The Secret World of the Airport [5th Draft]

# About this Case Study

This case study examines a vocational education project entitled “The Secret World of the Airport”, undertaken by the Belgrade Aviation Training Institute in Serbia. The project was one of a number of “Personalized and Authentic Learning – Serbia” training projects launched during the initial months of 2022. The project was supported by the European Training Foundation.

Belgrade Aviation Training Institute introduced a project to expose students to the real airport practice combining their technical aviation knowledge and skills with their English language skills. . The aim was to…..(I need to go back to the data to define them properly. , no time now). The project was was built around a visit to an operating airport where students received a tour and had the opportunity to interview airport staff and capture airport operations filming them with their mobile phones. One group of students only participated in the tour and wrote a report about the tour. One group participated in the tour and interviewed airport staff, they created documentaries based on the visit and interviews. A third group prepared newsletters based on the tour of the airport and interviews with the staff. Visiting the airport helped students to link the theory learned at school to the real practice and they learned about employment opportunities in an important Serbian service sector.

This case study examines the innovations, intentions, experiences as well as enablers and barriers of the project. It explores how practical activities such as workplace visits can improve outcomes in vocational training. It examines the benefits of collaborative teaching comprising general and technical teachers. It also outlines the conceptual framework in which the innovation was planned and delivered, and explains the intentions and experiences of the stakeholders involved at the actor level (teachers, students a mentor[[1]](#footnote-2), and airport staff); and at the organisational level (Training Academy and two local airports). The context of the innovation is described, as are the tools and artefacts developed and utilized. Finally the study addresses the policies, legislation, autonomy resources and cultural enablers or barriers influencing the innovation at the system level. Documents reporting on the practice, products and videos and photos have been analysed. For a full overview see the list under Resources.

# Rationale

**Learning and social objectives**

The goal of the project was to increase the motivation of learners through teamwork and by reducing the disconnect between theory and practice. Students would learn to undertake self-paced research tasks while working in teams, and teachers of technical subjects, who in some cases were practising engineers with more limited pedagogical training, would benefit from exposure to more academic teaching approaches[[2]](#footnote-3).

**Pedagogical approach**

The core objective of this teaching project was to improve learning and understanding of airport operations, safety and security procedures. This would be achieved by splitting classes into working teams, cultivating student research skills, authoring interview scripts to dig deeper into students’ theoretical knowledge and obtaining first-hand responses from the staff at the airports being visited. Students were taken from the classroom into the workplace to explore and better understand tasks in a real environment. Students were granted the opportunity to improve their theoretical knowledge through preparing and conducting interviews and capturing photographs and video clips. They then converted these materials into short documentaries about airport operations and prepared visit newsletters. Students were granted increased personal responsibility in conducting their research.

A significant pedagogical goal was to evaluate the motivational impact of dividing participating classes into two groups; the first of which would prepare for and visit an airport, while the second group, after listening to and reviewing the materials prepared by the group visiting the airport and querying the findings, would author visit newsletters in English and Serbian[[3]](#footnote-4). Both groups would then prepare and participate in the evaluation of the success of the project through a final knowledge quiz.

Case description

The project was planned over a timeframe of 8 weeks, starting in March 2022. Around 50 aviation technicians, from two classes, aged between 14 – 18, participated. The students from the first class were aviation technicians learning in an English/Serbian bi-lingual setting (Class II5). Forty per cent of the curriculum for this class was taught in English. A second class (II6) of aviation technicians was taught in Serbian[[4]](#footnote-5). Each of the two classes focused on different elements of airport operations - ground handling, cargo operations, air traffic control, airport safety signage and security. The project involved 3 hours of class instruction per week.

During the initial two weeks of the project, students from all four groups received instructions on how to collect data on airport operations, how to design interviews and prepare short documentary videos. During the second week, students who were to visit the airports concentrated on preparing for interviewing operational staff at the airports being visited.

In week three, the aviation technician students conducted airport site visits where they were introduced to airport operations, interviewed airport staff members, and took photographs and videos using their mobile phones.

During week four, the students presented their experiences from the airport visits to the second group from their own class who questioned their fellow students about the materials and their experiences from the visit.

In week five, the second group of students in each class prepared newsletters describing the airport visits undertaken by their fellow students while the visit students worked with IT teachers to combine their materials into short documentaries.

The final week of the project involved all participating students jointly undertaking a game-based evaluation where the airport actions and procedures were presented as case studies and the different class groups competed against each other to demonstrate their own knowledge and identify inconsistencies in solutions to each case study solved by the other groups. In addition, a number of user-generated multiple-choice quizzes were developed on the Kahoot!® platform[[5]](#footnote-6).

# What’s new? – Innovational aspects

The teaching and learning innovations in this project delivered a practical and achievable alternative to conventional classroom-based teaching.

For the students, this was a hands-on, short-term, real-world project in an environment that was new to the majority of the participating aviation technology students who had neither flown on an aircraft nor visited an airport. Students were tasked with self-paced group research to complete a defined project (learning about and documenting airport processes and procedures) from beginning to end. The novelty of this approach to student motivation involved student interaction with peers in classes covering different areas of airport operations, and with professionals from their own areas of study.

The students acquired a sufficient level of knowledge, based on their own research, and instruction from the teachers that enabled them to conduct interviews with airport professionals and to apply their classroom skills in a working environment. The development of communication and presentation skills improved both the self-awareness and self-esteem of the students.[[6]](#footnote-7)

A further innovative aspect of this project related to resource efficiency. Students were both utilising a readily available piece of personal equipment and learning how to better work with their smartphones. This provided a win for the school/project in terms of much-reduced resource costs; and, for students in developing technology skills outwith the conventional educational curriculum. As issues of privacy and data security were also rained and addressed the project contributed to safer internet usage for all involved.

# What was achieved? – Outcomes

The primary outcomes for the students were improved group work, research, and communication skills, as well as an understanding of the relevance of their formal education to future work prospects – all of which motivated the students significantly. The benefit and importance of teamwork was highlighted by one student who commented “*For me it was teamwork. We divided ourselves into groups, and my group motivated me. There were a few problems, but I knew that if they happened, we would solve them through teamwork. When we arrived at Vrsac airport, we had earlier prepared questions and we knew who was responsible for each question*.[[7]](#footnote-8)”

According to entries in a project diary maintained by the teachers at the request of the project mentor[[8]](#footnote-9), and substantiated in the final assessment results, differences in English skills were apparent throughout the project. The bilingual class participating in the project followed a bilingual education path (being taught in English in 40% of their subjects), while the aviation technicians’ class being taught in Serbian attended technical English classes, as a standard element of the curriculum.

In practice, the teachers considered the interview of airport staff to be a great success. This was mentioned by the teachers[[9]](#footnote-10) and confirmed by the mentor). Students from both groups in each class exhibited and mentioned in interviews a significant increase in motivation and understanding. The mentor reported recording teacher feedback[[10]](#footnote-11) of: *improvements in the students’ key competencies, namely teamwork and collaboration, communication skills, research ability, as well as working independently.*

The groups also benefitted from working together, including the fact that they went through different experiences at the airport. One student commented[[11]](#footnote-12) *“Also, when we met with other groups they showed us their videos, so we could see different airport procedures. We asked some questions to other groups, who were much more informed than us about those procedures. Also, we checked our theoretical knowledge with practical procedures”*.

### **The practical context for theoretical knowledge**

Initially, the plan was for the students to visit the Nikola Telsa Airport[[12]](#footnote-13). Due to the Covid epidemic resulting in the closure of Nikola Telsa Airport, it was decided that, after the initial visit of one class at Nikola Telsa Airport, the project would instead concentrate on the Vrsac[[13]](#footnote-14) training airport in Belgrade. Both classes visited the Vrsac training airport. This required some improvisation from all parties involved, obtaining agreement from the management and staff of Vrsac to host the students, and related transportation and planning changes. However, it became apparent to the leaders of the project that visiting a training airport would be a better alternative. The staff of the training airport had more time and resources to dedicate to the students and were more able to understand the teaching objectives of the project and interact positively with the students, due to their training orientation and the absence of commercial aviation operations.

The interviews, interactions, and explorations of the students at the airport were captured in student-made documentaries and newsletters, for which the students enjoyed creative freedom. According to the teachers’ feedback, they were satisfied with the outcomes and considered the students’ products to be of high quality.

Perhaps the biggest achievement, according to student evaluation, was the application of theoretical knowledge in a more practical environment, which led to better understanding. One student explained[[14]](#footnote-15) that the students learned in practice “*things that we learned earlier in theory*”. Another[[15]](#footnote-16) expressed this with the following comment” that the students had been “*For the last two years we are learning about airports, aircraft and aviation in general, and this was an excellent opportunity to see in person everything we learned and to expand the level of our knowledge about aviation, for example, runway markings*”. This student also emphasised that the students “*were motivated by teamwork”*. A third student[[16]](#footnote-17) commended on the visit to the training airport stating “*I think this was very good way to learn about a training centre and to see everything in practice if we want to continue our education and to work in this area later*”.

### **Positive feedback from all involved parties**

The Secret World of the Airport was a pilot project designed to explore new methods and approaches to teaching. Student feedback and the quality of their results would thereby act as an indicator of the project’s success.

Feedback obtained during the student reflection session was very positive. Three students[[17]](#footnote-18) commented that the course *was interesting, motivating and very exciting*“. The teachers indicated that word of the course had spread throughout the training institute, which led other students to express their desire to participate in future courses[[18]](#footnote-19). In interview sessions, the students from all groups described an increase in understanding and motivation compared to the results of conventional classroom learning[[19]](#footnote-20).

The teachers reported to the mentor that they learned a great deal from each other through this collaboration. Although the Academy, has a school counselling unit available[[20]](#footnote-21), one teacher reported[[21]](#footnote-22) that the mentor provided additional and very useful professional and pedagogical knowledge.

The project was supported by and encouraged by the administration of the Aviation Academy. It provided a vehicle to increase the visibility of the Academy, and its standing with the Aviation Authorities in Serbia. This developed during interactions with the Serbian Ministry of Aviation relating to the need to obtain authorisation to initially visit the commercial airport, and later to move the project to the training airport. Based on the positive response, the Academy plans to continue and enhance this form of cooperation in the future.

### **Strengthening independence**

Although classroom teaching and technical support was the teachers’ main task during the project, it was quickly established that the students should approach them for help while working independently. In practice, apart from one exception, no interventions were necessary. Students were able to record the documentaries on mobile phones. While the quality of the products may have somewhat suffered from this, it enabled the project to be undertaken without additional investment in equipment, and the skills that the students acquired in editing and combining self-produced videos would be useful life skills. According to feedback obtained during interviews of mentors and teachers, and corroborated during student interviews, the students became adept at working in teams and only accessing the teachers infrequently and on very specific topics. One student[[22]](#footnote-23) explained “*For me it was team work. We divided ourselves in groups, and my group motivated me. There was no problems, but I know that if it happened, we would solved it through team work. When we arrived at Vrsac airport, we had earlier prepared questions and we knew who was responsible for each question“.*

During conversations with the mentor, the teachers mentioned that the airport staff reported a high level of professionalism regarding how the interviews were planned and conducted.

**Differences between classes**

Both the classes who visited the airports and those that provided a supporting role experienced an increase in motivation. While the groups visiting the airport had different responsibilities and tasks, they all reported having obtained a deeper understanding of the subject matter and future job prospects, as well as to have obtained a better understanding of the relevance of their theoretical knowledge.

# Reflections

While each step of the project was initially carefully planned and prepared, reality required spontaneous changes and improvisation by all parties involved. Considering its pilot status, the outcomes of this project are crucial in judging its success and thus its sustainability and future relevance. The results of this research, however, could be applicable to many vocational education projects. This is supported by evidence from the project.

**Raw Data**

The data collected from this project came from several sources, utilizing a phased research approach. Full access to lesson plans and project structure was provided beforehand, and the implementation of the project was documented. This included reports from the mentor meetings, which were shared with the research team. The initial insight into the project came from an exploratory interview of the teachers conducted early during the project, which was recorded and documented on the MURAL® whiteboard. At the end of the project, there were three more meetings. They addressed the teachers, the students, and lastly the mentor who was responsible for this project. The research team was then also given access to the school evaluation material. A quantitative survey was submitted to the teachers to gather feedback on their experiences and their satisfaction with the project.

**Supporting research underpinning pedagogical concepts**

The following research publications support the findings from this case study:

The project demonstrated that there were benefits from the mentoring process that was adopted. This is supported in the following articles:

* Moir et al. (2009)[[23]](#footnote-24) review mentoring programs for teachers in the light of new teachers and their need for support due to lack of experience. They mainly focus on the fact that new teachers require guidance to give children in need of high-quality teaching a real chance at success. While this is relevant, it disregards the fact that experienced teachers can significantly benefit from mentorship as well.
* Lopez (2013)[[24]](#footnote-25) explores the concept of collaborative mentorship (CM) as a mentoring approach for teachers. Her findings suggest that mentoring not only offers skill development but also “challenges teachers to examine their underlying teaching assumptions and beliefs” (Lopez, 2013). This brings her to the conclusion that teachers could become collaborative mentors, creating a network of educators in school boards, available to support both new and experienced teacher.

The decision to integrate learning streams and to utilize the visit to a work environment resulted in increased motivation of all the students involved. Similar findings were identified in:

* Karimi et al. (2019)[[25]](#footnote-26) investigate the concept of integrated learning by following a project very similar to the secret world of the airport, however on a smaller scale. With 40 involved pilot students, the project in Tehran, Iran, also works with an experimental and a control group. They, too, report increases in motivation and positive perception of their students about the effectiveness of the activities. The experimental group also performs better in the post-test than the control group.
* Teacher mentorship and collaboration created a positive work environment, and it also helped to collect better insight into the success of the project as well as the professional development of the teachers. “*The teachers have made sense of the exercise and dealt with it on their own terms, applying new practices to old problems, such as curricula that are out of touch with reality, feelings of isolation and students lacking motivation*” (*ETF Open Space*, 2022). “*They agreed that this is an intensive professional growth for them, and they will do more project work also in the future*” (Mentor diary).
* Taking the students to a potential future workplace (commercial airport) as well as an educational facility (training airport) helped them to draw connections between theoretical knowledge and the practical application thereof. “*Once we start lecturing about that topic, trust me, they pretty much have no idea what is it? […] To link together, learning in English, with the more, you know, the more professional knowledge that the students are learning about airports and about safety in airports*" (Personal communication, 3.3.2022­)
* Working with control groups for reference made the benefits of participating and the success of the project clearer and more measurable. This was reflected in the average final grades of all classes, in which the two participating classes outperformed the control groups in every subject.

Enablers

Overall, the students’ knowledge and experience acquired in a work-related context increased their self-esteem and the belief in their abilities, as the teachers reported to their mentor. The project connected all involved parties with fellow students, with teachers across teaching disciplines, and with professionals in the aviation industry. This interdisciplinary and interinstitutional aspect enabled a more diverse exchange and learning environment.

The aviation sector in Serbia is a growing market with employment opportunities for students. The project provided visibility to the management of the school and encouraged the school to provide tools and methods that the teachers requested to improve the outcomes of their teaching.

The ability to create a positive educational setting for the utilisation by students of mobile telephones provided benefits for both teachers and students. Teachers benefited from the ability to launch the project without the need to acquire additional equipment. Students benefited from learning new video editing skills, that they could utilise after the end of the project

The educational context of the project and the airport visit benefitted from the change of plans, in that the additional flexibility of the training airport provided a more in-depth and less restricted experience than what would have been possible in a commercial airport.

The context of the CNL initiative was very important to the teachers, as they proved willing to try new teaching methods. On national level, many teachers previously reported that they had to “teach within a box” (*ETF Open Space*, 2022)[[26]](#footnote-27). Even within teaching the same subjects, teachers were split up between teaching theory and teaching practice. Hence, they welcomed the changing approach and were glad to try new methods.

The project required collaboration between teachers across academic and technical disciplines. This broke down silos between subjects and built a foundation for more collaborative interactions across teaching disciplines.

While input from teachers and students was more limited than expected, the mentor agreed that the MURAL® “served well as a tool to comprehend and describe the project”[[27]](#footnote-28).

Barriers

A few factors, which were hard to predict beforehand, somewhat slowed down and hindered the success of the project.

The biggest and least controllable factor was the advent of the COVID-19 pandemic, which caused the need for restructuring in group sizes, as well as for rescheduling. The rescheduling of the airport visit was also due to school-internal planning issues (like booking a bus), as the teachers reported in the reflective interview. Another problem that arose from the pandemic situation was that the commercial airport did not have the resources to welcome the entire project group anymore. Instead of cancelling the visit altogether, however, the implementers decided and managed to get into a training airport, which ended up being even more insightful for the students due to the educational aspect.

An issue reported by the teachers and students in the reflective meetings was that the timeframe was too short. The production of the documentaries, for instance, was scheduled for one week. In the end, however, the students needed more than two to get them done. Since the project was on a limited schedule, improvisation was needed to adjust to the resulting lack of time.

References

*ETF Open Space*. (2022, June 22). A Partnership for Innovation in Teaching and Learning in Serbia. Retrieved July 1, 2022, from <https://openspace.etf.europa.eu/pages/partnership-innovation-teaching-and-learning-serbia>

Karimi, P., Lotfi, A. R., & Biria, R. (2019). Enhancing Pilot’s Aviation English Learning, Attitude and Motivation through the Application of Content and Language Integrated Learning. *International Journal of Instruction*, *12*(1), 751–766. <https://doi.org/10.29333/iji.2019.12148a>

Lopez, A. E. (2013). Collaborative Mentorship: A Mentoring Approach to Support and Sustain Teachers for Equity and Diversity. *Mentoring & Tutoring: Partnership in Learning*, *21*(3), 292–311. <https://doi.org/10.1080/13611267.2013.827836>

Moir, E., Barlin, D., & Gless, J. (2009). *New Teacher Mentoring*. Amsterdam University Press. <https://eric.ed.gov/?id=ED515444>

1. One external mentor supported this project. A group of mentors supported the Personalized and Authentic Learning – Serbia projects. The mentors were interviewed together on all projects during two separate interview sessions – one conducted in English with two mentors who spoke English and one conducted in Serbian with three mentors. [↑](#footnote-ref-2)
2. The non-technical teachers responsible for planning the project were language teachers. [↑](#footnote-ref-3)
3. Class II5 (Bilingual) Students Report on Visit to Vrsac Airport (Marking & Lighting of Airport Surfaces) [insert link]; Class II6 Students Report on Visit to Nikola Telsa Airport [insert link] [↑](#footnote-ref-4)
4. The second class of students obtained instruction in different airport roles, and were taught in Serbian. They also attended classes in technical English. [↑](#footnote-ref-5)
5. Kahoot! is a game-based learning platform, used as educational technology in schools and other educational institutions. [↑](#footnote-ref-6)
6. Project reflection interview with teachers [↑](#footnote-ref-7)
7. Project reflection interview with students [↑](#footnote-ref-8)
8. interview with the project mentors [↑](#footnote-ref-9)
9. Exploratory interview with project teachers [↑](#footnote-ref-10)
10. Interview with project mentor [↑](#footnote-ref-11)
11. Project reflection interview with students [↑](#footnote-ref-12)
12. Belgrade Nikola Tesla Airport or Belgrade Airport is an international airport serving Belgrade, Serbia. It is the largest and busiest airport in Serbia, situated 18 km west of downtown Belgrade near the suburb of Surčin [↑](#footnote-ref-13)
13. Vršac Airport is a small airport and training facility owned and operated by the SMATSA Aviation Academy, in the autonomous province of Vojvodina, Serbia. [↑](#footnote-ref-14)
14. Project reflection interview with students [↑](#footnote-ref-15)
15. Project reflection interview with students [↑](#footnote-ref-16)
16. Project reflection interview with students [↑](#footnote-ref-17)
17. Project reflection interview with students [↑](#footnote-ref-18)
18. Project reflection interview with teachers [↑](#footnote-ref-19)
19. Project reflection interview with students [↑](#footnote-ref-20)
20. The number of counsellors depends on the number of students, usually 2 people, one a pedagogue (expert on teaching/instruction, education in general), the other an educational psychologist.  [↑](#footnote-ref-21)
21. Project reflection interview with teachers [↑](#footnote-ref-22)
22. Project reflection interview with students [↑](#footnote-ref-23)
23. New Teacher Mentoring: Hopes and Promise for Improving Teacher Effectiveness : <https://eric.ed.gov/?id=ED515444> [↑](#footnote-ref-24)
24. Collaborative Mentorship: A Mentoring Approach to Support and Sustain Teachers for Equity and Diversity: <https://www.tandfonline.com/doi/full/10.1080/13611267.2013.827836?casa_token=8crda56tPhwAAAAA%3ASSVBZFnvAQVLoRgt3wQT7wyFqpHGWAQPnlaXEbCvR9iM6IDb5qOcXfD2evdYu-6rQ7uQ6iM33KTd> [↑](#footnote-ref-25)
25. Enhancing Pilot's Aviation English Learning, Attitude and Motivation through the Application of Content and Language Integrated Learning : <https://eric.ed.gov/?id=EJ1201326> [↑](#footnote-ref-26)
26. <https://openspace.etf.europa.eu/pages/partnership-innovation-teaching-and-learning-serbia> [↑](#footnote-ref-27)
27. Comment from the project mentor in response to a question submitted by email. [↑](#footnote-ref-28)