

## LAUNCHING A SOLIDARITY CAMPAIGN: TECHNOLOGY-ENHANCED PROJECT-BASED LANGUAGE LEARNING TO PROMOTE ENTREPRENEURIAL EDUCATION AND SOCIAL AWARENESS

Melinda Dooly , Dolores Masats , Maria Mont 

Universitat Autònoma de Barcelona (Spain)

*melindaann.dooly@uab.cat, dolores.masats@uab.cat, maria.mont.algamasilla@uab.cat*

*Received February 2020*

*Accepted February 2021*

### Abstract

To promote social consciousness and a sense of responsibility, educational proposals organised around the principles of technology-enhanced project-based language learning (Dooly & Sadler, 2016) should engage students in a process of reflecting upon and responding to crucial social issues. Thus, in this paper we will present a project carried out by two groups of primary education students who launched a solidarity campaign to collect money for four Syrian children living in a refugee camp in Greece. The project was implemented in a cross-disciplinary Arts and Crafts class taught through English and resulted in significant outputs in English (those addressed to the Syrian children) and in Catalan (those targeted at the local community). First, we outline the student-led project and then we analyse some fragments of student plurilingual practices during the project development that demonstrate their learning gains. Our findings reveal that our meaningful contextualised cross-disciplinary project favoured the natural integration of multiple skills, competences, and field knowledge from various disciplines while promoting a sense of social consciousness and empathy. First, it enabled children to put their plurilingual competence into play and take decisions regarding language choices to meet particular communicative objectives. Second, it contributed to the acquisition of 21st century knowledge, competence, and skills, while helping the learners gain social values. Third, it engaged learners in processes of problem solving, decision making and creative thinking that lead to the development of entrepreneurial competencies. To conclude we argue that when young learners are given responsibilities and opportunities to take up socially relevant challenges learning becomes meaningful for them and those around them.

**Keywords** – 21st century skills, cross-disciplinary learning approach, integrated learning, English as a foreign language, plurilingual practices, primary education, social relevant problems.

### To cite this article:

Dooly, M., Masats, D., & Mont, M. (2021). Launching a solidarity campaign: Technology-enhanced project-based language learning to promote entrepreneurial education and social awareness. *Journal of Technology and Science Education*, 11(2), 260-269. <https://doi.org/10.3926/jotse.1224>

## 1. Introduction

A quick overview of current curricula in many countries reveals there is a gradual shift in how learning is conceptualized today (Anderson-Levitt, 2017). Through promotion of student-centred competence-based output, emphasis is now placed on students' progress, with clear and manageable learning outcomes designed to lead to eventual mastery of the curriculum content (Beinhauer & Mahajan, 2014). Another

noticeable change in education policy is the growing call for so-called 21st century knowledge, skills and competencies that will enable future citizens to act socially in an effective and reasoned manner (Ananiadou & Claro, 2009). In some instances, these shifts in focus have led to an interdisciplinary vision of teaching, based on socio-constructivist (see Vygotsky, 1978) theories that describe learning as a process of knowledge construction rather than as a process of knowledge transmission. One derivative of this paradigm is project-based learning (PBL). According to Patton (2012), project-based learning consists of students designing, planning, and carrying out an extended project, ending in publicly-exhibited final outcomes or output (a podcast, a school blog, an e-book, a community drive, etc.). In an interdisciplinary, language learning context, PBL can be particularly effective as this approach can offer learners plentiful opportunities to use the target language and plausible, authentic reasons for using it (Dooly & Masats, 2011; 2020). Yet, learners' participation in projects also ensure the development of their cognitive, social, and digital competences and, equally importantly, the acquisition of interdisciplinary knowledge (Beckett, 1999; Beckett & Slater, 2005; Mont & Masats, 2018). Along this line, Dooly and Masats (2020) argue that if teachers want to help learners develop 21<sup>st</sup> century knowledge, skills, and competencies they should bring the premisses of PBL into their classrooms, combined with rich technological resources, through what Dooly and Sadler (2016: page 54) refer to as “Technology-Enhanced Project-Based Language Learning” (herein TEPBLL).

Thus a cross-disciplinary learning proposal was designed for young language learners (2<sup>nd</sup> graders) in a state school near Barcelona, Catalonia, which culminated in a solidarity campaign to support four Syrian youth stranded in a refugee camp in Greece. Our project constitutes an example of how English as a foreign language can be at the core of a cross-disciplinary learning proposal supported by technology and led by committed seven-year-old children. Researchers in social science education advocate for the need for education to provide children with training in social, critical, and creative thought, while engaging them in classroom proposals organised around ‘relevant social problems’ (Pagès & Santisteban, 2011). Arguably, in a world of increasing complexity, interconnectivity and heightened tensions, critical social consciousness - understood here as an awareness and respect for a collectively shared social identity - should be present across all disciplines. This methodological approach is not typically present in foreign language classrooms, but the adoption of TEPBLL can help resolve that. This paper aims to be a contribution in this field.

## 2. Design and Approach

The project we present here, 'Launching a solidarity campaign to support four Syrian children stranded in Greece,' won the John McDowell 2017 prize awarded by the British Council and the Associació de Professorat d'Anglès de Catalunya (APAC). It was the result of collaboration between two primary teachers - the Arts and Crafts teacher and the English teacher- and two researchers from a nearby teacher education faculty. It stems from a classroom proposal whose final aim was to present to two groups, each composed of 25 young primary education students (ages 7 to 8), a ‘relevant social problem’ (Pagès & Santisteban, 2011) —in this case the refugee crisis in Europe. This teaching objective triggered children's interest in finding ways to provide some financial support for four Syrian children living in a refugee camp in Greece and gave rise to the project described here. The project, carried out in a 90-minute-a-week Arts and Crafts class during a period of five months, was cross-disciplinary in nature because it linked contents from other curricular areas (Catalan, English, ICT, Mathematics and Social Sciences), while promoting entrepreneurial education (Erkkilä, 2000). As Lackeus (2015: page 6) argues, entrepreneurial education is grounded on the premise that “all students can and should train their ability and willingness to create value for other people”. For these children, this entailed becoming engaged in teamwork as they discussed, explored, and eventually decided upon a strategy to encourage people in their local community to develop empathy towards war refugees and participate in the solidarity campaign they were promoting. Based on the principles set by the Partnership for 21<sup>st</sup> Century Learning Organization (2006), the project also focussed on providing learners the tools to develop 21<sup>st</sup> century skills (mainly, civic literacy, problem-solving, creativity and innovation, communication, ICT, adaptability, social responsibilities).

Parallel to this, the English teacher and the Arts and Craft teacher who implemented the classroom project adopted a plurilingual approach to language learning sustained on the premises of TEPBLL. Thus, the children worked together to co-produce several desired output in the language (Catalan or English) that best suited their interests and genuine communicative goals. The Arts and Crafts class formed a central part of the school's semi-immersion language programme. In this plurilingual context, English had the dual focus of being both one of the foci of instruction and also the 'medium of classroom interaction' (Gafaranga, 2007) or "the linguistic code that classroom participants actually orient to while talking" (Bonacina & Gafaranga, 2010: page 12). English was also the lingua franca employed by the learners and their Syrian friends. Consequently, content in this course was mostly taught through English. Yet, learners also had had to address their local community and in those cases they did so in Catalan, as we will see in section 2.2. below, when we present the learning outcomes of subproject II.

## 2.1. Project Outline

The project is outlined below (for more detailed information see also Mont, Masats & Dooly, 2021). However it is important to underscore some specific ethical points regarding the project. Firstly, the Syrian children did not know about the fruits of the project until the Catalan primary education children had achieved their goals in order to avoid any sort of disappointment on their behalf. Also, the Catalan children were not forced to take part in the project; it was their initiative and the project developed in a large part due to the impetus and suggestions that they made.

Following an initial meeting to inform and receive consent from the parents, the project was set up and these main steps were taken, each with varying objectives:

- Situating the action (gaining empathy as they discover children similar to themselves need their help)
- Deciding which actions to take (teamwork, decision-making)
- Designing 3D objects to sell (understanding dimensions, product-creation, using a 3D printer)
- Overcoming problems and rearranging plans of actions (problem-solving, teamwork)
- Turning the marketing campaign into a donation campaign (resilience and proactivity)
- Making the proposal public to the school community (creative thinking, entrepreneurship)
- Advertising the initiative (creative thinking, entrepreneurship)
- Running the two-week donation campaign (organizational skills)
- Contacting the Syrian children (communication, language use)
- Reflecting upon the experience (autonomous learning)

## 2.2. Learning Outcomes

The overall project can be divided into three parallel subprojects:

Subproject I: Setting the project. Following in-depth, guided discussion of the four Syrian children's situation, the learners were invited to think about ways that they might help their Syrian counterparts. Eventually the debate led to the notion of using the school's 3D scanner and printer to create products to sell to the school community. This led to small teams brainstorming ideas, designing an object, producing a prototype using plasticine, and scanning it so that the 3D printer could produce it. Book markers, pendants, earrings, book holders, etc. were some of the designs children created.

Specific learning objectives for this phase, related to the areas of English and maths, included discovering 3D shapes and understanding volume. The students were introduced to specific vocabulary through English songs about shapes; this lexicon was then embedded into the maths and arts classes. In the following fragment, we can see how the English teacher prompts the students' recall regarding both content knowledge (e.g. volume, dimensions) and target lexicon. (Broad transcription is used; translation from Catalan into English is in italics in the lines below the original comments and English words used in predominantly Catalan excerpts are marked in bold. Names of the participants have been changed to ensure their anonymity).

During the project, at the breaktime, the teachers interviewed the students to discuss and assess their understanding of the concepts they were studying. The interview was conducted in Catalan. Yet, language learning is a creative process wherein the multilingual learner can and should draw from diverse, albeit partial and dynamic competences in different semiotic resources (Lüdi & Py, 2009), so the students and teachers used both Catalan and English to co-construct their mutual understanding in the interview. In this next fragment, the students are explaining the geometrical concepts that they had first been introduced to in the maths class before beginning to work with them in the arts and crafts class. The hybrid languaging practices triggered by students during the interview provided support for their emergent communicative competence in the foreign language (English). Interestingly, it is the students who initiate the move to English language use (turns 6, 23 for example).

### Fragment 1: Shapes and dimensions

Participants: Teacher (Tch), Sheila (She), Celia (Cel), Victor (Vic), Pau

- 1 She: eren ... eren ... ahhhh...  
*They were ... they were ... abbb...*
- 2 Tch: Victor?
- 3 Vic: Eren formes 3D.  
*They were 3D shapes.*
- 4 Tch: ahhh. I què són formes 3D? Sheila?  
*abbb... and what are 3D shapes? Sheila?*
- 5 She: Que tenen tres dimensions.
- 6 Cel: **Have three dimensions.**  
(...)
- 22 Tch: I sabeu d'alguna **3D shape** més? La podeu dir en català o en anglès com voleu. Victor?  
*And do you know of any other 3D shape? You can say it in Catalan or English which you prefer. Victor?*
- 23 Vic: **cube**
- 24 Tch: **A cube** ... Celia?
- 25 Cel: **Pyramid**
- 26 Tch: **Pyramid** ... Pau?
- 27 Pau: **Cone**
- 28 Tch: **Cone** ... alguna més? ... **Yes?**  
*Another one?*
- 29 She: **Cube**
- 30 Tch: **Cube** ... sí  
**Cube** ... *yes*
- 31 Vic: **I said me ... I'm said cube**
- 32 Tch: **Yeah you said cube but there's no problem.**

Subproject II: Designing a marketing campaign. After deciding on their products, the students were guided through the phase of launching a marketing and donation campaign. In teams, the children had to 'brand' (name) their product, give it a price and create a slogan to attract buyers. In the following fragment, the teacher has realized that the students were applying exorbitant prices to their products so she began a discussion, in English, to raise their awareness between product value and market prices.

**Fragment 2: Money money**

Participants: Teacher (Tch), St (unknown student), Sts (unknown students), Gerald (Ger), Antoni (Ant)

- 1 Tch: Do you think this, eh, your mommy and daddy will buy this?  
((The teacher holds up a prototype object which is a comb))  
All: YES!
- 2 Tch: Then if we say 20 euros? will they buy it?
- 3 All: NO!
- 4 St: Five!
- 5 Tch: If we say five?
- 6 Ger: No..
- 7 Ger: Four ((holds up four fingers))
- 8 Tch: Four?
- 9 Sts: THREE! ((several students hold up three fingers and shout))
- 10 Tch: Raise your hands if you say zero  
((One student raises her hand))
- 11 Tch: Zero?
- 12 St: (gratis) ((a student translates off-camera))  
*Free*
- 13 Tch: If the price is free we don't raise money for ((names the Syrian children)). We need ((rubs her fingers together))
- 14 Ant: Money money
- 15 Tch: That's right we need money money

The students not only showed significant comprehension of the target language (they were able to follow the discourse in English with minimal trouble), in the same discussion they demonstrated an emergent awareness of economic issues of supply costs in relation to pricing (next fragment). A few minutes later in the discussion, the teacher holds up two prototype products: a comb, which they had decided as a group would sell for three euros and an elephant-shaped cell phone holder.

**Fragment 3: Learning economics**

Participants: Teacher (Tch), Arnau (Arn), Unison of students (Sts), Paula (Pau)

- 1 Tch: Ok, we have this product ((holds up the comb)) and this  
elephant for the cellphone ((holds it up))
- 2 Tch: We need to invent a name and we need to invent how much  
((rubs fingers together)) how much?
- 3 Arn: Money money!
- 4 Tch: Yes ...  
(...) ((The teacher stops the discussion to calm down some students))
- 8 Tch: This is three euros ((holds up comb again))  
This is ((holds up elephant)) more plastic or less plastic? ((demonstrates that the elephant weighs more by dropping hand down as if comparing weight between the two products))
- 9 Sts: more ... ((quietly))
- 10 Tch: Compared to this ((holds up comb again))
- 11 Sts: More
- 12 Tch: More ... this has more plastic
- 13 Tch: So, can it be more expensive ((rubs fingers together high above her head)) or less expensive ((rubs her fingers together below her waist))
- 16 Sts: MORE
- 17 Tch: Is it going to be two euros the elephant?



- 18 Sts: NO!  
19 Tch: Is it going to be one euro?  
20 Sts: NO!  
21 Tch: is it going to be zero euros?  
22 Sts: NOOOO!!!!  
23 Tch: So ..  
24 Pau: Six or seven euros!

In this short fragment, we can see how the students are able to grasp some basic concepts of micro-economics regarding why and whether someone would choose to buy a product, what price is reasonable for a product and how the costs of production are factored in.

However, unfortunately even though the prototype samples could be produced with the 3D printer, it soon broke down and the children had to create a plan B: collect money through a donation campaign instead of organising a small market. The students learnt to create posters (using an online platform called Canva) to publicize the donation campaign at the school. They also contacted the local authorities and the local media (TV and press). This explains why a plurilingual approach was needed. Most of the activities in this phase were carried out in Catalan as the target audience for this phase of the project was the school and local community (Figure 1).



Figure 1. On the local TV

Some of the learning objectives related to this area of the project were decision-making and team-work (organizing the campaign, getting permission for setting up donation stand, etc.), as well as creative thinking through art (poster) and language arts (branding, slogans, etc.).

Subproject III: Making new friends. From the beginning of the project, the young language learners were prompted to establish a relationship with the Syrian children in the refugee camp, through one of the researchers. They were first presented to the four Syrian children through a video clip of a rap song sung by three of them, followed by a short video documentary in which the three rap singers introduced themselves. The fourth child was in charge of the camera. The rap song had originally been created by some Syrian youth and volunteers from EKO, an NGO working outside the Vasilika camp to support the community of refugees to draw media attention to their plight. The video used to introduce the children was created with the extracts from a clip recorded in the NGO premises as part of EKO News project, a proposal designed by the same NGO volunteers to teach children to act as TV reporters or camera operators.

The rap video and the video from EKO TV was complemented with a personalized documentary created by one of the researchers, who was also a volunteer in EKO NGO. The documentary aimed to gently guide the young language learners in Barcelona towards an understanding of what it means to live through a war and to have to flee from one's home. The young learners reciprocated with a video introducing themselves to their Syrian friends as well as creating a 'scrapbook' of birthday wishes for one of the young Syrians – all through the target language of English (Figure 2).



Figure 2. Page from the birthday scrapbook

As it can be seen in the figure above, this girl has created a page that says, “We want to help you” and has drawn a picture of one of the Syrian boys and herself next to him. Starting from the lesson when the students were first presented with the situation of the Syrian children to the final lesson the students underwent a carefully scaffolded process aimed to develop their empathy and sense of social responsibility. Transcripts (not included here because they are mainly in Catalan) show that in the first sessions the students began with rather flippant suggestions, ranging from ‘go to a new house’, ‘take an airplane to another country’ to the eventual idea that they should use the school’s resources (e.g. a new 3D printer) to create products to sell in order to earn money for the four young Syrians.

Other learning objectives of this part of the project included English comprehension (scaffolded listening tasks designed to accompany the videos and the rap song) and English production (scripting and producing videos in English, writing short texts for the scrapbook). However, it was also clear that the students had gained a sense of empathy in their ability to distinguish right from wrong, identify injustice and appreciate others’ situations and perspectives and to want to act accordingly in a socially responsible manner.

Finalizing the project: As we have seen, in each phase the children produced a sub-product (product prototypes, posters, videos, scrapbooks), but the project’s main output was the campaign itself, which was an overwhelming success and attracted the attention of local media, who came to the school to interview the young students. At the end of the campaign, the researcher sent the Syrian families the money the Catalan children had collected; the latter received a thank you message in return. Parents and children alike valued positively the fact that the projects’ final output (the money collected) was going to be sent to real children, whom they had first become aware of through the video documentary and the rap. During the development of the project parents remarked that their children were increasingly aware and sensitive to the experience lived by Syrian children and commented they were impressed by how involved the children were in the solidarity campaign they were designing.

While it is not argued here that PBL is a new methodology in the field of language learning, it must be acknowledged that it is often challenging for teachers to find realistic contexts in which young learners of English need to use the target language to address other speakers for a truly authentic purpose. *The solidarity campaign* is an example of how this can be done: by opening up classrooms to technology-enhanced projects

co-designed by the children, carried out by the children and addressed to other children. Moreover, as the campaign needed the support of the local community, the contextualised use of Catalan was also necessary and form-focused instruction in this language was associated to an authentic communicative purpose (engaging the community in the solidarity campaign). Like most PBL proposals, the classroom practice we have outlined had a process and product orientation, resulted in tangible final output targeted at a real audience, extended over a long period of time, was committed to language and content learning, gave learners the opportunity to define some of the tasks they would carry out, involved group work and required students (and their teachers) to assume new roles and responsibilities (Stoller, 2006). Moreover, the combination of project work with rich technological resources is one of the highlights of our classroom proposal. Moving from PBL to TEPBLL allowed us to set an authentic learning context in which children could develop 21<sup>st</sup> century knowledge, skills, and competencies in an integrated manner with contents from an array of disciplines (Arts and Crafts, Mathematics, Social Sciences, Technology) in two languages (Catalan and English). This plurilingual approach to TEPBLL is another relevant feature of our proposal. Additionally, an unexpected learning outcome, resulting from the broken 3D printer, was that the children learnt that even well-prepared proposals can fail. They experienced first-hand how to face problems with resilience, and learnt that they could still achieve their goals through creative and flexible thinking, which is at the core of entrepreneurial education. Similarly, the fact that the project revolved around a socially relevant problem also contributed to the development of entrepreneurial competencies as it encouraged children to become proactive, empathic citizens willing and capable of taking action in front of challenging global issues.

### 3. Conclusions

This article presents a cross disciplinary project carried out by two second grade classes in a primary school in Catalonia, which got students to reflect upon and respond to the specific social issue of the situation of refugees in Greece. Through the project, the young learners explored mathematical and geometric concepts (necessary for designing 3D objects to sell), gained understanding about microeconomics (decision making related to production costs, supply and demand, pricing), practiced entrepreneurial skills needed for setting up and carrying a donation campaign, learnt about designing (e.g. product prototypes and a marketing campaign) in Arts and Crafts and gained a sense of social responsibility through volunteerism. Significantly, a transversal feature of the project was its plurilingual nature. Children used English as both a foreign language (as an object of study) and as a lingua franca (as a tool to communicate with others outside their classroom). Additionally, as their marketing campaign was targeted at their community, some of their outputs and actions were conducted in Catalan.

According to Byram and Wagner (2018), the language teaching we should aim to promote is

*a more complex and enriched understanding of language teaching, one that helps students reflect critically on their own identity as well as the dynamic processes of communication in which they engage in many different contexts. One that ensures language or lingua culture teaching is related directly to the learners' world. Rather than learning discrete aspects of language to apply later, in this approach we encourage students to immediately apply what they learn to analyze the world around them and make critical judgments based on specific evidence. (...) As a consequence, students see language education and the important knowledge, attitudes, and skills they acquire as an important part of the educational mission, something they use right now and know they will continue to use. (page 148)*

Our project set out a similar educational mission. The experience verified that learning can be meaningful when learners are given responsibilities and are placed at the core of the process. The project highlighted that learning can be purposeful when knowledge is acquired through the participation in multidisciplinary projects that pose real challenges and have true addressees. It also underscored that learning can be significant when tasks trigger learners to take actions that have a clear social objective. And finally, it was demonstrated that learning can be noteworthy when it favours the development of learners' 21<sup>st</sup> century skills and has, at least, some impact on the educational (and local) community.



## Acknowledgements

We want to send our best wishes to all the children who joined EKO project II and are now safe and sound and living around Europe, and especially to Nour, Dlovan, Ahmed and Zyad. We want to thank all the second graders at the participating school who taught us, their teachers, and families, that all small acts count, and that this world can be a better place, especially when young people think big. Our special thanks to the arts teacher who embarked on this experience with us. Finally, we wish to express our gratitude to all donors for their solidarity and to the families of our second graders for their unconditional support.

## Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The authors received financial support from the Catalan Government for the development of the project which frames the teaching proposal presented here (Project reference: 2015 ARMIF 00010). Fundació la Caixa sponsored the teacher-training research study underlying this experience (Project reference: RecerCaixa 2016. 2016ACUP-001 LCF/PR/RC16/10100003) and the publication of this article.

## References

- Ananiadou, K., & Claro, M. (2009). 21st century skills and competences for new millennium learners in OECD countries. *OECD Education Working Papers*, 41. Paris: OECD Publishing. <https://doi.org/10.1787/19939019>
- Anderson-Levitt, K. (2017). Global flows of competence-based approaches in primary and secondary education. *Cahiers de la recherche sur l'éducation et les savoirs*, 16 (1), 47-72.
- Beckett, G.B. (1999). *Project-based instruction in a Canadian secondary school's ESL classes: Goals and evaluations*. Unpublished doctoral thesis. Vancouver: University of British Columbia, CA.
- Beckett, G., & Slater, T. (2005) The project framework: A tool for language, content, and skills integration. *ELT Journal*, 59(2), 108-116. <https://doi.org/10.1093/eltj/cci024>
- Beinhauer, R., & Mahajan, L. (2014) Introducing competences pre-defined by stakeholders into curriculum development. Student centred and output based teaching: From stakeholder input to assessment criteria. In Gómez Chova, L., López-Martínez, A., & Candel-Torres, I. (Eds.), *ICERI2014 Proceedings: 7th International Conference of Education, Research and Innovation*, 3966-3971. Sevilla: IATED Academy.
- Bonacina, F., & Gafaranga, J. (2010). 'Medium of instruction' vs. 'medium of classroom interaction': Language choice in French complementary school classroom in Scotland. *International Journal of Bilingual Education and Bilingualism*, 14(3), 319-334. <https://doi.org/10.1080/13670050.2010.502222>
- Byram, M., & Wagner, M. (2018). Making a difference: Language teaching for intercultural and international dialogue. *Foreign Language Annals*, 51, 140-151. <https://doi.org/10.1111/flan.12319>
- Dooly, M., & Masats, D. (2011). Closing the loop between theory and praxis: New models in EFL teaching. *ELT Journal*, 65(1), 42-51. <https://doi.org/10.1093/elt/ccq017>
- Dooly, M., & Masats, D. (2020). What do you zinc about the project?: Examples of technology-enhanced project-based language learning. In *Gulbahar Beckett & Tammy Slater (Eds.), Global perspectives on project-based language learning, teaching, and assessment: Key approaches, technology Tools, and frameworks* (126-145). NY/Milton Park, Abingdon: Routledge. <https://doi.org/10.4324/9780429435096-7>
- Dooly, M., & Sadler, R. (2016). Becoming little scientists: Technologically-enhanced project-based language learning. *Language Learning & Technology*, 20(1), 54-78.

- Erkkilä, K. (2000). *Entrepreneurial education: Mapping the debates in the United States, the United Kingdom and Finland*. Abingdon: Taylor & Francis.
- Gafaranga, J. (2007). *Talk in two languages*. Basingstoke: Palgrave Macmillan.  
<https://doi.org/10.1057/9780230593282>
- Lackéus, M. (2015). *Entrepreneurship in education: What, why when, how*. Paris: OECD. Available at:  
[https://www.oecd.org/cfe/leed/BGP\\_Entrepreneurship-in-Education.pdf](https://www.oecd.org/cfe/leed/BGP_Entrepreneurship-in-Education.pdf)
- Lüdi, G., & Py, B. (2009). To be or not to be ... a Plurilingual Speaker. *International Journal of Multilingualism*, 6(2), 154-167. <https://doi.org/10.1080/14790710902846715>
- Mont, M., & Masats, D. (2018). Tips and suggestions to implement telecollaborative projects with young learners. In Dooly, M., & O'Dowd, R. (Eds.), *In this Together: Teachers' experiences with transnational, telecollaborative language learning projects*. Bern: Peter Lang.
- Mont, M., Masats, D., & Dooly, M. (2021). Launching a solidarity campaign to support four Syrian kids stranded in Greece. In Masats, D., & Pratginestós, C. (Eds.), *Lessons learnt in schools implementing project-based learning*. Barcelona: Omnia Science.
- Pagès, J., & Santisteban, A. (Coords.). (2011). *Les questions socialment vives I l'ensenyament de les ciències socials*. Bellaterra: Servei de Publicacions de la Universitat Autònoma de Barcelona.
- Partnership for 21st Century learning (2006). *Results that Matter: 21st century Skills and High School Reform*. Available at: <http://www.p21.org/storage/documents/RTM2006.pdf>
- Patton, A. (2012). *Work that matters. The teacher's guide to project-based learning*. London: Paul Hamlyn Foundation. Available at: <http://www.innovationunit.org/wp-content/uploads/2017/04/Work-That-Matters-Teachers-Guide-to-Project-based-Learning.pdf>
- Stoller, F. (2006). Establishing a theoretical foundation for project-based learning in second and foreign language contexts. In Beckett, G.H., & Miller, P.C. (Eds.), *Project-based second and foreign language education: Past, present, and future* (19-40). Greenwich, CO: Information Age Publishing.
- Vygotsky, L.S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.

Published by OmniaScience ([www.omniascience.com](http://www.omniascience.com))

Journal of Technology and Science Education, 2021 ([www.jotse.org](http://www.jotse.org))



Article's contents are provided on an Attribution-Non Commercial 4.0 Creative commons International License.

Readers are allowed to copy, distribute and communicate article's contents, provided the author's and JOTSE journal's names are included. It must not be used for commercial purposes. To see the complete licence contents, please visit <https://creativecommons.org/licenses/by-nc/4.0/>.