2. Background to the EVALUATE study

2.1. Justification for the study

Institutions of initial teacher education around Europe are being called upon to develop educational programmes which will prepare the teachers of tomorrow for the diverse array of challenges which they will encounter in their classrooms. These challenges include promoting inclusive approaches to education for all learners, including those of migrant origins and those from disadvantaged socioeconomic backgrounds (European Commission, 2018). They also involve introducing a European dimension of teaching which includes knowledge of foreign languages and the principles of active citizenship education (Council of Europe, 2016). Finally, they require the teachers of tomorrow to be able to integrate online technologies into their classrooms in ways which will promote both student-centred, collaborative learning and the development of critical digital competences (European Parliament, 2018). The following sections look briefly at these different challenges.

2.1.1. Developing student teachers’ intercultural skills and a European perspective

The common approach until now to developing the intercultural and foreign language skills of student teachers and to enhancing their understanding of the European dimension of education has been to rely on international student mobility programmes such as Erasmus+. However, in comparison to other subject areas, the level of participation of students of education in Erasmus+ mobility has been disappointingly low. The most recent data available (see Figure 2) shows that only 3.41% of students in academic mobility come from education, while only 2.6% of students engaged in international work placements come from this area of studies (European Commission, 2015a).

There are also various reasons to question whether student mobility programmes are alone sufficient to help students meet their intercultural and foreign language learning goals. The first reason is that the financial costs of engaging in student mobility programmes mean that it is not economically viable as a way to develop intercultural or global competences in a large majority of university students (Richardson, 2016). The European Commission (2013), which has invested greatly in promoting student mobility at university level, recognises this:

“mobility will always be limited to a relatively small percentage of the student and staff population: higher education policies must increasingly focus on the integration of a global
dimension in the design and content of all curricula and teaching/learning processes [...] to ensure that the large majority of learners, the 80-90% who are not internationally mobile for either degree or credit mobility, are nonetheless able to acquire the international skills required in a globalised world” (p. 6).

A second reason for using virtual exchange as a complementary approach to student mobility is based on growing evidence in the literature that physical mobility does not lead automatically to the development of intercultural competence or an enhanced transnational identity – which are the very goals of internationalisation policies and mobility programmes. Papatsiba (2005), for example, looked at the impact of Erasmus mobility on a cohort of French students in order to investigate the extent to which students’ experiences reflected the political and policy aims of the Erasmus mobility programme and she concluded that

“acquiring a feeling of belonging in an enlarged Europe, enriching national identities with the desired European dimension remained a somewhat random result of experiential learning. This type of learning depends on situations, on encounters, as well as on the individual’s psychology” (p. 183).
There have been similar findings by Paige et al. (2009) who argue that the keys to successful physical mobility programmes are how the exchanges are structured and the type of learning experiences which they provide.

2.1.2. Preparing student teachers to use digital technologies in innovative ways

A further challenge for initial teacher education is how to prepare student teachers to use online technologies to promote student-centred and innovative approaches to learning in classrooms. Although student teachers may belong to a generation referred to as ‘digital natives’ (Prensky, 2006), research by Kirschner and De Bruyckere (2017) and Margaryan, Littlejohn, and Vojt (2011) has questioned the belief that they are somehow intuitively capable of using digital technologies in collaborative ways in their learning and teaching practices. Valtonen et al. (2011) looked at the academic practices of student teachers in Finland and found that “the technological knowledge of student teachers is not what would be expected for representatives of the Net Generation” (p. 13). They also looked at the technological pedagogical knowledge of these learners and found that they used a very limited range of software in their teaching practices and that when they used social media, it was as a passive source of information transmission and not as a tool for actively creating content, interacting with others, or sharing resources (Valtonen et al., 2011).

Further research suggests that although digital tools and resources are increasingly available to educators, they continue to be used in a very limited, traditional manner by most teachers. The European Commission (2015b) reports that online technologies are mainly used as a remedial tool and that innovative approaches to using online technologies are often limited to the pedagogical activities of a small minority of innovative practitioners. Similarly, the 2015 report of the
European Council and Commission on the implementation of the Education and Training 2020 states that high-quality learning requires teachers to take a more active approach to innovative pedagogies and their application through digital tools and the report calls for teacher training programmes to “reap the benefits of new [Information and Communication Technology (ICT)] developments and adopt innovative and active pedagogies, based on participatory and project-based methods” (ET2020, 2015, p. 5). The recent OECD (2015) study ‘Teaching with technology’ found that only 38% of secondary teachers reported frequently using online technologies in students’ projects or class work (Figure 3).

Against this background, the Education and Training 2020 Working Group on Schools Policy calls on European educational systems to move away from isolated classrooms towards new teaching methods which are based on collaboration. The working group proposes that teachers should be encouraged to incorporate both collaborative practices and a collaborative culture into their work and that training institutions should take steps to engage teachers in “networks, professional learning communities and other partnerships” (ET2020, 2015, p. 36). Similarly, the European Commission’s communication New Priorities for European Cooperation in Education and Training highlights the need to train educators to use ICT tools in combination with innovative pedagogies.

In order for this to happen, it is clear that it is in the context of initial teacher education that future teachers should not only be trained in basic digital competences, but they should also be
exposed to and engaged in innovative applications of online technologies which involve their use in collaborative, student-centred approaches to learning. The European Parliament’s (2018) draft report on education in the digital era is clear about this:

“The digital transformation does not only require education in digital skills. Rather, its implications also have the potential to transform teaching methods. Unfortunately, this potential is not being fully tapped into as teachers need to be educated themselves” (p. 8).

2.1.3. Moving forward with virtual exchange

It is against this background of limited student mobility in teacher education and limited use of online technologies for innovative, collaborative approaches to learning that this study was undertaken. The study set out to explore the potential impact of an innovative and intercultural approach to online learning, virtual exchange, on students of initial teacher education and how it may contribute to the development of their intercultural, linguistic, and digital competences.

The underlying argument for our study, as mentioned in (O’Dowd, 2017, p. 38), is that if the teachers of tomorrow are to engage their students in innovative and inclusive approaches to online learning, they first of all need to experience this type of learning themselves during their own study programmes. In European school education, virtual exchange has already been recognised as a powerful tool for the development of students’ competences in the form of eTwinning (Education for Change, 2013). However, it has been shown that one of the barriers to the success of eTwinning is that it is often not included in initial teacher education programmes. Whilst eTwinning offers continuous professional development for in-service teachers, we argue that the take-up of such virtual exchange initiatives will remain limited until student teachers are given the opportunity to experience these online learning experiences during their own training. EVALUATE took a first important step in integrating virtual exchange in a large number of initial teacher education institutions across Europe and undertook various training and promotional events to raise awareness of virtual exchange in teacher education.

2.2. Research aims

This research study was funded by the Erasmus+ KA3 programme (EACEA/34/2015) and was a European policy experiment. The aim of policy experimentation is to assess the relevance, effectiveness, and potential scalability of innovative policy measures through experimental or semi-experimental approaches. This particular European policy experiment evaluated the
impact of virtual exchange on student teachers involved in initial teacher education (also referred to as ‘pre-service’ education) in European countries and regions.

The three key actors in European policy experimentations are the responsible public authorities, the researchers, and the target groups. In this particular case, the public authorities were from the regional governments in the European regions of Castilla y León in Spain and Baden Wurttemberg in Germany, and from the national ministries of education in Hungary, Spain, and Portugal. The researchers were a team of experienced researchers and practitioners in various European institutions, while the target groups were students studying in programmes of initial teacher education as well as their instructors (i.e. teacher trainers) who were undertaking to use virtual exchange in their classes.

The guiding research question for the study was:

- Will participation in virtual exchange contribute to the development of competences which student teachers need to teach, collaborate, and innovate effectively in a digitalised and cosmopolitan world?

The specific research questions were:

- What impact will virtual exchange have on student teachers’ digital-pedagogical competence?

- What impact will virtual exchange have on student teachers’ intercultural competence?

- What impact will virtual exchange have on student teachers’ foreign language competence (this question was dealt with in contexts where foreign language learning was a part of the teacher education courses)?

These questions were complemented by a fourth question which would also be of use to the public authorities in the participating regions and countries:

- What were the experiences of the teacher trainers who endeavoured to introduce virtual exchanges in their classrooms?
2.3. The EVALUATE virtual exchange programme

Twenty five virtual exchanges were run as part of the EVALUATE study. A total of 17 exchanges ran in the winter semester 2017-18, while eight exchanges took place in the spring semester 2018 (see Table 1 below for an overview). In total, 34 institutions of initial teacher education from 16 countries were involved (as some institutions participated in various exchanges). Most institutions were from European countries but teacher educators from the United States, Brazil, Israel, Turkey, Macau, and Canada also took part in the project and their institutions were included in the study.

Altogether, a total of 1,018 students from 34 institutions were invited to take part in the EVALUATE study. All of these students were studying either undergraduate or Masters’ degrees in initial teacher education, but their subject areas varied. Some were studying subjects related to primary school education in general, while others were studying subjects related to foreign language education, bilingual education, mathematics, special needs, and physical education. Classes were matched depending on different variables including subject being studied, language choice, their courses’ start and end dates and the themes their teachers wished to focus on. The majority of classes involved students who were studying English as a foreign language. This is perhaps not surprising as virtual exchange is already quite well known in foreign language education and is seen as an effective tool for supporting communicative approaches to foreign language learning.

Table 1. Overview of the EVALUATE virtual exchanges

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<th>Countries involved in the virtual exchange</th>
<th>Institutions of initial teacher education</th>
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<tr>
<td>1</td>
<td>Poland &amp; Germany Jan Dlugosz University, Poland &amp; PH Heidelberg</td>
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<tr>
<td>2</td>
<td>Portugal &amp; Brazil Instituto Politécnico de Castelo Branco &amp; Universidade Estadual Paulista</td>
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<tr>
<td>3</td>
<td>Spain &amp; Holland Universidad de Burgos &amp; University of Utrecht</td>
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<tr>
<td>4</td>
<td>Spain &amp; Poland Universidad de Valladolid &amp; University of Warsaw</td>
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<tr>
<td>5</td>
<td>Spain &amp; Poland Maria Curie-Skłodowska University, Lublin &amp; Universidad de Vic</td>
</tr>
<tr>
<td>6</td>
<td>Israel &amp; Spain Sakhnin College for Teacher Education, Israel &amp; Universidad de Burgos</td>
</tr>
<tr>
<td>7</td>
<td>Holland &amp; Spain Leiden University &amp; Universidad de Valladolid</td>
</tr>
<tr>
<td>8</td>
<td>Poland &amp; Spain Jagiellonian University &amp; Universidad de Burgos</td>
</tr>
<tr>
<td>9</td>
<td>Israel &amp; Germany Kibbutzim College of Education, Technology and the Arts, Tel Aviv &amp; Karlsruhe University of Education</td>
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The treatment in our study involved engaging these classes of initial teacher education in a period of intensive virtual exchange with partner classes in institutions in other countries based on specifically-designed tasks and content related to digital-pedagogical competences as well as intercultural competence. Digital-pedagogical competence refers to the teacher’s ability to plan, implement, and evaluate the use of technologies (online tools and applications) in their classes (Koehler & Mishra, 2005). We understand intercultural competence as the set of skills, attitudes, and knowledge which learners need if they are to communicate effectively with members of other cultures.

The virtual exchange model which was used in the exchanges was based on the Progressive Exchange Model which has been widely used in virtual exchange research and practice to date (O’Dowd & Lewis, 2016; O’Dowd & Ware, 2009). As mentioned in O’Dowd (2017), the model involves “three interrelated tasks which move from information exchange to comparing and analysing cultural practices and finally to working on a collaborative product” (p. 40) (see Figure 4). Teacher trainers participating in the study were provided with three sets of tasks so they could choose from various tasks at each stage of the task sequence. However, all the tasks available to the educators focussed on the development of the key competences and themes.
which have been identified by the public authorities as key for teacher education in their countries or regions.

The recruitment and training of teacher trainers who were to take part in this study over the two rounds of field trials involved the following steps:

- Dissemination of the EVALUATE project and recruitment of interested teachers through online networks such as Twitter, Facebook, and professional mailing lists as well as presentations of the project at international conferences;

- Matching of teacher trainers with their partner-teachers based on criteria such as semester start and end dates, course objectives, and foreign language level;

- Development of an online platform where the virtual exchanges could take place (http://evaluateprojectmoodle.eu);

- Organisation of two teacher training workshops at the University of Padova, Italy (for exchanges running in Semester 1) and at the University of León, Spain (for exchanges running in Semester 2); and
• assigning each virtual exchange partnership a mentor from the project consortium who provided support and expert advice to the teacher trainers as they ran their virtual exchanges.

The timeline for this process is outlined in the Figure 5 and Figure 6 below.

The workshops were offered free of charge to the participating teacher trainers and they were encouraged to use Erasmus Training funding from their universities to travel to the events. In total, 40 teacher trainers attended the Padova event, while 15 attended the León event. The León event was also followed online in its live webcast by seven teacher trainers. The lower attendance at the León workshop reflected the smaller number of exchanges (eight) which were planned to run in the second semester.