Needs Analysis Report

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Needs Analysis Report

Executive Summary
The Needs analysis is one of the outputs in the DSoE project and the analysis focuses on what schools need and what needs to be done according to the five criteria of the Irish DSoD system: Leadership & Planning, ICT in the Curriculum, Professional Development, e-Learning Culture and ICT-infrastructure. The Needs Analysis Report is based on the work of focus groups that held meetings with schools in the participating countries and answered a survey based on DSoD’s five criteria.

There are differences in ICT maturity between the schools and the challenges for the schools to integrate ICT in the classroom are related to the context in which they work. But the schools in the different countries also have a lot in common when they describe their ICT resources and what’s needed to become a digital school:

- Supporting leadership
- Continuous training and time to test tools
- Good examples and a sharing culture
- Sufficient infrastructure and equipment
- Technical support
- Clear policies from local authorities

1Digital Schools of Distinction, see link: http://www.digitalschools.ie/
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1. Background

The Needs Analysis is focused on the five criteria outlined in the Irish DSoD system and the requirements for implementing an accreditation system. The topics covered include:

- Leadership & Planning: Digital Schools of Distinction will have a well defined strategy, and a positive attitude towards Digital Technologies.

- Integration of Digital Technologies: Schools will integrate Digital Technologies across the curriculum. Staff will demonstrate a clear understanding of how Digital Technologies can be used to improve learning.

- Digital Technology Culture: Schools will demonstrate an awareness that Digital Technologies affects the quality of learning and teaching, pupil attitudes and behaviour, and the school community.

- Continuing Professional Development: Schools will demonstrate a commitment to ongoing professional development in Digital Technologies, informing teachers of courses, as well as offering general support.

- Resources & Infrastructure: Schools will have appropriate Digital Technologies resources, including hardware, software and infrastructure to support particular learning environments, and reflect plans for Digital Technologies development as outlined in the school's policy.

The requirements of an accreditation system for DSoD.

Focus groups with a minimum of 12 participants were held in each partner country. The feedback reports from the focus groups were collated by the lead partner Sweden. The Needs Analysis Report summarizes the feedback from the focus groups. A survey was designed for the focus groups that asked the questions: What does the school need? What needs to be done about the five DSoD criteria and the subheadings of the criteria?

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\(^2\) See Appendix 1. DSoE Needs Analysis Survey
2. Method

In the period from late November 2015 to February 2016 focus groups met in the participating countries and discussed the questions in the Digital Schools of Europe Need Analysis Survey: What do our schools need and what needs to be done to meet the objectives in the DSoD five criteria?

- Leadership & Planning
- Integration of Digital Technologies
- Digital Technology Culture
- Continuing Professional Development
- Resources & Infrastructure

The answers from the focus groups were partly documentation from the groups and partly answers written in the survey. All groups used the survey’s questions and criteria for the work. There are five documentations and seven different groups answering the survey.

In summarizing all the answers we have tried to use a qualitative approach by which we let the material speak for itself and to read the trend that we found in it.

3. Summary of the answers / collected material

In this part we choose to present answers that we think represent the work of the focus groups and that are representative for the answers in the documentation. The answers are then summarized. As the same subheadings appear in the different criteria, we try to present diverse views and not repeat answers (as one participant in a focus group pointed out: “So I’d find a lot of these questions are the duplicates of each other”).

In the appendixes the interested reader can find all the collected documentation.

3.1 Leadership & planning

The first part of the questions was about the criteria Leadership & planning with the subheadings Vision, Planning, Integration, Acceptable Use policy and Special Educational Needs.

**Vision:** “We need a vision that is very clear to everybody - also for the pupils. The schools are at different levels, so it is important with a clear vision. We need a vision we can evaluate and change. The management of the school must take the lead in the process. It is not about what we have, but what we do. We must be aware what the reality in the schools is - and what the demands from the government are.”

**Planning:** “If you have vision, they are sort of intertwined. You have it across the curriculum, every subject. You can bring ICT into every subject so if you’re planning for any subject you bring ICT in as well as Geography, Art, everything can be incorporated with ICT. So your e-learning plan should be covering all the curriculum subjects, naturally.”

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3 See Appendixes 1-7
Integration: “ICT is not a subject to be taught in isolation of other subjects. The development of ICT skills is integrated into each subject when and where possible. This integration should not be forced. ICT should be at the core of project based learning and used as a tool to access new information and to present their findings.”

“The plans have to be made together with the ICT team. We also need a plan that tells us what our pupils/students are supposed to learn about ICT each year. We have to admit that no one can be an expert in everything. We can, for example, organize training afternoons in which teachers can divide knowledge and learn from each other. Peer counselling is a good practice.

The principals have an important role when it comes to learning environments. It is very important that principals have a clear vision of what digitalization is. We have so called Tablet Schools and we are talking about the digitalization of schools but in reality the pedagogics hasn’t changed. We may use digital books instead of printed books but more needs to done. The principals have a key role to make the teachers understand that ICT is just a tool and the teachers need to consider how to use it efficiently”

“There must be given time for the teachers - and space and resources to meet with ICT as the focus. There is a need for giving the teachers more competences. Super users are important when the teachers need support. ICT must be part of the teachers’ year plan. The pupils are ready for teachers to use the technology even more. You should be able to get knowledge when you need knowledge. Peer learning can help.”

Acceptable Use policy: ‘Each school must have its own policy in place as to how they deem what is acceptable use on the Internet. What sites they allow the pupils to use and how they monitor the use by students is also important. They can block certain sites that are deemed inappropriate but then they are restricting the level of creative input by the students. Another aspect is how much is the school time such be allocated to ICT.”

“Our school hasn't developed any written or shared policies.”

Special Educational Needs: “Support of ICT as a tool for learning in special educational needs exists but it is uncoordinated. Some teachers are aware of the existence of certain apps and software which will help pupils with special needs to learn better but not always they can use them for lack of equipment or not enough confidence in using certain tools.”
Summary:

- In most of the answers it is emphasized the need for the schools' leadership to be engaged in the work of ICT-development and leaders must have a clear vision shared with the whole school community.
- Planning for ICT needs to be cross curricular and ICT has to be incorporated in all subjects.
- Planning needs to describe students’ progression.
- There is need to give teachers more competences.
- Time, space and resources are needed for teachers to have ICT-focus.
- Schools need to work with their user policy, some schools don’t have one.
- Coordination, equipment and knowledge among all teachers about how ICT can help SEN is needed.

3.2 ICT in the Curriculum
The second part was about ICT in the Curriculum and the subheadings Teacher Understanding, Planning, Teacher Use, Student Experience, and Special Educational Needs.

Teacher Understanding: “Teachers need practical workshops and training. Theory and discussion are all very well but it's the hands on activities that will get teachers understanding and using technology.”

“I think that most teachers in our school can see some benefit to ICT integration but many struggle to see past the technical challenges”

“Teachers have a poor understanding of the real benefits for students of using ICT in class. Generally speaking, they know that ICT can improve or enhance students’ skills or learning but they do not know the tools and therefore they do not know how to do it.”

Planning: “We must plan the use the common assessment system which is under implementation. We still need to integrate ICT in the daily work in the different subjects and broaden the use beyond “typewriting”. The digital natives still need basic knowledge about folders and how to structure digital work. We need to clarify what we demand from the students.”

“ICT are supposed to be used widely but teachers lack explicit examples of best practice. The statements in the national curriculum are mainly seen as general incentives but do not help teachers and/or principals see clearly where to find information and what to set up.”

Teacher Use: “Teachers will use the technology regularly if it's available to use and more importantly if they can feel comfortable with it. Teachers will generally use anything that will prove beneficial for their students learning experience.”

4 Special Educational Needs
“There must be a demand for using the resources and equipment bought by the school. Buy less analogue materials - and reduce photo-copying. Introduce a common learning platform to make a common culture. It is the responsible for the teacher to use the things available. There is a need for scaffolding good ways of using ICT.”

“ICT should improve every student’s skills. The learning materials are made by teachers and the contents are carefully planned. Unfortunately, teachers are not always willing or able to use all the e-materials made for teaching. In some cases, teachers have poor ICT skills. More in-service training is needed”

**Student Experience:** “Students occasionally use ICT as part of the learning process but there is no consistent access or availability of ICT in the school”.

“The span is large between schools, the level needs to be raised. At schools where all teachers use ICT they help students to use ICT. If lesson plans, homework and tests are booked in the intranet (GAFE) and other functions are used this makes it easier for the students to use ICT in the learning process.”

“Just on students’ experience I think that it, in a digital school of distinction, it needs to be, and it needs to reach level five. I have a set of rubix here on front of me and it starts that students have the opportunity to use ICT. ICT is there for knowledge construction, it’s required for knowledge construction and then the last letter we would say that students are designers of an ICT product, like Scratch programming or stuff like that, that’s the level you would expect in a digital school of distinction. For children to reach rather than just using it to just show something. More so creating it themselves.”

**Special Educational Needs:** “More teachers need to know about the SEN-tools we have. The secondary schools have longer experience. The newly arrived immigrants /refugees will need special resources and teacher training.”

“Technology should support special education and offer alternative options for traditional materials. The digital content has to support a child at his stage of development, enhance the learning to learn and detection skills and make it easier for the child to orientate towards learning. / the subjects that are taught.”

**Summary:**

- Teachers need practical workshops, training in understanding and using technology.
- We still need to integrate ICT in the daily work in the different subjects and broaden the use beyond “typewriting”.
- We need to clarify what we demand from the students-
- Teachers lack explicit examples of best practice-
- More in-service training is needed to use e-materials used for teaching.
- More teachers need to know about the SEN-tools we have.
3.3 Professional Development

The third section was questions about Professional Development and the subheadings Teacher awareness & participation, Panning, Focus, Teacher Confidence, Special Educational Needs and Informal Learning.

**Teacher awareness & participation:** “A lot of teachers are unaware of what is out there in relation to ICT and only become aware when they see another teacher carrying out a lesson using the technology available. Constant updating and an awareness campaign are crucial aspects in getting teachers on board. Email or forum contact are ways of informing teachers along with courses.”

**Planning:** “Incorporating the needs and requirements in the short term and long term plans for schools is another important mechanism for recognising what the professional needs are and how they can be meet.”

“As said, there are some who identify their needs and work on them and there are others who don’t.”

“You differentiate in a classroom all the time, differentiation has to be applied to training as well but teachers need to take that responsibility to say do you know why don’t we do this, or that? It’s all about empowering leaders within your staff.”

**Focus.** “Acquiring basic ICT skills is the main focus.”

“Our professional focus is not centered in using basic ICT skills, We have already acquired those skills, we are now on the way of how to use technology in the class using a different methodology by using ICT.”

**Teacher Confidence:** “So if teachers had time just to explore the software and the resources and the equipment they have in their classrooms then they would hopefully be able to use it and be more confident to use it then in the classroom.”

“The principal and the teacher could discuss during the professional development discussion what kind of ICT training the teacher needs. The plan needs to be documented”

“Time for sharing best practises is also required, whether it be among disciplinary colleagues or across all subjects. This would be a way to develop their digital confidence which would in turn enable them to teach differently, whether it be with mainstream pupils or with special needs students.”

**Special Educational Needs:** “Teachers have acquired the skills to use some technology techniques to facilitate the inclusion of students with educational needs, but I think we should learn more about this.”

“No teachers have completed specific ICT & SEN training however teachers are constantly trying out new digital learning experiences to engage the SEN students”
“Teachers are qualified and well trained but still are not facilitated in using a wide range of technologies with pupils with special needs because of lack of school equipment or because not trained in using specific software.”

**Informal Learning:** "The leader must make sure to create a culture and give time to teachers to learn from each other. The leader’s task is to support key persons to share knowledge."

“Some schools works in a structured way with this with groups for planning, discussions and local teachmeets. A change in the school’s culture is needed with a leadership creating conditions for this”.

**Summary:**

- Teachers need to be informed and updated about ICT, learning and courses.
- Teachers need to take responsibility for their knowledge and development.
- Teachers need time just to explore the software, the resources and the equipment they have in their classrooms.
- Time for sharing best practices is also required, whether it be among disciplinary colleagues or across all subjects.
- There is a need to learn more about how to work with students who have educational needs.
- The leader must make sure to create a culture and give time to teachers to learn from each other.

**3.4 e-Learning Culture**

The forth part was *e-Learning Culture* with the subsections *Access, Evidence of Use, Website/online Presence, Projects, Organisation and Communication.*

**Access:** “Whenever questioned about e-learning culture, both teachers and principals focus on the necessary development of the school’s e-learning culture. Indeed, they underline the difference existing between the digital culture (label preferred to « e-Learning culture ») existing in society, generally speaking, and the digital culture people (both teachers and learners) can have at school. There seems to be a total rift between both environments. It is very difficult for teachers to accept the fact that they are less knowledgeable than their pupils in some fields. Therefore, they refrain from resorting to some digital practices”.

“Teachers and pupils generally have access to e-learning resources from home. Resources more used in one-to-one classes. Teachers need to be more present on the net in forums.”

“Access is very limited due to the quality of the computers and the network itself.”
**Evidence of Use:** "Assessment: It needs to be written down what is evaluated regarding the use of ICT in learning. This has to be part of every teacher’s plans. (The guidelines of Steps for Information Management). We must encourage teachers and students to publish their advances. Learning environments regarding to the educational usage of ICT need to be improved."

“The school displays excellent use of eLearning. Some teachers have closed blog sites to connect home and school. Our school website is currently under construction but we have an active school website. Some teachers use ICT as a tool for assessment which can be accessed at home and in school e.g. Edpuzzle, Khan Academy, Google Drive."

“There is little visible evidence of e-learning. There is little e-learning culture in some schools but it is still experimental. It is not visible and as well as sharing of good practice within the school or with other schools.”

**Website/online Presence:** “A municipal decision is important for instance about Google Apps for Education. We must focus more on photos and video. Incorporate social media on the website.”

“School has a website but it is scarcely used.”

“I suppose when we set up our school website that was one of the prerequisites was that we would have content to go up on it. There’s no point in having an online space if you have no content to put up on it. But I don’t know about having a content management system to create a space for school community can publish content. I suppose with the iPads you can put books on iBooks and you can make books in the classroom. I think that would be nice. I think a basic need would be to have a school website definitely.”

**Projects:** “Digital culture, so far, appears to be more frightening than positive: it questions the position of the all-knowing teacher, dispensing knowledge. A digital culture can only be developed if it goes along with a change in attitudes and expectations of French society. However, the members of the focus group want to explore ways to set up a digital culture inside the school by giving more visibility to individual practises and by sharing and experimenting new ways of teaching together. All encompassing school projects could be set up so as to enable this profound change of attitudes.”

“Projects with external collaboration are not much in use in the schools and the school’s hopes that this will be developed in the DSoE-project and the eTwinning projects.”

“A limited number of teachers are engaged in school based ICT project work.”

“No teachers have engaged in school based ICT projects”

“It is necessary to be able to build up relations. The teachers have not yet the full understanding of the benefits of working together with international cooperation - eTwinning and ePals to be promoted. The leaders must focus on this. The teacher must learn how to use collaborative tools like Padlet.”
**Organisation and Communication:** “The school has an email address for basic needs. Not all the teachers are involved in this and some do not have the basic skill set to use this technology.”

“Most schools have a register-on line and use CMS to communicate with parents but just few of them use it regularly. They still prefer other ways of communication: notes on diaries, personal contacts or emails. Parents need to be more involved in the use of ICT as means of communication.”

“I can just see a little bit of difficulty with schools trying to have online access to students’ records, timetables and that. There wouldn’t be expertise there among staff or secretarial staff in the school. You definitely need outside help to facilitate something like that to promote the communication. Most schools probably now have an email address where they’re available through that but to push on from there I think schools in general would need a lot more outside help to facilitate that, I can’t see many schools being able to go much further independently”.

**Summary:**

- Both teachers and principals focus on the need for necessary development of the schools’ e-learning culture.
- Teachers need to be more present on the net in forums.
- The quality of computers and network need to increase.
- It needs to be written down what is evaluated regarding the use of ICT in learning.
- There is little visible evidence of e-learning.
- Projects with external collaboration are not much in use in the schools and the schools’ hope that this will be developed in the DSoE-project and the eTwinning projects.
- The teachers have not yet got the full understanding of the benefits of working together in international cooperation.
- Parents need to be more involved in the use of ICT as means of communication.
- You definitely need outside help to facilitate and promote the communication.
3.5 ICT-infrastructure

The last part of the questions related to *ICT-infrastructure* and the subheadings *Planning for Acquisition and resources, Lan and Broadband Access, Technical Support, software and digital Content, ICT Equipment and Licensing*

**Planning for Acquisition and resources:** “I think that again it comes back to people in the school. I think that there needs to be technical support available to the staff. Formal provision for technical support available because stuff breaks down. Needs to be set up to decide what would be best within your school, what would work best. What ICT, like iPads, new laptop or do you need to buy, a focus group. Identify your needs. There are a lot of things to be taken into consideration when you are buying it and it’s like that, a focus group is really important so it doesn’t all depend on one person and feeling that pressure, aah why did I, and also it’s also not one person who is anti-Apple and they want Android so it’s a joint consideration but like for that I know that we’re on to the WiFi after it but being realistic with the situation, if we’re going to buy laptops do we have a WiFi that can be actually used to support. ….. But again I do think that that comes back to the assumption of knowledge, who can put in a classroom projector? Who cleans the filters…?”

“There is not a planning of the financial resources to buy ICT equipment or provide regular technical support.”

“The ict-adviser at the school must know about and focus on didactics not the technical side. The capacity of the wireless network is important. Important to inform the politicians about the needs. Make a minimum need of technical support by using technologies like Chromebook where you just get a new one if something goes wrong.”

“ICT equipment is given by educative authorities. There is a lack of technical support.”

“Whenever the LEA\(^5\) launches an acquisition plan, principals and teachers should be involved in the decision-making: each school should be able to benefit from a tailor-made acquisition planning, respecting its own project. Then, acquisition of resources should go hand-in-hand with adequate training in order to enable teachers to use the new tools efficiently.”

**LAN\(^6\) and Broadband Access:** I think every school needs WiFi before they can…realistically call themselves a digital…

“At the end of the day there’s huge need for real proper technical support to be supplied by PDST\(^7\) to come into schools or to offer that specific training to schools for people to come in and do a training day on how do we set up a digital school in terms of WiFi, what needs to be purchased, to be realistic about the maintenance, but the WiFi is the biggest thing for me is for me to know, what broadband/bandwidth you need to support this level of usage.”

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\(^5\) Local Education Authority

\(^6\) Local area network

\(^7\) Professional Development Service for Teachers. These issues were previously under the remit of National Centre for Technology in Education
‘Broadband access and LAN structure is handled by City´s ICT-administration in cooperation with the schools and the WiFi in the schools is under development because of the planned one-to-one project. The students can save and access all their documents on Google Apps for Education.”

“Almost all schools are connected to a broadband but the access to the internet is limited and weak to sustain the workload on-line of the whole school. An empowered of the network and new contracts should be required.”

**Technical Support:** ‘It is typical that the schools have the same person for technical and pedagogical support - maybe this should be separated?”

“All schools have access to technical support from the ICT-units 10 technicians. All Teachers can contact the technicians via e-mail and get support. Not enough support according to the schools, but the need for support will decrease with on-to-one.”

“Like in my school I’m the technical support. So if something goes wrong then I’m called and if I can’t fix it then we get someone who charges €90 an hour. I don’t mind doing it and I think as I said the technical support is carried under the voluntary assistance, it’s fine but I have to leave my classroom. I have a duty here to my pupils. I can’t really just run into you because someone’s projector won’t switch on. So I personally think that for a school, a digital school of excellence you need to have technical support. Regular. Even someone coming out once a month, what’s happening, what’s going on…”

**Software and digital Content:** “All teachers and students in Malmö have access to the National Encyclopaedia, digital tools as spellcheck, word prediction, all schoolbooks as audio files and text-to-speech applications. Special resources and software are implemented for immigrant students. Some schools buy additional services themselves.”

“Limited e-learning resources are available and digital tools are not used regularly.”

- “Software that enables the teachers, as kind of a tool, so say if there’s a software for literacy that teachers can develop their own interactive activities and build their own activities based on whatever they’re doing in their classrooms. So if teachers had that software then it would enable them to create interactive resources themselves.”

- “From the area of software and what’s out there, the likes of Mathletic or Reading eggs they have huge potential for schools because they’re looking for digital content but organised digital content and even from the area of literacy and numeracy that it’s set in stages as well. Kids love this kind of information and teachers as well because it progresses and it increments and its laid out in steps of stairs that they can feel like they’re achieving. But the only thing is that schools have to pay for this and it would be great if these were available but
with Irish content and suitable and also that it is available for everybody not just a school that can pay rather than a school that can’t pay. So that’s a challenge really for the content.”

**ICT Equipment:** “Nearly all teachers have laptops and classrooms generally have projector and many have interactive boards. Most schools have a mix of iPads and Laptops, often on carriages for different groups to use. Hopefully the one-to-one project can start in 2016. The students can use the school’s WiFi on their own devices.”

“Both teachers and principals express a need for better, more standardized equipment, and for a team of technicians who can quickly solve technical incidents.”

“We have a variety of resources such as IWB’s\(^8\) and iPads but not enough to deal with ongoing technological development.”

“Some classrooms have PC’s, some other do not even have Interactive Boards.”

The one area that I’d love to have seen a little bit more of development in is the whole area where once upon time like the beebot where children do a little bit of programming but they want to see it real time, around on the floor and with Lego. Logo in the beginning got off to a great pace with it and then Lego took it over and suddenly it went from being just our area of primary school or early teenagers and upper with technics but I’d love to see something come back into schools that they could physically see when they do their little bits of programmes, particular device move around the floor and the pattern that they generate on the desktop. Real time so they can see what they’ve done digitally.”

**Licensing:** “Most software is licensed. Hopefully.”

“This is very unclear for teachers unless they have done a course detailing it.”

“We have some licensed software in the school.”

“The school ensures that all new installations meet the required licensing standards”

“All Microsoft licences are handled in a centralized way as well as the common digital tools. Applications for Microsoft are distributed in a Microsoft service, but the individual school buys the license. This is confusing and needs to be looked into. For iPads the ICT-unit is working on a MDM solution.”

**Summary:**

- The need to decide what would be best within your school, what would work best. What ICT, like iPads, new laptop or what do you need to buy, identify the needs.
- There is not a planning of the financial resources to buy ICT equipment or provide regular technical support.
- Make a minimum need of technical support by using technologies like Chromebook where you just get a new one if something goes wrong.

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\(^8\) Interactive whiteboard
● Each school should be able to benefit from a tailor-made acquisition planning, respecting its own project.
● There is a need for support and advice when it comes to expansion of WiFi.
● It is common that the schools have the same person for technical and pedagogical support.
● Limited e-learning resources are available and digital tools are not used regularly.

● Both teachers and principals express a need for better, more standardized equipment, and for a team of technicians who can quickly solve technical incidents.
● We have some licensed software in the school.
4. Discussion

There is much in common, but also significant differences in the responses of where the schools are in their development and what their needs are to achieve according to the DSoD criteria. All the levels from initial to e-mature according to the DSoD criteria can be found in the answers.

You have to keep in mind that the criteria are constructed in an Irish context. Every country has its own national school context and ICT is handled in different ways in the school systems.

Lack of resources, information, equipment and of time are common explanations for the level of ICT maturity in the school.

Something that is reflected in the answers again and again is that it seems to be up to the individual teacher to use ICT in the classroom. It does not seem to be mandatory for teachers to use ICT as a learning tool and to develop knowledge about the digital world.

The answers come from different educational systems in which the different countries and schools have different conditions for their digital development. Central and local authorities act differently in different regions in terms of management, ICT curriculum, financing, training, support and infrastructure. That leaders at all levels supports ICT development is crucial for the development and approach both regionally and in the local school. The answers in the questionnaire and the documents are coloured by the local "ICT culture".

Some common trends that can be seen:

- The importance of a leadership with clear visions of how ICT must be integrated into the school.
- Descriptions that emphasize the importance of continuing education courses offered. (Summer courses) for the skills of teachers.
- Inadequate broadband
- Insufficient access to computers
- Lack of resources in hardware, WiFi or lack of interest from management /authority affects the level of how ICT is used and how usage is developed. All parts in the school ICT-context are dependent upon each other.
- Awareness of the importance of the DSoD criteria and that the schools work with development of ICT as a learning tool in their own ways.

What is needed to be a digital school? In the answers we have found these frequently described needs:

- Supporting leadership who participates in the daily work in the school and leaders are good examples.
- Workshops and more advanced training, not just more basic courses.
- Time to think and test how to integrate ICT as a tool in the curriculum.
- Incentives for sharing peer to peer and good examples.
- Clear policies from local authorities.
5. Appendixes (attached)

1. DSoE Needs Analysis Survey
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