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Designing and delivering pre-apprenticeships

Second Technology Opportunities School
Spain



Second Technology Opportunities School - *Spain*

Case study summary

The Second Technology Opportunities School¹ (STOS) aims to improve access to training and employment for young people who are socially excluded, or at risk of social exclusion, in Madrid. This pre-apprenticeship programme targets young people aged 16-25 who are not in education, employment or training (NEET) and aims to work with 70 young people each year. The programme adopts a standardised Second Chance School model, but with a technological focus.

This case study specifically highlights best practice in the integration of digital and transversal skills. By creatively embedding soft skills alongside the development of digital skills, technology is used as a tool for social change, through which young people develop personal and social skills as well as the technological skills needed to access the labour market.

The design of the programme, particularly the way in which it empowers young people to make their own choices about programme activities, provides useful learning about the importance of flexibility in programme design and the way in which this contributes to positive outcomes for participants.

¹ Tecnología social | transformación digital | La Rueda Asociación

Country context

Spain was hit particularly hard by the 2008 financial crisis and the unemployment rate has consistently remained amongst the highest in the EU. In June 2020, Spain (15.6%) along with Greece (15.5%), had an unemployment rate that was more than double the average for EU member states (7.1%)². Young people have been especially impacted by the economic crisis caused by the coronavirus pandemic, a situation reflected in the highest youth unemployment rate among EU member states (40.8% in June 2020, compared to an average of 16.8%).

There are a number of factors that contribute to high levels of unemployment in Spain, including:

- A large 'informal' labour market, which has led to widespread use and shortening of temporary contracts, which make it easier for employers to lay off temporary and often younger workers³;
- Skills shortages - the skills of unemployed young people often do not match the skills needed by employers, especially with an increased focus on digitization and robotics⁴;
- High rates of school leavers - Spain has the highest rate of early leavers of education and training of all EU countries. In 2019, 17.3% of young people aged 18-24 left at the lower secondary education stage, compared to 10.2% across the EU as a whole.⁵

The challenges facing young people in Spain are key drivers for the government's 2019 Action Plan for Youth Unemployment⁶. The plan includes a range of objectives and targets for career orientation, training, employment opportunities, equality of access to employment and entrepreneurship, as well as quantitative targets to ensure all young people have better opportunities for training, employment and quality work by 2021 (e.g. to reduce the youth unemployment rate to 23.5% and the gender gap in youth unemployment by 20%).

The mismatch between the type of education that young people receive and the skills that employers demand is a key issue in the Spanish economy. Despite very high unemployment rates, employers in Spain continue to have difficulty recruiting staff with appropriate skills or professional qualifications⁷. This is particularly true in occupations such as ICT, engineering, managerial positions and healthcare related roles.

Historically, there has been a strong preference for higher academic education in Spain, even though employment outcomes for university graduates are not significantly different to those for graduates of higher levels of Vocational Education and Training (VET)⁸. In 2012, apprenticeship training became a core part of VET in Spain with the aim of improving transition to the labour market for Spanish young people. Formal apprenticeship programmes last for two years and include training in a company (minimum 20%) and at a VET school (maximum 80%). Apprenticeships are offered as a

priority to young people aged 16-21 who have left compulsory education without qualifications.

Two levels of apprenticeship training are delivered in Spain. Intermediate-level apprenticeships are offered to those who complete compulsory secondary education, and higher-level apprenticeships are for those who have already completed their intermediate-programme or have finished upper secondary school. Higher level apprenticeships enable direct access to university.

As part of the national reform to VET, "Basic" Vocational Education and Training, a pre-apprenticeship model, was introduced in 2013 and has opened progression routes for young people with little or no qualifications to access intermediate apprenticeships.



² <https://www.statista.com/statistics/268830/unemployment-rate-in-eu-countries/>

³ https://europa.eu/youth/es/article/39/43629_en

⁴ https://english.elpais.com/elpais/2019/07/17/inenglish/1563347983_803099.html

⁵ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Early_leavers_from_education_and_training

⁶ <https://www.cedefop.europa.eu/en/news-and-press/news/spain-improving-youth-opportunities-2019-action-plan-youth-employment>

⁷ https://skillspanorama.cedefop.europa.eu/en/analytical_highlights/spain-mismatch-priority-occupations

⁸ https://www.cedefop.europa.eu/files/8054_en.pdf

The Second Technology Opportunities School

La Rueca Association

The Second Technology Opportunities School (STOS) pre-apprenticeship programme is delivered by La Rueca Association⁹, a non-profit organisation established in 1990 by a group of professionals working in the social and cultural sectors. It delivers a wide range of projects in areas including technology, cultural diversity, community development and employment and training.

Social technology is a core element of the organisation's strategic approach. Technological tools and resources are used across all projects with the overall aim of increasing the quality of life and well-being of the most disadvantaged and vulnerable people in Spain. La Rueca Association has been delivering projects to link young people with ICT opportunities for more than 15 years including the TECHNOLAB project, Young Community Agents, Digitizing Youth Leisure and Digital Health.

STOS is part of the network of Spanish Second Chance Schools (SCS), which is a member of the European Association of Cities for Second Chance Schools (E2C). The first SCS pilots were launched by the European Commission in 1997 to offer education and training to young people who lack the skills and qualifications necessary to find a job or benefit from conventional training. The STOS adopts a standardised Second Chance School model, but with a technological focus.¹⁰

Programme aims

The programme aims to improve access to training and employment for young people who are socially excluded or at risk of social exclusion in Madrid. In common with many other cities, youth unemployment, already at high levels in Madrid¹¹, has increased sharply as a result of the pandemic. Although the numbers of early school leavers in the city is falling, young people from disadvantaged communities are more likely to dis-engage from the education system and leave school with few qualifications.

The STOS programme has a specific focus on the development of technological skills in recognition of the increasing importance of technology in society and the presence of technology in all employment sectors. Technology is seen as tool for social change, through which young people develop personal and social skills as well as the technological skills needed to access the labour market. The development of transversal or soft skills e.g. team working and communication skills is integrated with digital skills to help young people to understand the relevance and real-life value of these types of skills.

Women are under-represented in Spain in both traditional and STEM professions. The reduction of the digital divide experienced by young people from socio-economic disadvantaged backgrounds, and especially young women, is a key objective for the programme. The STOS runs women-only workshops in small groups, delivered by female tutors. This provides role models for young women, and accounts of lived experience of women who are successful in the technological field. The

programme also uses positive discrimination when recruiting participants, for example selecting all female applicants to courses that are oversubscribed.

Specifically, the STOS aims to:

- Encourage the return of young people who have dropped out of school to complete their studies and/or acquire qualifications in line with their personal and vocational goals.
- Improve personal, social and employability skills through training and socio-educational itineraries adapted to each participant.
- Equip young people with the skills, knowledge and experience to access quality employment through a process of careers guidance and individual counselling, skills development, and occupational training, adapted to the needs of employers and matched to the needs of participants.
- Promote a healthy lifestyle.

Target group and recruitment

The pre-apprenticeship programme works with young people aged 16-25 who are not in education, employment or training (NEET). There are no minimum qualification criteria to join the programme. Participants face a range of barriers to accessing employment including family and social factors such as low income, low value placed on education and low levels of aspiration. Over 43% of young people on the STOS have not completed

⁹ <https://larueca.info/>

¹⁰ <http://www.e2oespana.org/>

¹¹ 33% at the end of 2018 in the Community of Madrid, according to Spanish Labour Force Survey (EPA) data)

secondary education. In addition to low levels of qualifications, participants on the programme typically lack personal and employability skills, have limited work experience, and may have language barriers; many of the young people La Rueca work with are migrants. Although most will use technology in their everyday lives, many lack the digital skills or experience needed to find a job, or for the workplace.

'If you have to use a computer or if you have to give a PDR (Personal Development Review) or something like this, to work in a restaurant, you need these digital [skills] and I think that young people, ...they use smart phones,...all young people are digital like this, but they don't have digital skills to use in the work context, in the professional context. Because for example, when we speak with them to [put together] a curriculum, tell me your curriculum, and they don't know how to work, they don't know how to make an Excel spreadsheet and we work with them and this is very important for their work and for their life too' - Educational co-ordinator

The programme aims to provide comprehensive support for each participant taking into account the different areas of development - personal, family, community and social.

Young people can be referred to the programme by statutory agencies, for example social services and education teams. La Rueca also promote the STOS through other organisations working in Madrid with young people of a similar profile, for example charities supporting refugees and asylum seekers, and other members of the Association of Second Chance Schools¹² such as Fundación Tomillo, Pinardi, Norte Joven and Opción Tres.

The STOS runs continuously and aims to work with 70 young people each year. Following the initial training and work experience, programme staff continue to provide support to individual participants for at least two years.

The programme is funded by the Community of Madrid and private funders.

Model of delivery

The STOS is a full-time pre-apprenticeship programme in which participants attend Monday to Friday. The programme runs continuously throughout the calendar year and aims to work with 70 young people each year. In line with the Second Chance School Model, participants typically stay on the programme for a minimum of two years. During this time, young people undertake classroom-based learning and take part in a number of practical workshops before moving on to an internship with an employer.

In addition to the Educational Co-ordinator there are four different staff roles in the programme designed to meet the different needs of participants - education, social education, mentoring and social reference. As well as specialist tutors (for example experts on digital skills) other staff include non-teaching staff who provide individual support for young people throughout the programme and help to address some of the challenges that many participants face at home and in their wider lives. Since the start of the pandemic for example, the STOS has been supporting some participants to pay for food, utilities, broadband and mobile phones. The two

social education roles are undertaken by a man and a woman to ensure that young women on the programme have access to support from a woman if they prefer, and to provide a female role model.

Personalised approach

La Rueca take a highly personalised approach to delivering the STOS programme and strive to put young people at the centre of learning. At the start of the programme, young people undertake an initial skills assessment of digital and language skills. They also have an initial interview so that programme staff can identify individual participants' barriers to accessing employment and to better understand their family, social and economic circumstances. This initial assessment informs the training and support that young people engage with during their time on the programme. The flexibility to adapt the STOS to the individual needs and interest of each young person is viewed by programme staff as key to the success of the programme.

Young people are empowered to make decisions and choices about the content of their itinerary. One to one coaching, approximately seven hours a week, supports each participant to identify and work towards individual goals using a methodology comprised of four phases (reception, diagnosis, intervention and evaluation). This is designed to make the young person 'the engine of change.' Individual activities with coaches focus on personal development including self-confidence, self-knowledge and setting and achieving goals. Alongside this, group activities promote social skills such as team working as well as employability skills.

¹² <https://www.e2oespana.org>

On a weekly basis, the STOS programme provides a wide range of courses and workshops. These include:

- Group activities to develop and reinforce study skills or improve basic literacy including Spanish for speakers of other languages
- 1-1 guidance, as well as visits to educational centres, to increase participants' awareness of the opportunities available to them
- Employability skills including job search skills; weekly individual sessions of active search for employment and training opportunities, facilitated by a counsellor; applying for jobs; interview skills; and employment rights
- Personal and social development courses, with a focus on, for example, setting and achieving goals and realisation of one's own strengths and potential as well as creative activities; cultural visits; access to digital leisure spaces; community development activities; and independent living skills
- Job skills – Training for the workplace including digital certificates (Microsoft Office), preparation for professional tests and job matching between young people and hiring employers.

Alongside this, participants undertake monthly visits to job fairs and exhibitions and participate in opportunities to network with employers, for example employer breakfasts. Approximately 25 young people take part in each course.

Transversal skills are creatively embedded alongside the development of digital skills. Videogame Space workshops for example, use gaming as a vehicle to work on personal and social

skills such as teamworking, group cohesion and communication skills. As part of the programme's focus on addressing the digital gender gap, young women are encouraged to create different heroes in the game in their own image, for example a girl with a range of superpowers.

'For us the soft skills are very important to have at work, it's for their life. To develop opportunities for their life [as an] older person. With the programme, for us, for example, creativity, working in groups, social abilities, social skills like communication. Especially difficult contexts for jobs, it's very important to help them to resolve conflicts positively.' - **Educational Co-ordinator**

Other workshops aimed at developing technological skills include, Technical Assistant in Microcomputing and Communication Networks, a joint project with Fundación Telefonica, a large telecommunications company, and opportunities to learn and practice free software. For example, on a quarterly basis, participants can learn about photography (e.g. Pixlr, BeFunky), video (e.g. Windows Movie Maker, online Youtube editor) and audio (e.g. Audacity).

A core element of the STOS offer is the Technolab, a digital social enterprise which aims to achieve transformative social change for individuals and communities through the use of technology. The Technolab or 'fab lab' (social physical fabrication laboratory) is designed to be an open space where young people have the freedom to learn through trial and error. In the Audiovisual workshop for example, which takes place in the Technolab, participants use digital creation tools to create and adapt content in line with their own interests. Programme staff described the importance of this flexible approach in engaging young people and increasing motivation to learn:

For example, one young male can be interested in cars, or another one in design, or in paint, or graffiti [it is] the same... 'It's very open, it's motivational and I think it's very important too because they can train and if they fail, it's not a problem. Train and fail it's not a problem. But in the culture, in the school, I think if you fail, it's a problem. But not in the techno lab, in this laboratory, because they learn'. - **Educational Co-ordinator**

Other workshops in the fab lab include:

- Digital creation - A course designed to equip participants with knowledge and tools from the world of digital manufacturing and technology. The aim is to generate ideas and projects that allow social and personal development, including for example 3D modelling and use of free software.
- ICT dynamization – Certified training in digital skills and technologies, for example robotics, educational programming, digital literacy and digital manufacturing.



Work placements

Following classroom-based training, young people undertake a work placement, where they have opportunities to put their new skills and knowledge into practice.

La Rueca work with a range of employers to offer work placements. A key employer partner, Rockbotik¹³, works with local authorities and schools to teach skills such as programming, robotics and electronics. Rockbotik provide integrated work placements – training alongside work experience. Participants accompany and support teachers, many of whom are also young people, during their working day. They perform the same role as permanent staff but with additional support. The length of the placement depends on the intensity of classes that Rockbotik are delivering at the time. If participants are working full-time the placement lasts a month, and if part-time, between two and three months.

The company's HR Department maintains regular contact with teachers and the participant to monitor progress on the work placement. Some young people require closer supervision and support than others, depending on how quickly they adapt to the placement.

'We have fluid communication that adapts to the progress of the young person, but there is always contact' - Employer

Rockbotik undertake a personal interview before the placement starts to get to know the young person. When selecting participants, the company looks for the same skills and capabilities that

they would be looking for when recruiting their own employees. In addition to feedback from the employer following the initial interview, the young person receives an assessment of their progress at the end of the work placement. The employer may also provide feedback early in the placement, where needed, to help the young person to improve in their role and ensure they make progress in the placement.

Rockbotik have adapted to the restrictions resulting from the pandemic by offering elements of the work placement online and providing alternative work experience where possible. For example, one young person on a placement with the company was unable to continue in her role as a computer technician. Having spoken about her interest in pursuing a career in graphic design, the employer identified design work that she could do online, from home:

'they started to send me, well, I redesigned maybe the summer posters, business cards, brochures and so on. So, basically that's what I did for 80% of the internship... I can't fix a computer from home! So they sent me some design work ...and I was very happy, very happy. It helped me to... to know what I'm worth. Aside from me, have someone from the outside [that] I don't know, tell me. That served me well in terms of self-esteem' - Participant

This experience boosted the young woman's confidence and as a result she is actively looking for a job in design with technology companies. Before undertaking the STOS pre-apprenticeships she would not have had the confidence to apply for this type of job.

The impact of the coronavirus pandemic and the shift to online provision of work placements has created extra and new challenges for both the training provider and employers. However, participants have responded well, with young people saying they are now more confident and comfortable working online.

Rockbotik plan to continue with at least some element of virtual delivery in the longer term. The company works with young people on a topic, for example programming, and provides task-based challenges for participants to complete at home and then goes through the tasks with them. They have found this approach to be productive as it provides set times for communication with young people about tasks and offers flexibility for young people to complete work at a suitable time for them.

Rockbotik said that engaging with the STOS programme is a positive experience for them. Participants who join them for work experience are very well prepared and have developed the key transversal and digital skills that they are looking for in trainees.

'When the young people come to me, they are really ready to work. They've got a good background knowledge of all the technical skills and digital skills and competencies. They also teach us things as well. La Rueca teaches me and my colleagues things as well.' - Employer

The employer also described how they work in partnership with La Rueca to help young people to develop their employability skills, in addition to technical digital skills. This type of partnership

¹³ <https://rockbotic.com/>

working helps to ensure that young people are supported to develop the key transversal and employability skills that hiring employers are seeking.

'What's easy is the actual teaching of the technical stuff, the robotics and the computer stuff. What's difficult, what's the real challenge is [the] employability skills of the young people, making sure they arrive on time, making sure they work well with their colleagues. [We] overcome this challenge by working closely with the tutors at La Rueda to ensure that the employer and the training provider are aligned in supporting the young person to develop these skills, what we would call employability skills.' - **Employer**

Progression and outcomes

The success of the STOS programme, as well as the progress of individual participants, is monitored on an ongoing basis. Digital tools such as Kahoot¹⁴ are used and participants are encouraged to take on the role of evaluator, creating their own online questionnaires. This provides another opportunity to put digital skills into practice.

The success of the programme is measured against a range of indicators for three target outcomes. These include that participants have:

- Re-joined the educational system;
- Acquired the necessary skills to access employment (indicators include number of young people who have entered the labour market); and/or
- Developed social and community skills based on their needs and expectations.

Of young people who have participated in STOS:

- Over 75% have completed the programme.
- More than 85% improved their personal skills.
- 90% have improved their technological/digital skills.
- 40% have secured an apprenticeship in target employment sectors.
- More than 90% of participants improved soft skills such as increased confidence and resilience, and team working skills.

One participant, who had been looking for work for a number of years described the difference the programme has made in improving her digital skills:

'Before the course, I didn't dare open a laptop. I cleaned mine up the other day!... 'La Rueda has helped me a lot. Because I wouldn't be where I am, in my design career, if it weren't for several of the courses I've taken with La Rueda...I wouldn't have the confidence I have if it weren't for them' - **Participant**

Developing new skills had also helped the young person to realise her own potential as described by her social worker:

'one of the things that I emphasise most about Rosa is empowerment... Empowerment in [her] skills and knowledge. Because what she has just said, "now I dare to open the computer from top to bottom", is that Rosa is a person who has a lot of potential, and throughout the course she has really empowered herself' - **Programme staff**

The STOS remain in contact with some participants when they have left the programme and these young people continue to access guidance and training from programme staff to help them to find work;

'Maybe some young people find a job when we work with them for 1 year, but we don't say bye-bye. We stick with them and maybe take them to be a role model for the other young people. We continue working with them and maybe they come back to the techno lab to do training or something or to give them a better job, if possible. Or to continue and study another theme. Maybe it's possible, we have young people we've worked with for 5 years.'

Programme Staff



¹⁴ Kahoot! is a game-based learning platform, used as educational technology in schools and other educational institutions.

Educational Co-ordinator Partnerships and employer engagement

To ensure the provision of high-quality support, the STOS programme has developed and maintained relationships with a wide range of partners.

In addition to collaborations with other 'fab labs' and Second Chance Schools, and the partnership with Telefonica, the programme has developed an extensive network of partners in Madrid. These include local public authorities; Madrid City Council and Community of Madrid, who provide recognition and official certification of the programme, as well as co-financing. STOS also works closely with adult learning centres, secondary education institutes that refer young people who have left school prematurely and centres working with asylum seekers and registered migrants.



Employers are involved in the STOS programme in a variety of roles including providing advice on appropriate technology and equipment for young people to use on the programme, delivering classroom training and tutoring as well as attendance at La Rueca events for young people including job fairs and 'speed dating'. Liaising with and maintaining relationships with employers is therefore an important part of the STOS's work. This is seen as essential to ensure a good quality and effective programme that benefits both employers and young people alike.

Effective practice

- **Personalised training plans and intensive 1-1 support** throughout the course ensure that the programme is tailored to the needs and interests of individual young people
- **Effective employer engagement** ensures high quality work experience and training
- **The integration of technological and transversal skills** ensures that learning is contextualised and participants understand the importance of developing these skills for successful progression into the workplace
- **Effective partnership working with a diverse range of key organisations** underpins successful programme delivery from recruitment and referral through to supported transition into the labour market
- From the provider perspective, **the dual support provided both by expert technical**

tutors and 'social' staff is highlighted by programme staff as an essential and key feature in the success of the programme

- Tutors adopt a highly practical and reflective approach to working with young people on the STOS programme. They **encourage young people to take responsibility** for their learning and skills development, whilst being present to support them. This enables young people to gain important skills such as problem solving and communication.