes some institutional tasks even more complicated (20,2%); too much time spent online (8,7%); an overwhelming sense due to the feeling of being always available (8,7%).

Perceptions about school's rules concerning school-family communication

In Fig. 2 one can see the teachers' perceptions about the efficacy of school rules concerning SFC. By looking at the table it is possible to note that, in general, teachers find these rules quite adequate (average Likert value: 3,75).

To the open-ended question 'Which proposal would you have to supplement the regulation?' 26 teachers out of 69 teachers replied.

The most relevant categories of proposals that emerged are the following: putting effort into making clearer communications (8,7%); communicating in more appropriate moments (7,2%); using exclusively official channels (5,8%); communicating also in foreign languages (5,8%); better online meetings' management (5,8%); include educators in the use of e-registry (4,4%); provide more training for teachers and parents about SFC (4,4%).

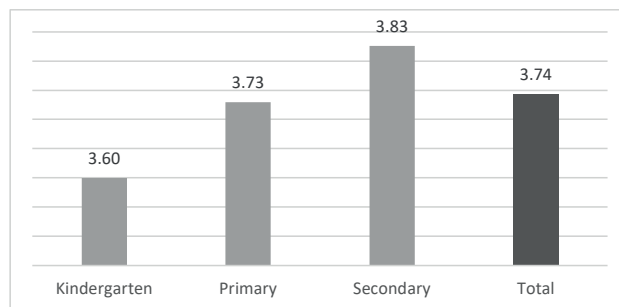


Figure 2. Teachers' perceptions about the school's rules concerning SCF – Likert scale: 1(min level of adequateness)-5(max level of adequateness).

3.3 Parents' data

Communication exchanges mediated by technology during lockdown

This paragraph presents parents' answers to the survey's questions aimed at collecting their perceptions about SFC dynamics during the lockdown.

Fig. 3. displays the answers to the question 'Do you feel you need a closer relationship with the teachers and the other parents?' What emerges is that 41.2% of the parents wish to have more occasions to communicate and to get to know the teachers as opposed to 26.2% of the other parents. We must remark that 47,1% of the parents whose children are in kindergarten showed a stronger need for more contact with the teachers. Contextually, only 17.6% of these parents showed the lowest interest in having more contact with other parents

A rather interesting scenario emerged from the open-ended questions that explored the reasons behind these answers.

With regard to the exchanges with the teachers, the 163 parents who did not feel the need for a closer rela-

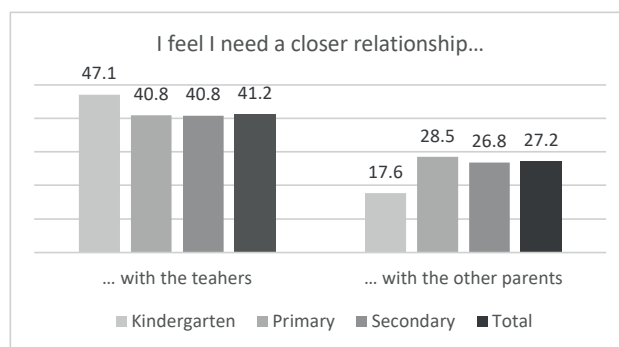


Figure 3. Parents' answers to the question "Do you feel you need a closer relationship with the teachers and the other parents?" (Results in percentage).

tionship with them, provided the following responses: teachers are already enough available (9,2%); the presence of enough tools to communicate with them (5,3%); the presence of enough information (5,1%); complete trust in teachers' work (4,9%).

Moving on, we find that 51 parents reported that they feel the need for a closer relationship with teachers, giving the following responses: need for more occasions to discuss their children's situation (10,4%); wish for more face-to-face relationships (8,5%); wish longer discussions (7,4%); wish to meet the teachers and better getting to know them (5,5%). With regards to the exchanges with the other parents, 217 respondents reported that they would not feel the need for a closer relationship and substantiated their replies by stating that: the group chats are enough and are effective (10,6%); the presence of a good relationship before the lockdown (8,8%); no need for confrontation (6,9%); seen the pandemic the situation is already enough satisfying (2,7%).

There were 29 parents who reported that they would have preferred a closer relationship with other parents, stating that: the need for confrontation with other parents (9,2%); missing human informal relationships with

other parents (4,4%); wish of meeting other parents and better getting to know them (3%).

Among the most appreciated aspects regarding the school's communication modalities, parents listed the following: rapidity (50,2%); e-platform's effectiveness (36,5%); clarity of the communications (21,8%); frequency of the exchanges (11,4%).

Another element presented in the research was the causes that may hinder parents to follow regularly all the communications that the school sends. By observing Fig. 6, we can identify the main causes: lack of time (39%); the presence of too many channels (14,4%); the presence of too many communications (11,4%); lack of digital skills (6,7%).

Finally, we present parents' preferred communication channels (Fig. 7). The two preferred channels are the website and the official emails from teachers and school-principal (respectively 50,7% and 39,6%), followed by emails from parents' representatives (27,1%) and e-register (23%). Another observation was that using the smartphone to access official channels does not represent a habit for the parents part of the research.

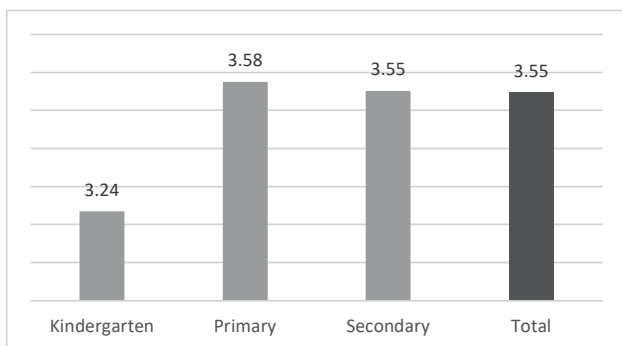


Figure 4. Parents' answers to the question "Can you read all the communications that the school sends?" – Likert scale: 1(I lose all of them)-4(I manage to read all of them).

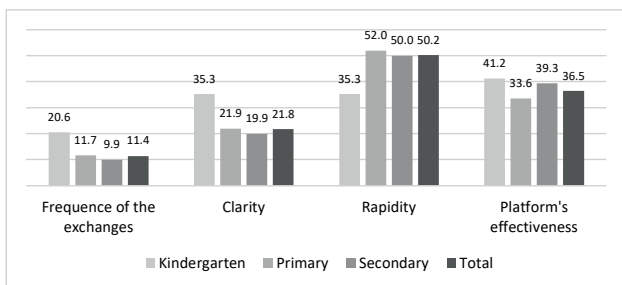


Figure 5. Aspects more appreciated by parents in school's communication modes (Results in percentage).

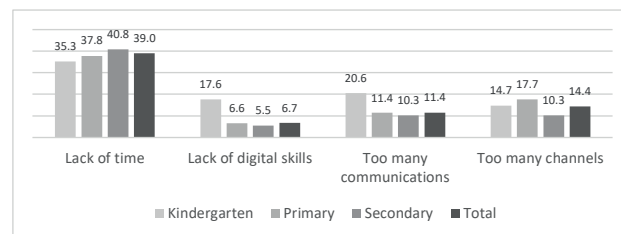


Figure 6. Causes that hinder parents from regularly reading all the communication from school (Results in percentage).

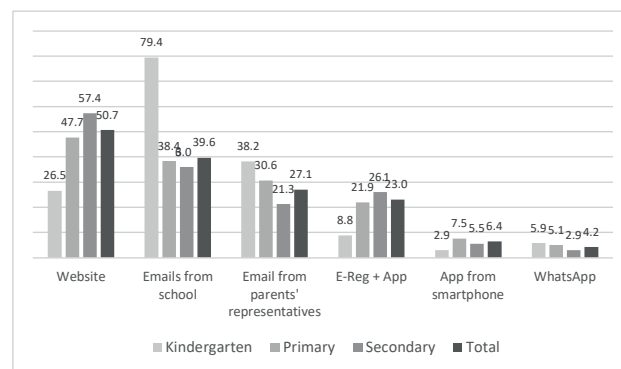


Figure 7. Preferred communication channels by parents (Results in percentage).

4. DISCUSSION

Studies in the field of parental engagement showed that supporting young students' learning requires open communication between school staff and children's families (Goodall, 2016; Goodall & Vorhaus, 2011; McDermott & Rothenberg, 2000). Just like other education systems around the world (Selwyn, 2015), data management become a major concern of educational practices and SFC in Italy. The ability to share information and to communicate through digital channels represented a re-source that, especially during the lockdown, allowed a certain degree of continuity in the SFC (Blau & Hameiri, 2017).

The research explored how teachers and parents consider the issue of school-family communication, answering the following questions: are teachers' and parents' digital competencies enough to guarantee a good level of technology-mediated school-family communication? What is teachers' perception, in terms of usefulness, of ICT as a tool for communication between school and family and between colleagues? Are the communication protocols used by schools effective? How can school-family communication processes be improved?

Despite all the positive elements emphasised by teachers and parents, namely creating a new digital space for building 'community connections' between school and family and enhancing the relationship of the actors involved (Rivoltella, 2017), results highlight at least three significant elements upon which reflection is needed in order to improve SFC: parents' cognitive overload, organisation among parents and problems in organising communication.

4.1 Parents' cognitive overload

Lockdown, smart working, and the lack of separation between professional and private life forced many people to use digital devices for longer periods and to practice multi-tasking. This caused considerable cognitive overload issues.

During focus groups, numerous parents reported losing track of notifications, especially if made only once and when sent too much of advance of the actual date. More timely and repeated notifications a few days before and on the day of the meeting would help to not lose track of the many school appointments. Including the meeting links in the notifications could also be a strategy to facilitate the participation of everyone.

Another problem reported by some parents regarded the file attachments with in-accessible formats in school's communications. Parents who open notifications from their smartphones run the risk of forgetting

about them if they are not able to open the attachments immediately. Sending attachments in accessible formats or not sending attachments but only links to webpages could represent a good solution to this problem.

What we find interesting is that the parents who struggle the most in following SFC mediated by digital tools are the kindergarten ones, who also reported the lowest values in digital competencies. Among the causes of this trend, we can identify the fact that in the school where the research was held, the only section where technology was not used for SFC before the pandemic was precisely the kindergarten. In fact, during the lockdown, all the meetings where parents were meant to be present were suspended.

However, the lack of parental digital competencies appears as a shared problem. Whilst the majority of parents perceived themselves as quite competent in both the use of ICTs for SFC and in their level of digital competence, teachers are more pessimistic with regard to the parents' digital competencies. Not only is the parents' low level of digital competences a concern, but also the fact that many families still do not have the appropriate devices: «[...] there are still too many families who are not provided with suitable technology or who are not used to and unwilling to use technology to communicate with the school» (teacher A, lower secondary school); «[...] one critical issue I have found is that unfortunately not all parents have appropriate technological literacy» (teacher B, kindergarten).

The latter sentence is a reflection of the current Italian situation regarding the digital divide and digital education poverty. Despite the fact that 95.1% (Istat, 2019, p. 7; Eurostat, 2019) of Italian households with at least one minor have a broadband connection and ICTs such as smartphones, PCs, laptops and tablets (IPSOS, 2017), only 29.1% of Internet users aged 25-59 (assumed to be the age range of parents who responded to the questionnaire) declared to have a high level of digital competences.

Among the factors that contribute to enhancing digital education poverty (Save the Children, 2021; Pasta, Marangi, Rivoltella, 2021) we find: 1) parents' social-economic conditions, 2) gender and 3) presence of digital devices at home. All factors which present strong connections with what emerged in our research.

Furthermore, the absence of the act of bringing their children to school, obliterating a 'ritual' which made possible a 'moment set aside for school' (parent A, kindergarten) has certainly contributed to parents' difficulty in focusing on just that one thing.

In fact, if on one hand, teachers find online communication with families more functional in terms of effi-

cacy, timing optimisation, meetings management, parents' participation in interviews, and coordination with colleagues, on the other hand, they identify some problematic factors, such as the stress, the time spent in front of the screen and the lack of human contact. The latter represents quite a problematic factor, especially among families with histories of immigration: «[...] the lack of face-to-face relationships does not allow us to grasp non-verbal messages, and this is particularly critical in communication with foreign families, where the risk of mutual misunderstanding is high» (teacher C, lower secondary school).

4.2 Organisation among parents

With regards to the organisation of online exchanges between parents, class representatives are the most important. These parents play a fundamental role in facilitating school-family interactions, yet it must be remarked that every class works in a different manner. The role of the class representative is performed differently by different parents in different classes and there are no set school rules that govern the role of the class representative, nor does the school provide guidelines about it. Everything is left to the common sense of the parents.

Despite the lockdown, class representatives worked hard by inventing very efficient and original systems which helped to maintain an open and constant communication with teachers and with parents. These class representatives were available in case of need and they acted as reminders for online meetings with teachers or school matters deadlines. It would make a great difference if parents were provided with support, communication guidelines given to class representatives to disseminate information among parents, training on the use of shared calendars, and training on the use of communication tools officially recognised by the school (e-registry, school's website, email from teachers...). These are just a few examples that can be implemented.

4.3 Organisational problems in SFC

Finally, the third emerging element that needs to be considered by schools is represented by the organisational problems in SFC.

The relevance of the act of "curating" (Potter & McDougall, 2017) the SFC processes can also be recognised in the words of the parents: the need for receiving clear and unambiguous information from the school (e.g., updating the class register in a timely and systematic way,

paying attention to the attachments, etc.). These small improvements would greatly simplify class representatives' role. Moreover, among the causes that may hinder parents from regularly read school's communications we can identify the presence of too many channels to monitor and the presence of too many communications. Therefore, it is important that the school adopts an overarching approach (Goodall & Vorhaus, 2011) with the aim to optimise SFC (quantitatively and qualitatively) by keeping at the centre the official communication channels and opting for a multichannel information strategy.

When writing on multichannel information strategy we mean, for example, providing notifications, alerts and reminders for upcoming events and providing "press-kits-like" packages that parents can disseminate without any risks of misunderstandings or misinformation.

One further suggestion is to integrate Spaggiari's *ClasseViva* electronic register (the platform currently in use in the schools part of the research) to permit the creation of Google Meet's appointments automatically, not only for meetings but also for individual conversations.

In conclusion, the main aim of implementing SFC through technology is not simply to inform parents and to provide updates about the homework, but rather to involve parents in school's decision-making processes and foster their engagement in co-participating in their children's education. For this reason, training initiatives and workshops about the use of ICTs dedicated to teachers and parents must be considered a pivotal part of school's proposals.

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