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SMART Teacher Lab: A learning platform for the professional development of EFL teachers

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Abstract

This article introduces the structure and content of an online learning platform called SMART Teacher Lab *(STL, henceforth) implemented at the authors' university since 2014. "STL" is an online platform specifically built for the professional development of pre- and in-service English as a Foreign Language (EFL) teachers, containing and accumulating various types of hands-on and field-specific educational resources. These resources include information on the preparation of teaching practicums, video clips of teaching demonstrations, student or teacher interviews, lecture materials on recent educational approaches and technology, and more. STL was originally designed as an open-access mobile-based platform based on the previous literature of non-formal learning, and a development-centered view of bottom-up teacher education. Providing examples of resources related to English education majors and highlighting the strengths of STL, this article aims to emphasize the importance of such a platform for the successful and sustainable professional development of EFL teachers. Suggestions for EFL teacher trainers in other pedagogical contexts are also included.*

Keywords: *EFL Teacher Education, Mobile-Assisted Language Learning, Non-Formal Learning, Open Learning Platform*

Language(s) Learned in This Study: *English*

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Introduction

The concept of learning has seen a rapid change due to technological development and its influence in educational contexts. The outbreak of the COVID-19 pandemic has further hastened this change (Daniel, 2020), posing a significant challenge to both teachers and educators. It appears that teachers constantly need to adapt to continuously changing educational environments. However, the traditional, top-down teacher education programs of most education environments have not successfully satisfied their needs, including EFL teacher education in South Korea (Lee, 2017; Lee & Kim, 2016), which is the focus of this article. One possible solution to supplement such a traditional top-down paradigm of teacher education may be operating an Open Learning Platform (OLP), which could offer more user-centered and informal training opportunities for teachers, with constantly updated resources and learning materials (Ahn et al., 2013; Alier et al., 2010). However, despite several recent studies on the role of OLP in Korean education (e.g., Doo et al., 2021; Kim & Lee, 2020; Lim & Kim, 2019) as well as those examining the effects of employing OLP on EFL learning (e.g., Yang, 2017; Yoon, 2021), there has been hardly any research on OLPs specifically designed for EFL teacher education, leaving its potential largely untapped.

Therefore, this article aims to introduce an example of such an OLP called *SMART Teacher Lab* (STL), originally developed as part of a two-year curriculum reconstruction project funded by the South Korean Ministry of Education. STL was designed as an "anytime, anywhere" user-centered OLP that could supplement the traditional top-down and fixed curriculum of college teacher education. Its greatest strength

lies in its huge reference archive for pre- and in-service teachers, consisting of more than 300 well-organized and searchable multimodal learning data (e.g., videos, lecture slides). Teachers at the college of education in the authors' university, including those majoring in English education and other content subjects (e.g., physical education, early childhood education), have utilized STL successfully for various purposes, such as developing professional knowledge related to teaching, preparing for the teacher employment exam (see Context for details), solving problems that may arise during teaching practicums, and reviewing study materials from the regular course curriculum.

This article will first provide theoretical backgrounds for STL, followed by a description of the target context of this article, which can help readers understand why an OLP like STL is needed for teacher education. Next, the structure and contents of STL are presented, followed by some empirical data illustrating its usefulness and sustainability. Finally, the compatibility of STL with the development-centered view of bottom-up teacher education and non-formal learning is discussed, along with suggestions for language teacher education.

Theoretical Background of STL

This section provides the following theoretical underpinnings of STL: (a) Open Learning Platform, (b) Non-formal Learning, and (c) the development-centered view of teacher education.

Open Learning Platform (OLP)

Since the emergence of Massive Open Online Courses (MOOCs), OLPs have been commonly employed for learning in higher education (Ahn et al., 2013; Ang et al., 2021). Unlike a structured learning management system, an OLP is usually designed as an open-access and non-sequenced learning content archive, with social technologies such as micro-blogging, social network services (SNS), or comments (Holotescu, 2015). Theoretically underpinned by constructivism and other recent educational philosophies (Haj-Bolouri et al., 2016), an OLP aims to offer a student-centered and flexible learning environment that empowers and intrinsically motivates learners, while fostering deep learning (Ahn et al., 2013; Kafai & Peppler, 2011). Zhou et al. (2015) further suggest that OLPs offer various ways to improve learning efficiency, facilitate the adaptive learning process, and cater to learners' various needs.

In South Korea, the OLP known as K-MOOC has been implemented since its inception in 2015, with some recent studies focusing on learners' perceptions of it (e.g., Doo et al., 2021; Kim & Lee, 2020; Lim & Kim, 2019). However, only a few studies have focused on EFL situations (e.g., Yang, 2017; Yoon, 2021). For example, Yang (2017) compared the effects of combining MOOCs and traditional in-person conditions versus only in-person lectures on the English achievements of university students registered in mandatory EFL reading courses; it was found that the MOOC-based group achieved significantly higher learning outcomes. Yoon (2021) investigated the effects of MOOCs coupled with flipped learning on college learners' English achievements, self-confidence, and motivation to learn English. Her results revealed that the MOOC paired with flipped learning was beneficial for the development of participants' English competence, measured through a standardized English test, and for increasing their self-confidence and motivation.

While the field has recently started to see empirical studies on the effects of OLPs (mostly MOOCs) in Korean contexts, research on such a platform developed for EFL teacher education and training is seemingly rare. Therefore, STL, the OLP introduced in this article, is expected to contribute to expanding the boundaries of such platforms.

Non-Formal Learning Approach

Since getting endorsements from the OECD Ministers and council in 1996, three learning approaches—formal, non-formal, and informal learning—have been compared and differentially applied to learning environments (Colardyn & Bjornavold, 2004; Eshach, 2007). In general, formal learning is pre-planned, sequential, evaluated, in-class, and structured with clear learning objectives, whereas informal learning is

spontaneous, non-sequential, non-evaluated, ubiquitous, and unstructured (Patrick, 2010). Non-formal learning, however, takes a rather eclectic approach between the formal and informal; it can usually be employed both in and out of school, is partly structured, and generally non-sequential. This approach may require individual learners' intrinsic motivation, voluntary participation, and responsibility in the decision-making process (Eshach, 2007; Patrick, 2010). Recently, some researchers have suggested a non-formal curriculum for effective Mobile-Assisted Language Learning (MALL) (Burston, 2014; Kwon, 2015). For instance, Burston (2014) attended to a discrepancy between the features of mobile learning and the nature of formal learning in the context of MALL, suggesting that mobile learning is by nature individual, spontaneous, and ubiquitous, whereas formal learning is teacher-centered, structured, and in-class. Kim (2016) and Kwon (2015) suggested that informal learning is a better fit for MALL, but may not be sustainable due to the considerable freedom associated with it. This also indicates the need for a more eclectic approach in the implementation of MALL, like non-formal learning.

STL was originally designed to operate flexibly on mobile devices, and built on the premise of a non-formal learning approach, which appears to align well with various features of MALL and OLPs. The description of non-formal learning in Kwon's (2015) framework in Table 1 effectively summarizes the learning context and process of STL.

Table 1

Characteristics of Non-Formal Learning from the Mobile-Assisted Language Learning Perspective (adapted from Kwon, 2015, p.35)

Component	Specific features
Context of Learning	Location: In and out of school
	Time: Usually open-ended, few time-restrictions
	Planning of learning: Usually preplanned
Process of Learning	Structure of learning: Structured
	Sequence of learning: Typically non-sequential
	Evaluation: Usually not evaluated

Development-Centered View of Teacher Education

EFL teacher education in the South Korean context can largely be perceived as the traditional, top-down *knowledge transmission paradigm* (Ball & Cohen, 1999; Chang, 2000). The Ministry of Education sets up the curriculum, selecting a range of knowledge and skills that teachers have to acquire. Accordingly, external agenda and trainer-centered syllabi seldom satisfy teachers' hands-on needs and prompt their intrinsic motivation to further these needs (Lee, 2017; Rahimi & Alavi, 2017).

In response to such problems associated with the traditional top-down paradigm, a development-centered view of teacher education has been increasingly accepted by researchers and trainers (e.g., Chang, 2000; Crandall & Miller, 2014; Johnson, 2009), proposing that teachers be given more control over what and how to learn for their instructional growth and hands-on needs. Similarly, Min and Park (2013) highlighted the importance of a more bottom-up approach for EFL teachers' professional development, and various

approaches that could address individual teachers' needs. As will be illustrated below, STL was developed in accordance with the development-centered view of teacher education, with the aim of improving and supplementing traditional top-down teacher education.

In the next section, we provide a background of teacher education in South Korea and show the need for OLPs such as STL.

Context

In the South Korean context, in order to become an in-service teacher, one must generally obtain a national teachers' certification by graduating from either a college of education (i.e., Bachelor's degree, generally four years of study) or a graduate school of education (i.e., Master's degree, generally two to three years of study). Although the contents of the curriculum may vary depending on the subject one majors in (e.g., English, Mathematics, History), students are expected to take a wide range of courses related to their majors as well as general education over the course of their study. The students are also required to undergo a four-week teaching practicum at a selected school in their final year of study, thus teaching students in real classrooms and experiencing various aspects of teacher life. Upon graduation, they receive the national teacher certification.

While the attainment of the national teacher certification enables them to teach in private schools, some graduates consider taking the Public Teacher Employment Exam (PTEE), designed and conducted by the Korea Institute for Curriculum and Evaluation (2021). The PTEE comprises two rounds; the first is a pen-and-pencil written test, and the second consists of a teaching demonstration on one's major subject and an interview on various aspects of teaching in public schools. Applicants should have an in-depth knowledge of their major subject and general education, while being equipped with proficient teaching abilities.

Although the aforementioned curricula related to the colleges and graduate schools of education are expected to prepare students sufficiently for their teaching practicum and the PTEE, the authors' experience as college of education professors revealed that a majority of students constantly seek additional information on the teaching practicum and PTEE test-taking tips. Moreover, even in-service teachers are in constant need of re-training, particularly related to new technologies and pedagogical approaches. For example, in the realm of second language education, research related to blended learning (Hockly, 2018), mobile apps (Kim, 2016; Loewen et al., 2019), and chatbots (Fryer et al., 2020; Lee et al., 2020) has been recently introduced and found effective for language teaching and learning. This indicates the need for language teachers to be aware of the advantages and disadvantages of each approach and technology, while also learning how to employ them in their lessons when needed. However, the current system and curricula have not yet adapted to such additions.

Despite college and graduate school of education students' (i.e., pre-service teachers) increasing needs for more information on teaching practicums and the PTEE, as well in-service teachers' needs for professional growth regarding new technologies and approaches, it has been rather difficult to find a learning platform that addresses them simultaneously in the South Korean context. STL was developed to meet such needs, and will be introduced in the next section.

Structure and Content of STL

The main sections of STL were developed based on the following two sources: (a) a panel discussion among education professors, facilitated by the first author of this article; and (b) collecting pre-service teachers' opinions through a need-analysis approach (mostly undergraduate students who had completed their teaching practicum and were prepared for the PTEE). Thus, these sections were designed to reflect four major teacher-training categories, namely *practice-knowledge-research-communication*, which respectively aligns with the "Smart Practicum," "Smart Competence," "Smart Research," and "Smart Networking" sections in Figure 1[1].

STL was developed to rarely require developer efforts for updates. Even administrative staff[2] without any web programming knowledge can easily add and change the menus and contents by clicking, typing, or uploading the files, similar to personal blogging.

Figure 1

The Front Page of STL

The first section, Smart Practicum, provides content on the teaching practicum, which is an integral part of the curriculum for students. Under “Menu List” on the left side of Figure 2, the following sub-sections are placed in the order of “Educational Service Activities,” “Before Practicum,” “During Practicum,” “After Practicum,” and “Teaching Practicum Abroad”. In Educational Service Activities, information about how to apply for and complete educational service, which is one of the requirements for graduation for students at the college of education, can be accessed. Before Practicum includes useful information related to applying for a teaching practicum in a particular school, writing a lesson plan, and a list of “dos and don’ts” during the practicum. Sample teaching demonstration videos (see Figure 3) are also available here. During Practicum focuses on topics related to the actual teaching practicum: dealing with misbehaving students, collaborating with in-service teachers, using in-class resources, tips for student counseling, and completing a daily reflection note on the practicum. After Practicum includes video interviews with those who have undergone the teaching practicum, sharing their trials and errors. Finally, Teaching Practicum Abroad presents information about the application for a teaching practicum in schools abroad.

Figure 2

Screenshot of Smart Practicum

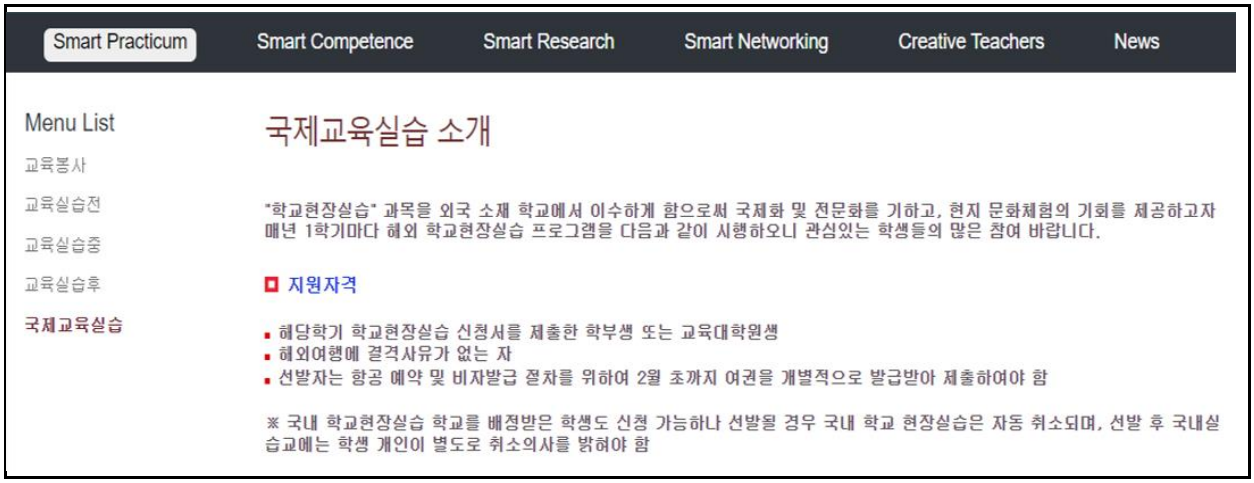


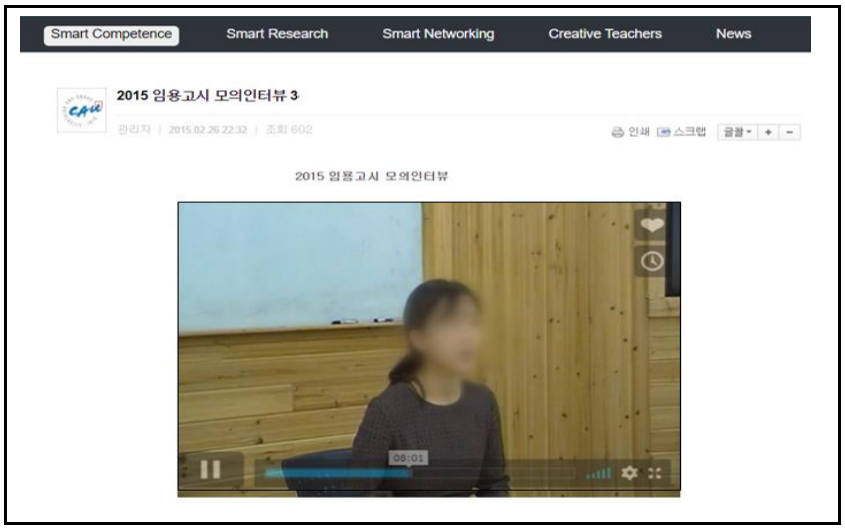
Figure 3

Sample Video of a Student Teaching Demonstration

The second section—Smart Competence—is geared toward supporting those who are preparing for the PTEE, the highly competitive national exam for pre-service teachers to work in public schools. The section includes tips on how to prepare and take the PTEE, including a mock interview video clip (see Figure 4), as part of the second round of the PTEE for pre-service English teachers. This section includes several other video clips of the mock teaching demonstration and interview, as well as lectures on English essay writing, which is part of the first round of PTEE (English subject only).

Figure 4

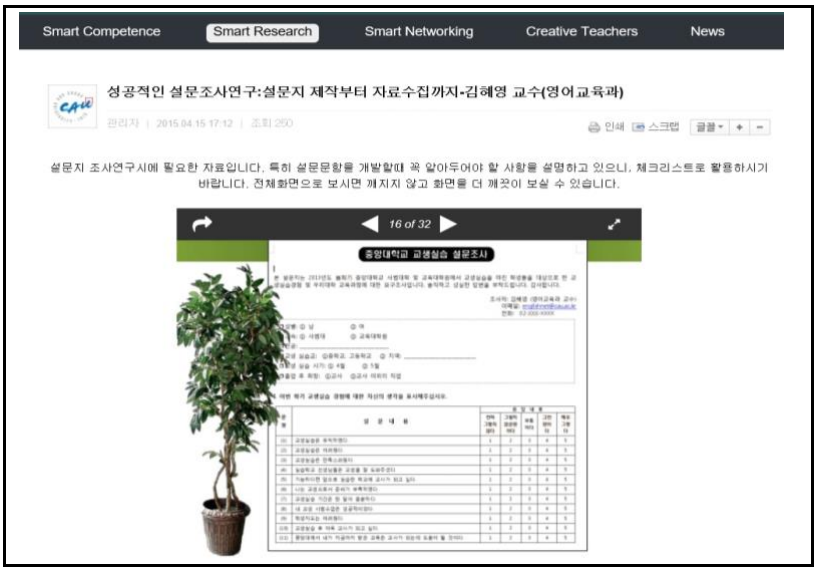
Sample Video of the Mock Interview (English Subject) from Smart Competence



The third section—Smart Research—as its name suggests, is largely research-oriented, concerning the re-training of in-service teachers. This section includes numerous lecture videos and notes on Action Research (Burns, 2010), through which in-service teachers can identify problems (e.g., students' lack of motivation to learn English, unsuitability of textbooks, etc.) in their own pedagogical context, collect and analyze data, and find solutions to the identified problem, with these steps generally being conducted independently. Figure 5 displays a sample PowerPoint slide on conducting survey research, which can be employed for various purposes in class (e.g., needs analysis, collecting students' views about a new pedagogical approach, etc.).

Figure 5

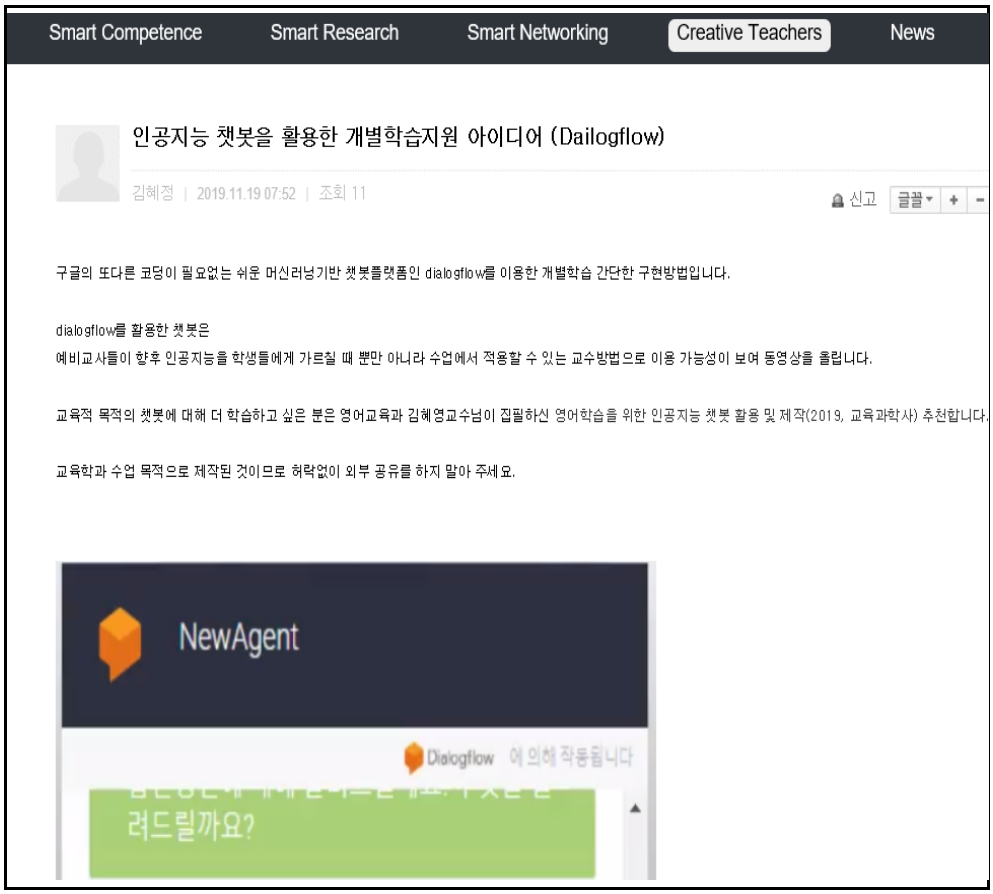
Presentation Slides on the Survey Research Method from Smart Research



Finally, the Creative Teachers section aims at updating pre-service and in-service teachers' knowledge on recent teaching approaches and technologies, which are generally not covered in the regular curriculum. It introduces emerging pedagogical approaches such as blended learning (Hockly, 2018) and challenge-based learning (Johnson et al., 2009) as well as recent technologies like chatbots (Fryer et al., 2020; Lee et al., 2020). Figure 6 illustrates one of the posts in Creative Teachers, which gives a step-by-step guideline on how to build customized chatbots for one's own lesson using Dialogflow™ powered by Google.

Figure 6

Post on Building a Customized Chatbot from Creative Teachers



STL Users' Perceptions and Logs

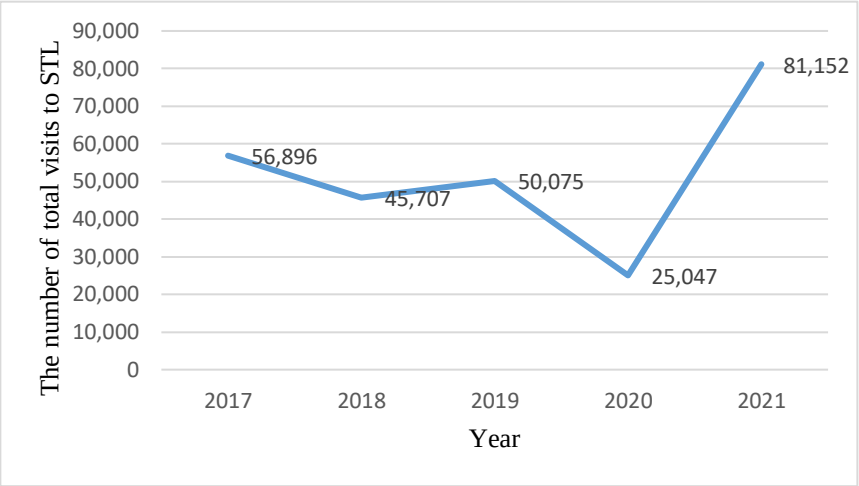
This section will present some empirical data related to the STL users' perceptions and logs, providing evidence for its usefulness as well as sustainability. First, regarding user perception, we surveyed 72 pre-service EFL teachers at the authors' university. The results of the questionnaire items based on the five-point Likert scale revealed that the mean response for the overall satisfactory level of STL was moderately high (M = 3.51, SD = .80), and that the respondents were highly willing to recommend STL to others (M = 3.86, SD = .82). In the open-ended responses, some respondents appreciated that they could access STL anywhere via their mobile devices, and choose and study the content they needed in any order. STL was also valued in that it provided contents that were not covered intensively in their regular curriculum (e.g., tips regarding actual teaching in classrooms, cutting-edge technology for English teaching, etc.). In contrast,

others suggested that lengthy video clips be shortened (or split into separate clips), and that more major-specific content (e.g., English education) be added, instead of general ones.

Regarding user logs, Figure 7 displays the user history of STL over the past five years. A sharp increase in 2021 appears to reflect some instructors' recent integration of STL into their own courses, motivated by the continuation of running online courses due to COVID-19. In view of the total number of students registered at the college of education in the authors' university (approximately 800), such data suggests that STL has been actively accessed by its users.

Figure 7

STL User History between 2017 and 2021



Discussion and Suggestions

This article introduced STL as an OLP specifically built for the individualized learning and professional development of pre-service and in-service teachers at the authors' university. We also presented survey results and user log data to provide some evidence for its usefulness as well as sustainability. Regarding the former, we found that the STL users were moderately satisfied with STL, and appreciated its accessibility (through mobile devices), as well as diverse content not addressed in their regular curriculum, despite some aspects to be improved. Through the user log, we also showed that STL has been actively accessed by pre-service and in-service teachers at the authors' university in the past five years, indicating its sustainability. This final section discusses how STL fits into two of the theoretical underpinnings reviewed above (i.e., non-formal learning and a development-centered view of teacher education), suggestions for educators in other contexts, and the limitations of STL in its current state.

Regarding the formality of learning, STL appears to fit best with non-formal learning (Colardyn & Bjornavold, 2004; Eshach, 2007), as originally intended by the developers. In other words, in terms of the context of learning, teachers could use it in and out of school at any time by virtue of its format (i.e., OLP), which was supported by the responses from the aforementioned survey. This is one of the major differences between STL and more traditional teacher education programs, with the latter mostly being in-class and instructor-driven. Regarding the process of learning, teachers' experience of learning in STL can best be described as structured (i.e., it comprises theme-based sections, organized according to the specific topics and purposes) and non-sequential (i.e., there is no pre-established sequence for users to access a wide range of resources), which are the features of non-formal learning (see Table 1). Indeed, the latter (i.e., non-

sequential) was pointed out as a strength of STL in our survey findings, as presented earlier. Moreover, such features of STL differ from those of traditional teacher education programs, which have been largely oriented toward formal learning.

In addition, STL has been designed and developed in such a way that pre-service and in-service teachers can easily navigate through the platform, search for useful information and resources, and engage in learning according to their own needs. This is in line with the general direction of a development-centered view of teacher education (Chang, 2000; Crandall & Miller, 2014; Johnson, 2009), putting significant responsibility on teachers for their own professional development. Indeed, some of the open-ended responses from the aforementioned survey pointed to the value of STL being its diverse content not addressed in the regular courses. Thus, this characteristic of STL compensates for the limitations of the regular curriculum (which is top-down by nature), and may enable pre-service EFL teachers to gain more awareness of which content they would choose to access for their professional growth, in alignment with the development-centered view of teacher education.

In view of the advantages of STL, we encourage EFL educators in other pedagogical contexts to develop OLPs like STL, through which various types of hands-on and field-specific educational resources could be accumulated and made available to both pre-service and in-service EFL teachers for their professional development. If resources to develop their own platform are unavailable, they can consider using an already-existing network of communities (e.g., Facebook, YouTube), in which users can post articles and share different types of resources (e.g., lesson materials, a video on the demonstration of a particular teaching approach, etc.). Thus, a large reference archive consisting of useful resources could be established for EFL teachers.

Certain limitations need to be overcome for a more successful implementation of STL. First, there is a need to establish an administrative system at the university level to ensure continuous cooperation between faculty members (e.g., professors, instructors), administrative staff, and users (i.e., pre- and in-service teachers). This may improve the quality of the resources posted on STL and enable more efficient running of the platform. Second, the platform for STL requires frequent upgrades with recent technologies, which would require a budget for maintenance and continuous additions after the initial construction[3]. Third, a more appropriate system or learning tasks are required for users to both actively and interactively participate online through widgets, chats, individual log pages, and other means. STL only provides "comments" and "likes," which have not been used spontaneously by users, unlike other everyday SNS. Despite these limitations, we believe that STL's structure and design can serve as a valid example of an OLP for EFL teacher education.

Acknowledgements

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Notes

1. The bottom left of Figure 1 shows, clockwise, links to four popular menus: "sample teaching demonstration videos," "test-taking tips A to Z for the PTEE," "information about teaching practicums abroad," and "lecture series on teaching practicums."
2. Only the authorized administrative members of staff are allowed to upload data, preventing uploaded data from being deleted by arbitrary users.
3. As of late March 2022, the college of education in the authors' university has been awarded funding to improve the interface and functions of STL, which will take place by the end of 2022.

References

Ahn, J., Butler, B. S., Alam, A., & Webster, S. A. (2013). Learner participation and engagement in open online courses: Insights from the Peer 2 Peer University. *MERLOT Journal of Online Learning and Teaching, 9*(2), 160–171.

Alier, M., Casañ, M. J., & Piguillem, J. (2010). Moodle 2.0: Shifting from a learning toolkit to a open learning platform. In M. D. Lytras, P. O. De Pablos, D. Avison, J. Sipior, Q. Jin, W. Leal, L. Uden, M. Thomas, S. Cervai & D. Horner (Eds.), *Technology enhanced learning: Quality of teaching and educational reform* (pp. 1–10). Springer. https://doi.org/10.1007/978-3-642-13166-0_1

Ang, W. L., Jedi, A., & Lohgheswary, N. (2021). Factors affecting the acceptance of open learning as e-learning platform by technical course students. *Journal of Engineering Science and Technology, 16*(2), 903–918.

Ball, D. L., & Cohen, D. K. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional education. In G. Skyes & L. Darling-Hammond (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3–32). Jossey-Bass.

Burns, A. (2010). *Doing action research in English language teaching: A guide for practitioners*. Routledge.

Burston, J. (2014). The reality of MALL: Still on the fringes. *CALICO Journal, 31*(1), 103–125. https://www.jstor.org/stable/10.2307/calicojournal.31.1.103

Chang, K.-S. (2000). New perspectives on foreign language teacher education. *The Journal of Curriculum & Evaluation, 3*(1), 237–248. https://doi.org/10.29221/jce.2000.3.1.237

Colardyn, D., & Bjornavold, J. (2004). Validation of formal, non-formal and informal learning: Policy and practices in EU member states. *European Journal of Education, 39*(1), 69–89. https://www.jstor.org/stable/1503751

Crandall, J. A., & Miller, S. F. (2014). Effective professional development for language teachers. In M. Celce-Murcia, D. M. Brinton, & M. A. Snow (Eds.), *Teaching English as a second or foreign language* (pp. 630–648). National Geographic Learning/Cengage Learning.

Daniel, S. J. (2020). Education and the COVID-19 pandemic. *Prospects, 49*, 91–96. https://doi.org/10.1007/s11125-020-09464-3

Doo, M. Y., Bonk, C. J., & Kim, J. (2021). An investigation of under-represented MOOC populations: Motivation, self-regulation and grit among 2-year college students in Korea. *Journal of Computing in Higher Education, 33*, 419–440. https://doi.org/10.1007/s12528-021-09270-6

Eshach, H. (2007). Bridging in-school and out-of-school learning: Formal, non-formal, and informal education. *Journal of Science Education and Technology, 16*(2), 171–190. https://doi.org/10.1007/s10956-006-9027-1

Fryer, L. K., Coniam, D., Carpenter, R., & Lăpușneanu, D. (2020). Bots for language learning now: Current and future directions. *Language Learning & Technology, 24*(2), 8–22. http://hdl.handle.net/10125/44719

Haj-Bolouri, A., Chandra, L. K., Iivari, J., & Flensburg, P. (2016). How Habermas' philosophy can inspire the design of information systems: The case of designing an open learning platform for social integration. In L. Pareto, L. Svensson, & U. L. Snis (Eds.), *Selected Papers of the IRIS, Issue Nr 7* (pp. 1–13). AIS eLibrary. https://aisel.aisnet.org/iris2016/2

Hockly, N. (2018). Blended learning. *ELT Journal, 72*(1), 97–101. https://doi.org/10.1093/elt/ccx058

Holotescu, M. C. (2015). *Emerging technologies in education: Conceiving and building a microblogging platform for formal and informal learning* [Unpublished doctoral dissertation]. University Politehnica Timișoara.

Johnson, K. E. (2009). *Second language teacher education: A sociocultural perspective*. Routledge.

Johnson, L. F, Smith, R. S., Smythe, J. T., & Varon, R. K. (2009). *Challenge-based learning: An approach for our time*. The New Media Consortium.

Kafai, Y., & Peppler, K. A. (2011). Beyond small groups: New opportunities for research in computer-supported collective learning. In H. Spada, G. Stahl, N. Miyake, & N. Law (Eds.), *Connecting Computer-Supported Collaborative Learning: CSCL2011 Conference Proceeding Volume I—Long papers* (pp. 17–24). International Society of the Learning Sciences. https://repository.isls.org//handle/1/2444

Kim, H., & Lee, J. (2020). Toward serving MOOC learners globally: Focusing on intent to continue using K-MOOCs. *International Journal of Contents, 16*(1), 65–74. https://doi.org/10.5392/IJoC.2020.16.1.065

Kim, H. (2016). Mobile app design for individual and sustainable MALL: Implications from an empirical analysis. In A. Gimeno, M. Levy, F. Blin, & D. Barr (Eds.), *WorldCALL: Sustainability and Computer-Assisted Language Learning* (pp. 244–264). Bloomsbury.

Korea Institute for Curriculum and Evaluation. (2021). *National level tests*. https://www.kice.re.kr/sub/info.do?m=0206&s=english

Kwon, Y. (2015). *From informal to non-formal learning of English: Toward sustainable Mobile-Assisted Language Learning* [Unpublished doctoral dissertation]. Chung-Ang University.

Lee, H. S. (2017). Curriculum development of in-service teacher education programs to enhance secondary beginning teachers' core-competencies. *Journal of Learner-Centered Curriculum and Instruction, 17*(10), 289–312. http://dx.doi.org/10.22251/jlcci.2017.17.10.289

Lee, H. S., & Kim, H. (2016). Needs analysis based on teaching practice tasks for novice secondary English teacher education program focusing on teaching competence improvement. *Secondary English Education, 9*(4), 167–191.

Lee, J. H., Yang, H., Shin, D. K., & Kim, H. (2020). Chatbots. *ELT Journal, 74*(3), 338–344. https://doi.org/10.1093/elt/ccaa035

Lim, K., & Kim, M. H. (2019). Case studies on the flipped classroom with a MOOC in college contexts. *Journal of Digital Convergence, 17*(9), 173–184. https://doi.org/10.14400/JDC.2019.17.9.173

Loewen, S., Crowther, D., Isbell, D. R., Kim, K. M., Maloney, J., Miller, Z. F., & Rawal, H. (2019). Mobile-assisted language learning: A Duolingo case study. *ReCALL, 31*(3), 293–311. https://doi.org/10.1017/S0958344019000065

Min, C. K., & Park, S. G. (2013). English teacher education in Korea: Retrospect and prospect. *English Teaching, 68*(2), 153–177. https://doi.org/10.15858/engtea.68.2.201306.153

Patrick, W. (2010). *Recognising non-formal and informal learning: Outcomes, policies and practices*. OECD.

Rahimi, M., & Alavi, J. (2017). The role of teaching experience in language teachers' perceptions of a top-down curriculum change. *The Curriculum Journal, 28*(4), 479–503. https://doi.org/10.1080/09585176.2017.1344134

Yang, J.-I. (2017). Effects of MOOC-based learning on students' competence in English and satisfaction. *The Journal of Linguistic Science, 82*, 219–236. http://dx.doi.org/10.21296/jls.2017.09.82.219

Yoon, H. (2021). The effects of MOOC based on flipped learning for college English class. *Journal of Learner-Centered Curriculum and Instruction, 21*(6), 17–29. https://doi.org/10.22251/jlcci.2021.21.6.17

Zhou, X., Wu, B., & Jin, Q. (2015, August). Open learning platform based on personal and social analytics for individualized learning support. In J. Ma, L. T. Yang, H. Ning, & A. Li (Eds.), *2015 IEEE 12th Intl Conf on Ubiquitous Intelligence and Computing and 2015 IEEE 12th Intl Conf on Autonomic and Trusted Computing and 2015 IEEE 15th Intl Conf on Scalable Computing and Communications and Its Associated Workshops* (pp. 1741–1745). IEEE. https://doi.org/10.1109/UIC-ATC-ScalCom-CBDCom-IoP.2015.316

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