



Case studies

15. Foros do Trapo Primary School (Pegões, Canha and Sto Isidro School Cluster Group), Portugal

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This is one of 25 case studies produced for STEPS, the Study of the impact of technology in primary schools, to illustrate the impact of ICT, on schools, teachers and learners, and to highlight barriers and enablers to its effective use in the school. Further information can be found at <http://steps.eun.org>.



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1. CONTEXT OF THE SCHOOL

Foros do Traço Primary School is part of a School Cluster Group covering a border area of rural countryside and industrial zones, about 60km from Lisbon and 30km from Setúbal.

The cluster has a total of 703 pupils, distributed across one secondary school (2nd and 3rd cycles of compulsory schooling) and 12 primary schools, spread across several localities. The secondary school (the main school in the cluster) is about 25km from Montijo, the main town in the municipality.



2. EXAMPLE OF PRACTICE - LIGAR FOROS DO TRAPO

Features of the Pegões, Canha and Santo Isidro Cluster Group include:

- Only one teacher has enrolled on the National Programme for Teaching Portuguese (the continuing development programme for primary school teachers) during the current academic year and is training to become a teacher trainer.
- Primary school resources are provided by the city council, including ink cartridges and other consumables.
- ICT features in the National Curriculum from pre-school onwards.
- Assessment exams are taken in school in May, and students are specifically coached for them. The timing is seen to be disruptive, however, as students are still working on their learning assignments. There does not appear to be any relationship between assessments and ICT besides the administrative tasks required.
- The maintenance of equipment is carried out by Montijo City Council and is considered to be high quality. A technician visits the schools weekly, either on request or on his own initiative, and technical problems are resolved promptly. The cluster ICT coordinator also helps to resolve certain equipment maintenance problems in primary schools.
- Teachers have expressed the need for training on the e-escolinhas



programme, a view shared by the ICT co-ordinator.

- Teacher training in the educational use of ICT is carried out on the request of schools by a trainer from Cenforma (Teacher Training Centre). Centrally established training priorities at present include access to ICT and teacher assessment.
- A resource centre at the main school in the cluster serves the whole school community, including the most distant schools.

2.1 ICT ACCESS POLICY MEASURES

- All children are enrolled in the e-escolinhas programme and have been receiving 'Magalhães' (a first laptop) in phases. This initiative was an important enabler in allowing pupils from the schools to have access to ICT and the internet.
- The lack of online resources available in Portuguese is seen as a barrier.

2.2 ICT AND SCHOOL ACTIVITIES

- Extra-curricular activities have not included ICT during the current school year, although they have in previous years.
- ICT is mentioned in the school plan, as well as qualitative references to the performance of primary pupils and the ICT skills they should master by the end of this cycle of compulsory schooling.
- The distance between the schools in the cluster is considerable and does not facilitate communication in person. Therefore, email and Moodle are used either for disseminating and discussing internal strategic documents, for integrating content between the various school year groups, and for sharing documents between teachers and school leaders.
- There is no relationship between assessment and ICT within the cluster, except for administrative activities such as the release of grades and keeping attendance records.
- It is not possible to determine if there is any relationship between ICT and learning in other subjects: the cluster does not have the means to evaluate the way that ICT use influences the results of tests or assessment exams.
- Pupil motivation in the use of ICT was highlighted. This was exemplified by the use made of laptops during breaks between lessons and outside of school hours.

2.3 COMMON TECHNOLOGICAL PLATFORM

- The City Council has provided considerable support in terms of equipment: all classrooms are equipped with one or two computers and a printer.

- The equipment was chosen by the Council, who also fund consumables such as paper and one ink cartridge per month per printer.
- All primary schools have their own web page.
- A cluster Moodle space is under reconstruction, since it recently became inaccessible. The space has an area for public news, but it is basically a support tool for lessons, used by teachers to circulate and discuss documents between themselves. Moodle is also used by various secondary-school classes, as a space for posting summaries. The pupils have a positive opinion about the use of Moodle.
- There are some instances of communication via MSN between teachers and pupils. Only one teacher maintains their own web page.
- ICT is mostly used for school administration.

3. IMPACT, BARRIERS AND ENABLERS - THE SCHOOL VISITED

Foros do Trapo Primary School belongs to the Pegões, Canha and Santo Isidro Cluster Group. It is considered to be an isolated school, in the depths of the countryside, where the principal activity of the population is farming, specifically greenhouse flowers.

The school comprises two classrooms, storage space, bathrooms and a canteen where meals are served to teachers, staff and pupils.

The school's staffing comprises two full-time teachers, one support teacher for pupils with learning difficulties who visits the school one morning each week, and two assistants who also act as cooks. Collaborative work between the two teachers was evident throughout the visit and was mentioned as an important element in their professional development.



Extra-curricular activities take place in the classrooms outside normal school hours. The teachers feel that the pupils are overworked: since extra-curricular activities take place in the classroom they tend to be viewed as normal classes. Teachers report that, from mid-week, the pupils seem to be very tired, and this has a negative effect on their academic performance.

One class has 17 pupils in Years 1 and 2, and the other has 14 pupils in Years 3 and 4. One classroom has one computer, and the other has two. Each classroom also has a printer, linked to the internal network for the sharing of resources, and internet access.

The support of the City Council is seen as being very important. It has given the school some equipment and has provided some educational software. However, support is not always

timely: specific mention was made of a request to install a wireless network at the beginning of the academic year, which has still not been implemented. With the distribution of Magalhães to almost all pupils, this request has become urgent. The Council technician visits frequently to maintain equipment, and this is seen as a great help. The teachers also receive excellent support from the cluster group management.

The financial support the school receives from the cluster is the same as that given to all the schools, making it necessary to carefully manage use of consumables such as paper and ink for the printers. Both teachers share this responsibility.

With regard to national teacher training programmes for primary level (maths, Portuguese and experimental teaching of sciences), neither teacher at this school has had the opportunity to participate in them, despite expressing an interest in doing so.

Within the cluster group, teacher training in ICT is prioritised with the aim of acquainting teachers with the use of ICT in the curriculum, contributing to the work of the pupils and stimulating the involvement of parents in the education process.

The two teachers at the school have different characteristics: one is the driving force behind the work and the other takes a more collaborative role. Despite these differences, they share the same aims and appear to work well together. They both believe that ICT is an important means for changing the educational paradigm, for their own professional development, for the students' learning, and to improve relationships between school and the family. These objectives have led them to start a joint project: the 'Ligar Foros do Trapo' (Connect Foros do Trapo) project.

The parents were asked to collaborate in the 'Caderno de Ideias' (Ideas Notebook) with Portuguese language activities, which came to fruition through the collection of nursery rhymes, riddles and folk tales. The notebook received many contributions.

Mathematical challenges are also held, one each school year, to be solved by the pupils working together with their families. Several answers were received and the teachers provide a description of the route taken to achieve the results obtained. Since the school is located in an environment where internet access is difficult, parents can use the school premises to consult websites or post contributions online. Pupils are given the same sort of access, seeking to avoid unfairness. In this way pupils can write their texts at home, and then post them on the portal at school.



In addition to a school newsletter, available to parents via the school website, parents can also access personal information on their children via a private online space. Available information is similar to that which would normally be gained from face-to-face contact with the teacher.

3.1 THE RELATIONSHIP OF THE TEACHER AND TECHNOLOGICAL RESOURCES

The internet, search engines, word processors, drawing programs and Excel are the most commonly used to create and access information by teachers, pupils and parents.

The internet is an indispensable resource for the teacher's work, allowing them to communicate with each other, gather materials and plan activities, and communicate with other schools where paper is no longer used.

The internet is also used to share resources between teachers in the implementation of a curricular project of the cluster, under the title 'Descobrir e Aprender' (Discover and Learn) with a particular focus on scientific subjects (maths, Portuguese and environmental studies). This sharing is done exclusively by the two teachers of the school.



The cluster group also uses Moodle for sharing administrative resources. These methods of sharing are considered important since they help to alleviate the school's isolation.

In the classroom, the computer is frequently used to find information on particular topics, to work on specific tasks or as a recreational tool, using educational games. The computer is used most frequently to support lessons on Portuguese language and environmental studies.



The internet is also a useful tool for accessing resources as detailed in the National Reading Plan.

Awareness of pupil skills on entering primary school are established through meetings held with the pre-school teachers and consultation of pupil files, which are usually very well documented. Most pupils have no ICT skills, however, since the majority of pre-schools do not have a computer.

3.2 THE ROLE OF ICT IN SPECIAL EDUCATION

One of the pupils at the school has learning difficulties with poorly developed reading and writing skills. This pupil, like all the rest, has his work published online, in his private space. When he is with his support teacher, he works with another pupil from the cluster with special educational needs, using instant messaging (MSN). The pupil needs help with reading and writing the messages exchanged with his friend, but his motivation to participate in this activity has led to development of his learning in this area.

3.3 TEACHING SKILLS AND PROFESSIONAL DEVELOPMENT

Both teachers said that, little by little, their teaching practice has changed. Changes began with personal attitudes and increased understanding of the advantages of lesson preparation, but have now started to impact on the classroom. In particular, there have been significant changes in the ways that the teachers organise their lessons, and in pupil independence.

The teachers are keen to identify professional development opportunities that include ICT, and have both attended courses at Cenforma and the ICT Competence Centre at Setúbal Teacher Training College. The ICT Competence Centre is also mentioned as being a key source of support for technological and pedagogical development.

3.4 ICT AND MOTIVATION FOR TEACHERS AND PUPILS

The teachers believe that ICT is very important for their own motivation and emphasised its role in self-teaching and peer-led work. They also feel that the availability of the internet in the classroom has improved the quality of lessons for pupils, and is vital in an isolated school such as theirs where there is no library or resource centre. Access to information is now timely and achievable; something that was just not possible before the arrival of the internet.

Research activities are part of the dynamic of the classroom, and pupils have the freedom to access the internet whenever they consider relevant for the activities they are involved in.

The distribution of Magalhães computers has been a motivating factor for pupils.

Although the teachers feel that computers should only be used in the classroom when they are available to the majority of pupils, they recognise that there have been several cases of individual use which has had a positive impact on written work produced for the portal. They cited one example of a pupil who got up very early in the morning to produce a text, which was then posted to the school website.



3.5 CONSTRAINTS IN THE USE OF ICT IN THE CLASSROOM

The dynamic of the classroom, where there is concentrated use of ICT, gives rise to certain problems relating to time management. Planning the time necessary to find answers to a question or write a text using ICT is considered a problem.

Both classes comprise pupils spanning two school years (Years 1 and 2, and Years 3 and 4), which requires a variety of strategies to ensure that all abilities are catered for in the classroom. However, the varying levels of keyboard skills and the existence, up to now, of only one or two computers in each classroom, has meant that pupils need to work in pairs to help each other. However, this does not reduce the time required to work through an activity.

In time, the teachers will receive their own Magalhães, but do not yet know when. Ideally, they would like the opportunity to explore the computer and software before they are used in the classroom but, since the majority of pupils have already received their machine, this will not be possible. The teachers are aware that some useful training modules are available online through Microsoft, but consider these to be insufficient for their present needs.

3.6 SOME FACTS ABOUT THE EVALUATION OF THE PROJECT

Project activities are posted online in advance, allowing parents to closely follow the work being done. Additionally, pupils regularly update 'O meu diário' (My Diary): a weekly reflection which also includes some indicators of their progress.

There has been frequent parental participation in Portuguese language activities, while interaction between teachers and pupils provides an extension of the classroom. There have been various discussions in the classroom on activities launched online, and vice versa.

A parental questionnaire was used to identify positive aspects of the Ligar Foros do Trapo project, and highlight areas for improvement. Response rates were good, with many parents considering the project an important tool for pupil learning. Consequently the Parents' Association is now offering some ICT training to support those parents who don't currently have access from home.



3.7 OBSERVATION OF PUPILS WORKING IN THE CLASSROOM

The pupils are enthusiastic users of technology. The STEPS visit coincided with the first day on which the Magalhães laptops were brought to school by the pupils (although not all the pupils have a laptop yet, despite being eligible under the Government programme). The oldest pupils (age 7) were writing a small text on the 'Day of Friendship'; a day on which the school hosted a visit by some pre-school children. Younger pupils (age 6), who are still in the early stages of reading and writing, were writing phrases in the Magalhães with words and syllables they already knew. Some pupils were working in pairs and helping one another. There was an atmosphere of great enthusiasm. When the pupils had finished the work, they started to explore the wider potential of the computers, showing great curiosity and working with great ease. The large majority of these pupils have only had access to computers and the internet as a result of Government initiatives such as *e-escola* or *e-escolinha*.

From observations, pupils make heavy use of the computer



to write texts, draw, do research and use some educational software. During the visit, pupils used the computers to support their Portuguese language learning. The computers are also used generally for research relating to the subject being studied. The teacher was always available to help with the pupils' initial difficulties: specifically in the use of the keyboard for accents on letters, using capitals, and so on.

The online platform is used to facilitate communication between the school and families, allowing families to follow what is happening in school. The online platform also allows the school to function as a cultural hub, open for learning to the whole school and surrounding community. A summary report is posted on the platform each day outlining what has been done in school and the activities that have taken place, keeping parents informed. The use of technology for this purpose requires great discipline and organisation from all involved.

The involvement and enthusiasm of the pupils in learning activities have significantly increased with the use of ICT, including the use of email and the online platform. Their ICT capacity has also developed as a result of their classroom work. After finishing the task set by the teacher, the pupils explored the computer, taking photographs and changing desktop backgrounds, helping each other without any support from the adults.

4. REFERENCES

- **Sources:**

- Meeting with a representative of the management board of the School Cluster Group, interviews with project co-ordinators, the ICT trainer and teachers and lesson observations.

- **Further information:**

- Ligar Foros do Trapo (Connect Foros do Trapo) website (<http://nonio.es.e.ips.pt/lfttrapo/>).
- ICT Competence Centre website (http://nonio.es.e.ips.pt/nonio21/index.php?option=com_content&task=view&id=289&Itemid=42).

5. ANNEX

A survey was conducted on the professional occupations and educational background of the parents of primary-age pupils in the cluster, to gain a better understanding of the school community. Results were as follows:

Industry	Mothers %	Fathers %

Services	13.8	7.9
Business	5.9	2.9
Agriculture	17.1	19.0
Education	7.8	1.2
Industry	11.5	48.3
Health	1.1	0.0
Management	4.8	8.7
Domestic	2.6	0.0
Arts	1.1	2.9
Unknown	34.2	9.1

There is some dispersion in the occupation of mothers by sector, and the large percentage of unknown occupations (34.2 per cent) which could indicate a high incidence of domestic occupations. These are followed, in descending order, by agriculture (17.1 per cent), service industries (13.8 per cent) and industry (11.5 per cent).

For fathers, there is a clear concentration of occupations linked to industry (48.3 per cent), with agriculture in second place at 19 per cent, while unknown occupations are at 9.1 per cent (which could mean unskilled labour) and managerial jobs at 8.7 per cent.

Educational background	Mothers %	Fathers %
Unqualified	1.4	1.5
Primary school	12.7	21.6
2 nd cycle compulsory	33.9	40.9

schooling		
3 rd cycle compulsory schooling	28.3	14.8
Secondary school	12.7	10.2
Ordinary degree	1.4	0.8
Honours degree	6.7	4.9
Masters degree	0.4	0.0
Other	0.0	0.0
Unknown	2.5	5.3

With regard to the educational background, only 20 per cent of mothers continued their education beyond compulsory schooling, that is, the 3rd cycle of basic education (CEB), with 28.3 per cent completing the 3rd cycle and 33.9 per cent completing the 2nd cycle.

Among fathers, only 16 per cent continued their education beyond compulsory schooling, with almost 41 per cent completing the 2nd cycle and 14.8 per cent completing the 3rd cycle.