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An online training course on the use of corpora for teachers in public schools

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This paper describes the outcomes of a teacher-training course offered to in-service teachers in public education on the use of corpora in language education. The paper reports on a mixed method study that explores in-service teachers' evaluation of an online seven-week course in corpus linguistics (CL). Data were gathered through surveys and open-ended questions. Seventy-one in-service teachers took part in this study and completed both pre- and post-course questionnaires. The main aim of the course was to introduce the main concepts of CL, including an exploration of CL tools and resources, and the use of CL in learning and teaching. The course presents a wide range of corpora, corpus-based materials, and tools. The participants had a positive reaction to the course and considered it useful and comprehensive, although they did not prefer the online delivery method for the practical sessions of the course. The participants acknowledged the usefulness of corpora in their classrooms as well as the possible difficulties they might face, which shows that they genuinely thought about applying corpora in their teaching contexts. Moreover, the participants showed a willingness for the future use of corpora. Offering such a course to in-service teachers using an online delivery method is not preferable, but a hybrid course may be more suitable and effective, given the variation in teachers' computer and corpus literacy.

Keywords: teacher training; corpus-based tools; course evaluation; public schools

Introduction

The swift development of computers has influenced language teaching and learning through the rapid growth of computer-assisted language learning (CALL). One of the areas where CALL is growing quickly is corpus linguistics

(CL), especially in software development and CL applications in teacher education and the language classroom. However, despite this growth, corpora are used marginally in the classroom (Leńko-Szymańska & Boulton, 2015, p. 2). Many researchers have investigated the reasons for this lack of use (e.g., Kavanagh, 2019; Leńko-Szymańska, 2014; Mukherjee, 2004; Römer, 2011). Numerous researchers have discussed the many benefits of DDL in language classrooms (Boulton, 2009; John, 1999; Romer, 2011). The literature highlights the importance of bridging the gap between the development of applied corpus linguistics and teachers' knowledge by offering training courses or workshops for pre-service teachers (Farr, 2008; Leńko-Szymańska, 2014; Zareva, 2016). However, educating pre-service teachers on CL does not usually translate into its use in the classrooms (Breyer, 2009; Callies, 2019; Leńko-Szymańska, 2014). Therefore, there is a need to educate in-service teachers on CL for their teaching situations (Kavanagh, 2019) rather than on theoretical assumptions of what they need or might use in the classroom. Thus, this paper discusses a course for in-service teachers in public schools designed according to their actual teaching needs and situations and their evaluation to such course.

Corpora in teacher education

Several researchers have discussed the need for CL training courses for in- and pre-service teachers (Boulton, 2011; Boulton & Perez-Paredes, 2014; Cotos, 2014; Flowerdew, 2008; Flowerdew & Forest, 2009; Leech, 1997; Römer, 2011; Sinclair, 2004; Tono, Satake, & Miura, 2014; Yoon, 2011), yet teachers are rarely offered such training courses in person or online. The lack of training courses underlines the urgent need to design a training course that fits the needs of in-service teachers, particularly those who teach in public schools. Some of the published literature offered training but mostly targeted MA students (pre-service teachers) and explored different angles other than the training course itself, such as investigating the attitudes and perspectives towards CL and exploring how teachers acquired corpus literacy. A few evaluated the training course and only one explored the teachers' familiarity with the uses of corpora in tertiary and non-tertiary education.

As previously stated, most studies targeted the pre-service teachers and provided training courses, but the aim was to find out the attitudes and perspectives towards CL rather than the training course itself (Breyer, 2009; Farr, 2008; Zareva, 2016). Farr (2008) investigated pre-service teachers' attitudes and perspectives towards corpora, which was incorporated into on-campus Master of Arts (MA) courses (language system module). The course was in person, run over two years, and 25 student teachers took part in the study, with results showing positive attitudes towards the use of corpora. The results were encouraging, as Farr explained that the course promoted enquiry, as most students chose to apply and use CL in their dissertations. Farr (2008) also discussed the problems that might be encountered in classrooms, such as technical issues.

Breyer (2009) designed a course for 18 student teachers that ran for 11 weeks. The concept was to train the participants in the use of CL as a learner

and a teacher. The course was part of a teaching degree in English as a Foreign Language (EFL). Breyer (2009) collected qualitative data through diaries, questionnaires, and teaching materials, which all showed that the participants were excited about teaching grammar with corpus “language exploration” (p. 159). The participants acknowledged that using corpus data for authentic language was difficult for beginners, which indicates an increase in teaching awareness. The participants were also positive towards the features of DDL for classroom use, although they had some caution. Zareva (2016) integrated 6 hours of corpus training into a grammar course (TESOL teacher programme) with 21 American student teachers. The study yielded very positive feedback from the participants. They found the approach beneficial for learners, and they were interested in running a research project using CL. The study reported some dislikes, such as corpus use being time-consuming and some technical issues.

Other studies offered training courses but were aimed at investigating how teachers acquired corpus literacy (Heather & Helt, 2012; Abdel Latif, 2020). Heather and Helt (2012) investigated how six pre-service teachers acquired corpus literacy during a grammar course that was offered to 52 students on campus. The researchers gathered data through surveys, interviews, and narratives, and then analysed the data to follow the development of corpus literacy. The authors encouraged their type of training methods, as their results were positive and showed that the training was effective. Abdel Latif (2020) conducted a longitudinal study to examine the immediate and long-term responses of student teachers to corpus literacy instruction. The classes were part of a CALL course and ran for only three classes. The 19 participants had positive perceptions of corpus literacy in both the immediate and long terms. As was the case in Leńko-Szymańska’s study (2017), the three-class course was not enough to acquire corpus literacy and instil long-term use. The participants were willing to use the corpus in their future teaching, but in the long-term use questionnaire, they admitted that it was difficult to use, except for 31% of the participants, who said they referred to some corpus websites during classes. Further, the participants did not show a willingness to use CL in their research, which may be a result of short training.

Only a handful of studies evaluated the offered training courses (Ebrahimi and Faghih, 2017; Leńko-Szymańska, 2014, 2015, 2017). Leńko-Szymańska (2014) explored the attitudes of 13 MA students towards a training course on the use of corpora in language education. The students realised the benefits of CL in teaching, and they were positive about the course. However, they acknowledged the need for more training and time to acquire the skills needed to use CL tools and resources, as the course instructions were insufficient. The students also expressed their need for more pedagogical guidance on the use of CL in the classroom.

Leńko-Szymańska (2015) ran an on-campus training course for 18 MA students on the use of corpora in language education. The participants were positive towards the course, but not all of them liked using the DDL approach. Therefore, successfully using CL in the classroom depends significantly on the learning styles of the teachers and learners.

Leńko-Szymańska (2017) assessed the effectiveness of the training course by analysing the final mandatory projects. The course ran annually during the winter semester as part of the MA programme. The author analysed 53 projects. The project consisted of a compilation of small corpora, linguistics analysis, and English for specific purposes (ESP) lessons. The results indicate that running a course for one semester (one time) is not enough to acquire sufficient technical skills, corpus-linguistics skills, and pedagogical skills. The author found that the participants acquired only basic levels of technical and corpus linguistics skills. However, the students were able to design teaching materials that focused on vocabulary and collocations.

Ebrahimi and Faghih (2017) ran an introductory online course on CL. The course was an addendum to two face-to-face courses: CALL and ESP. The online course was an additional component, not the main course. The study explored the evaluations of online course content by 32 pre-service teachers. The authors discussed a set of procedures that can help in the successful integration of CL into online language teacher education (LTE), such as instructor support, effective instructional materials, integration of CL in the early stages of LTE, provision of technological infrastructure, adoption of more practical aspects of CL with a focus on pedagogical skills, and selection of user-friendly resources and tools.

Only a single study shed light on the teachers' familiarity with the uses of corpora in tertiary and non-tertiary education (Tribble, 2012). Tribble (2012) reported that the majority of participants in his study who were familiar with the uses of corpora were at the tertiary education level. Thus, there is a huge proportion of in-service teachers who have no idea or opportunity to learn about corpora use in the classroom. Out of the above-mentioned studies, only one was conducted online, and none targeted in-service teachers. There is no doubt that pre-service teachers are vital for popularising the use of CL in the language classroom, yet in-service teachers are of the same importance. Most of the pre-service teachers welcomed CL in the classroom, but they had no experience implementing it in their future classrooms. Therefore, providing training to in-service teachers will allow them to decide how and when they are going to use CL since its application in the classroom depends on many factors, such as learning style. Kavanagh (2019) argued that bridging the gap does not mean providing training courses to pre-service teachers or turning them into corpus linguists. Thus, this study aimed to offer an online training course for in-service teachers who teach in public schools. The online delivery method allows teachers from different sites to join the course.

Corpora in public education

Public education is offered freely in many countries; however, it differs from country to country in terms of the curricula, number of students, teachers' qualifications, classroom resources, etc. Further, public education forms a large part of the learning system. Therefore, offering CL into this system can popularise CL world-wide. Public schools in Saudi Arabia consist of three

levels: elementary, middle, and high school. The elementary level consists of six grades, and the middle and high schools each consist of three grades. Students start learning English in the fourth grade. The number of weekly English sessions is two to four, and each session lasts 45 minutes. Most of the teachers who graduated in the last 10 years have encountered the CALL course during their bachelor's degree; however, they have rarely used CALL to assist them in their classrooms. More specifically, teachers never use CL in public schools (all three levels) in the present context.

There is a gap between CL and the direct application of it in the classroom. To bridge this gap, it is necessary to investigate teachers' needs in terms of training and what we can do as 'corpus linguists' to popularize the application of CL in the classroom. Thus, exploring what the teachers need, how they react to the training course, and what will work for them is essential for finding out directions to improve the quality of training. Feeding that information back into the training in a systematic method is a huge step toward bridging the gap. The rationale behind this study was to explore ways to offer online courses on the use of CL to in-service teachers who are teaching in general education. CL is largely neglected in teaching English as a foreign language (TEFL) in Saudi Arabia, as is the case in general education in most contexts (Mukherjee, 2004). Thus, the course presented in this study helps teachers discover the potential pedagogical and research applications of CL approaches and tools. This study is significant because it examines the reflective experiences of in-service teachers taking a CL course delivered fully online to suggest effective ways of designing such courses in the context of general education (especially elementary and secondary schools). It is worth mentioning that the study presented here is part of a larger research project, and the data presented reflects the teachers' evaluations of the online course only. The following research questions guided the study:

1. How do teachers evaluate the quality of the online course?
2. In what directions should the training be developed to bring maximum benefits to teachers?
3. What are the possible changes that must be made to make the course more effective and appropriate for a growing audience?

Methods

The literature was surveyed to design the questionnaire, and themes and items were selected from previously reported instruments. Given that no studies have targeted a similar sample as the current study, some modifications were implemented for the purpose of the present study (Ebrahimi & Faghih, 2017; Farr, 2008; Leńko-Szymańska, 2014; Mukherjee, 2004; Stufflebeam, 2007; Zareva, 2016). Modifications were made to the wording and format of the items to suit the context of the study. The aim of this study was to design a course that suits teachers in public schools. Thus, it was important to collect their evaluations of the course. The distributed questionnaire was divided into two sections: pre-course and post-course. The pre-course section collected background

information from the sample, and the post-course section focused on the teachers' evaluations of the course. The post-course questionnaire consisted of three parts: (1) themes regarding the context, the input, the process, usefulness, the difficulties, and future use; (2) a general rank question on the entire course; and (3) five open-ended questions that allowed the participants more space and freedom to express what they liked or disliked about the course; what they would change, delete, or add to the course; what they would like more instruction with; and any final thoughts or recommendations.

Participants

Eighty-five female in-service teachers who worked in public schools attended the course, and all completed the background information survey. Only 71 completed the post-course questionnaire, and these teachers were accounted for in the analysis of the data. The completion rate of the questionnaire was 84%, which is considered particularly good. Teachers who did not complete the post-course questionnaire were excluded from the study. The pre-questionnaire focused on collecting background information, such as age, city, degree, teacher's training, experience, loads, teaching level, interest in research, whether they had heard of CL, and their motivation for attending the course. Most teachers were 31–40 years of age (78.9%), while 12.7% were 41–50 years old. Only 8% of the participants were under 30 years (5 teachers were 25–30 years of age and one teacher was under 25 years). Not surprisingly, 97.2% of the teachers held a bachelor's degree, while only 2.8% held a master's degree. The training the teachers received was connected to their undergraduate studies for a Bachelor of Education (59.2%). Only 5.6% of the teachers had a postgraduate certificate, and 2.8% had attended short courses related to teacher training. About a third (32.4%) did not have any type of teacher training. The majority of teachers (47%) had been teaching English for 6–10 years, 19.6% for 11–15 years, 18.2% for 16–20 years, 7% for less than five years, and 7% for more than 21 years. In Saudi Arabia, the English language is taught in elementary, middle, and high school. Most of the teachers taught high school (31%), followed by middle school (23.9%) and elementary school (21%). There were teachers who taught more than one level or all the levels (11%). The loads of teachers differed significantly, as some teachers had one period and others had 24 periods (a period that lasted for 45 minutes). The majority of teachers had 20 periods (23.9%), followed by 24 periods (18%), 16 periods (14%), and 18 periods (11%).

After collecting background information, the teachers were asked if they were interested in doing research and were asked to rank their interest on a scale of 1 to 5, with 1 being *not at all interested* and 5 being *genuinely interested*. The majority ranked their interest as 3 (*not genuinely interested*; 22.5% ranked themselves as 1 (*not at all interested*); the rest (12.7%) ranked themselves as 2, 4, or 5 (*not interested, genuinely interested to some extent, and genuinely interested, respectively*). Not surprisingly, most of the teachers (57.7%) had not heard of CL. Twenty-five percent had heard about the term but did not know what it meant, and 7% had heard of CL and had a rough idea of its meaning. A small

percentage (5.6%) said that they had the chance to use it in a classroom. As for the teachers' motivation for enrolling in this course, most of them wanted to learn about methods of teaching English as a foreign language (FL) (43.7%), 16.9% wanted to learn about CL, and 12.7% wanted to learn about methods of teaching English as a FL and about CL.

Description of the course

The course was designed to introduce public school teachers to the concept of CL. This course was part of the teacher developmental programme offered by the university to the public-school sector (as part of the community service). It was assumed that the teachers had no prior knowledge of CL; thus, the course was designed accordingly. The course focused on the exploration of CL tools, resources, and the use of CL in learning and teaching. The teachers who enrolled were from different schools and cities with different needs. Therefore, the course presented a comprehensive range of corpora resources, corpus-based materials, and tools. In the design of the course, availability, cost, and ease of access were considered. I decided that all the resources must be simple and user-friendly to help the teachers learn CL, especially as the course was presented online. The criteria for the design were as recommended by Leńko-Szymańska (2015).

The author prepared teaching materials (reading texts) along with hands-on activities. There were discussion questions after each lesson. Supplementary reading texts (9 articles, 2 manuals, 1 book) and videos (19 short videos) were offered during the course. The sources and topics were chosen based on the author's experience running several workshops on the use of CL in English language classrooms.

Content of the course. The course consisted of eight lectures and was considered an intensive course in the CL teaching area. All the sessions had reading materials and videos, along with discussion questions (online-forums). Each session covered an important topic (see Table 1). CL concepts and theories were introduced, a wide range of software and tools were presented and demonstrated, how to build materials for teaching was discussed intensively, and corpus literacy was introduced and discussed. Learner corpora concepts and their usefulness in a teaching context were discussed. The DDL approach was presented, and the creation of materials using the two types of DDL was demonstrated. The course aimed to present the DDL approach to in-service teachers and to show them the different applications of DDL in FL classrooms.

All lectures (except Lecture 8) were designed according to Bird's 3 "C" design model for online courses (Bird, 2007). This design consists of three stages: knowledge, constructive knowledge, and consolidation. The first stage is concerned with providing basics and content knowledge. The second stage is concerned with the knowledge constructed from the students' engagement and the active learning process. The third stage involves reflection on the learning process in which the participants develop new knowledge by reflecting on the

learning process. By stage three, the learners are able to develop a new understanding and apply what they have learned in the previous two stages. Lecture 8 discussed the teachers' ideas for their final project. All lectures were two hours in duration, except for the final lecture, which took more than two hours.

Table 1. Content of the course

#	Lecture title	Objective	Learning outcomes
1	Introduction to Corpus Linguistics	Demonstrate an understanding of key CL concepts.	Define CL key concepts. Explain the uses of corpora. Distinguish types of corpora. Identify the uses of potential word lists and frequency lists.
2	Corpus literacy skills (interpreting concordance lines)	Demonstrate an understanding of corpus literacy skills.	Define concordance lines. Demonstrate the concordance functions. Analyse concordance line. Interpret the results of queries.
3	Corpora resources	Use a variety of corpus tools and resources to perform searches of language data.	Perform a search for collocations, colligation, and semantic prosody. Perform searches for lemmas, synonyms. Generate concordance lines.
4	Corpora and language teaching (DDL)	Demonstrate an understanding of corpus-based approach (DDL).	Demonstrate an understanding of DDL. Explain the role of teachers in DDL. Use corpora in language classrooms. Select possible DDL activities.
5	Corpora and language teaching (resources)	Implement corpus methods in language teaching/ learning.	Demonstrate the uses of AntConc software and its functions (uploading files, concordance tool, concordance plot tool, file view tool, clusters, collocates, word list, keyword list). Prepare text files for AntConc uses.
6	Materials development	Become familiar with different uses of corpus-based materials in the language classroom.	List the uses of corpus-based analysis in syllabus design. Classify the use of corpus-based materials in the classroom. Predict issues in corpus use in the classroom. Implement frequency in language teaching materials. Design teaching materials (vocabulary and grammar). Create your own corpus.
7	Learner corpora	Exploit learner corpora for classroom uses.	Summarise features of learner corpora Identify examples of learner corpora: The International Corpus of Learner English (ICLE). Carry out learner corpus analysis. Integrate the use of learner corpora in the classroom.
8	Evaluation (project presentation)		

Procedure

The course was announced through formal school channels for one week, and supervisors from the schools submitted the names of the teachers who wanted to take the course. The time and date were set, and the participants were informed. The course ran intensively for two weeks (16 hours). The teachers were asked to attend and participate in every session, fill in the questionnaires, and complete the readings. There was an end-course project in which teachers had to design a lesson using corpora for their classes (the results of this project will be discussed in another paper). The sessions were held online using the Blackboard learning system, which was the official online system used by the author's institution. In the first session, I introduced myself and outlined the aims of the course. A PowerPoint presentation (PPT) was used in all sessions, and a live application of all resources was demonstrated. Before starting the sessions, the participants were asked to fill out a background information questionnaire (pre-course questionnaire). At the end of the course, they were asked to complete the post-course questionnaire, which asked them to evaluate the course.

Data analysis and results

The data were quantitative for the most part. Thus, the first step was coding the responses to the closed-ended questionnaire. Each variable was assigned a value, and all the data were inputted into Excel spreadsheets. Then, all the negatively worded statements were reversed in the scoring. The open-ended questions were coded according to the themes that emerged from the data. The themes were determined according to the frequency scores. All themes were identified, and then their ratio frequency was counted. Some participants had more than one answer, and all were accounted for. There were five open-ended questions. The reliability of the questionnaire was examined by calculating Cronbach's coefficient alpha, which is the most widely used indicator of internal consistency (Pallant, 2013). The Cronbach's alpha value for the instrument was 0.91, which is very good. The results of the questionnaire (quantitative data) and the open-ended questions (qualitative data) are presented in the following sub-sections, according to the research questions.

In-service teachers' evaluation of training course quality

In ranking their satisfaction with the course, 82% of the teachers were satisfied (40.8% were very satisfied, 42% were extremely satisfied), 15.5% were satisfied to some extent, and only one teacher was not satisfied. The teachers' evaluation of the course was positive, as the mean of the questionnaire was 3.75 (out of 5), with a standard deviation of 0.42. The mean of each sub-scale was moderate to high (Table 2).

Table 2. Mean of each sub-scale

Descriptive statistics			
Sub-scales	Mean	Std. deviation	N
Context	4.11	0.45	71
Input	3.65	0.47	71
Process	3.79	0.51	71
Usefulness	3.81	0.63	71
Future Use	3.79	0.56	71
Difficulties	3.11	0.77	71

The first sub-scale is the context of the course, which targets the course aims and objectives. The second sub-scale is the input, which covers the course content and materials. The third sub-scale is the process of conducting the learning and teaching processes. The fourth sub-scale is the perceived usefulness of the course, which refers to the ability to use CL in the classroom and in everyday teaching. The fifth sub-scale is the intention of future use, in which teachers indicate their willingness to use CL in their teaching going forward. The sixth sub-scale is the difficulties the teachers had or felt during the course. For the sixth sub-scale, the mean was counted after the reversal of the items, which indicates that the higher the mean, the less difficulties the teacher had. In general, most of the sub-scales (input, process, perceived usefulness, and intention of future use) had means of 3.65, 3.79, 3.81, and 3.79, respectively, except the context sub-scale where the mean was the highest among the other sub-scales at 4.11. Difficulties had the lowest mean out of the sub-scales at 3.11, indicating that teachers experienced some degree of difficulty during the course.

For a deeper investigation, correlations were run to determine whether there was any relationship between the sub-scales. There was a strong correlation between the context sub-scale and the input, process, perceived usefulness, and future use sub-scales; the higher the score in context, the higher the scores in other sub-scales. This indicates that the aims and objectives affected the evaluation of other sub-scales, such as input and process. The input sub-scale, which is concerned with the course content and materials, had a strong correlation with the process, perceived usefulness, future use, and difficulties sub-scales. The process sub-scale had a strong correlation with the perceived usefulness and future use sub-scales. Lastly, the perceived usefulness sub-scale had a strong correlation with the future use sub-scale. By contrast, the difficulties sub-scale correlated negatively with the future use sub-scale, which suggests that a lower level of difficulty was associated with higher intention of future use. The background information was also investigated to assess whether any factors influenced the teachers' evaluations. The only factor that had an effect was age. Age had a strong correlation with the teachers' evaluation ($r = 0.285^*$, $n = 71$, $p < 0.001$). The difficulties sub-scale also had a strong correlation with the age factor: the older the teacher, the more difficulties experienced ($r = 0.247^*$, $n = 71$, $p < 0.001$). In what follows, the evaluations are reflected in the responses

to the open-ended questions below, which highlight what the teachers liked, disliked, or would change about or delete from the course.



The direction of training development to maximise benefits

These directions are derived from what the teachers liked or did not like about the course. First, the items the teachers' liked about the course were analysed by examining their answers to the question that targeted the unit or activity they liked most. The frequency ratios for the participants' preferences were calculated.

The learner corpora was the most liked unit of the course (22% of the participants) because the participants believed it would be easy to apply with students and would help in examining the language used by students. This unit also presented exercises that could be used with their students. The participants believed that learner corpora would best serve them in teaching grammar rather than in teaching vocabulary. The learner corpora could also work as native speakers for teaching students. Further, the participants believed that learner corpora could be used in creating and designing lesson plans.

The corpora and language teaching resources (AntConc) were preferred by 15.4% of the teachers. The participants liked corpora and language teaching resources, specifically AntConc, because they believed it would help in designing teaching materials and could be used in a variety of activities. They could also use AntConc in exercises that could be linked to their syllabus. Participants mentioned that this unit had clear instructions and provided an easy way to use AntConc.

The end-course project recorded a 12.6% preference. Interestingly, the participants liked the end-course project because they thought it filled a gap in what they needed, such as guides for creating teaching materials and lesson plans, which were not easily found. The end-course project also helped to create and design lesson plans using the participants' own teaching experiences. Some participants said they liked all the units because they thought that the course could help change current English teaching methods, and indicated liking the units being linked in a logical order.

Lastly, corpora resources, including the British National Corpus (BNC), Corpus of Contemporary American English (COCA), and Compleat Lexical Tutor (CLT), were preferentially scored at 11.2%. The participants liked the corpora resources unit because the instructions were clear and helped them use the resources. They also liked this unit because of the practical applications of BNC, COCA, and CLT, and because of the functionalities of these applications, in particular the CLT dictionary. The participants liked COCA because it helps in linguistics research as well as in teaching.

The participants varied in what they liked and disliked regarding the units of the course. For example, they liked the first unit (introduction to CL) because it provided them with background information and clarified new concepts. The participants liked the second unit, as it helped them acquire corpus literacy skills, along with the ability to manipulate the concordance lines to save time

and effort and provide a lot of examples. The participants liked the corpora and language teaching (DDL) unit because they learned about collocations and how DDL presents concordance lines. Further, participants discovered that DDL can be used with beginner students. They clearly liked the material development unit because of the activities and teaching materials. They commented that it would help them develop existing activities in grammar, writing, and reading skills.

Negative aspects of the course

The teachers' least favourite parts of the course were examined by analysing the answers to the question that targeted the least liked activity or unit.

Not all participants who mentioned what they disliked provided a reason. The themes that emerged from this question show contrasting points of view regarding the first question. Some participants found the first unit on the introduction of corpora confusing and felt lost, as CL was new to them. Some participants disliked the second unit because it was new, and they did not like the practice of reading and analysing concordances. Some participants found BNC and CLT difficult to use. They did not think that any of the software would be easy to use with the students. Further, some participants did not like the DDL approach and believed it was difficult to understand. As for the corpora and language teaching resources unit, some participants believed that AntConc was not suitable for average students. This unit seemed long from their perspective. However, a considerable proportion of participants did not report any dislike (23.9%). From a more general perspective, participants expressed some negative views, such as the delivery method of the sessions being narrative and the course being difficult, the repetition and length of some sessions, and some of the activities (with no details). The participants also mentioned some factors that may affect their attitudes towards applying corpora in their classrooms, such as the curriculum and students' proficiency level, availability of computers, difficulty of applying corpora in the classroom with students, the time expense, the high level of effort required, and more training and practice needed to use corpora resources due to the lack of familiarity. Further, the computer skills required for using corpora were considered an obstacle by some teachers.

Possible changes to make the course more effective and appropriate for a growing audience

This theme was explored by analysing the teachers' answers to questions that targeted ways to improve the course. Three open-ended questions were asked: what the participants would like to change, add, or delete; what they needed more instruction on; and their recommendations or final thoughts.

Responses to what participants would like to change, add, or delete were general and unclear. None of the participants indicated that they wanted to change anything. About 52% of the participants did not want to change, delete,

or add anything because they believed the course was comprehensive, and the sessions were useful and suitable for teachers and students. They thought the course was clear regarding the course plan and objectives. They also thought that CL was a new way to improve English language teaching, so there was no need to add anything.

The DDL approach and AntConc were thought to be difficult for students. Most of the participants would like to add more practical sections and training, add how to use a corpus in a full lesson (application), add more activities, and add more training on the corpus resources. Others preferred to change the course face-to-face instead of online, including allocating more time to such a course. Some participants would like deeper involvement, such as integrating skills in using corpora, adding homework that involves corpus analysis of certain texts, and more activities on how to establish students' activities using corpora. Some preferred reducing the theoretical sections and providing a summary of the applications (software).

The answers to what participants needed more instruction focused mainly on the training and practical sections. The participants expressed their need to have more instruction on corpus literacy skills, material development, and corpora resources (COCA, BNC, CLT). They thought that these resources required more training, specifically regarding the functions of the concordance tools. Many of the participants (38%) indicated their need for more instruction in general terms, such as increasing the units of the course and the exercises and increasing the training and practices, especially regarding the use of corpora in general and the uses in the classroom in particular. They requested that the course be held face-to-face and to be simpler. They also indicated their need to the instructions to familiarise students with corpora at the beginning of the academic stages so they could teach students the correct use of this method (the corpus use). Many participants (39.4%) expressed that they did not need any further instruction because they felt the course material was sufficient.

Lastly, regarding recommendations or final thoughts on the course, most of the responses were positive. More than half of the participants (60.5%) had nothing to add because they believed the course was effective and useful. The participants recommended increasing awareness of CL's importance as a new teaching method and applying the uses of corpora in secondary schools. Other participants recommended that the course be repeated with more sessions and provide more explanation on corpora. The participants advised that more practices should be run face-to-face, making it easier for teachers with less computer literacy. The participants recommended that all teachers and schools use corpora. One participant liked using it in everyday lessons and seeing how students react, which provided more examples for use in addition to the English books (curriculum). However, other participants emphasised that they needed to gain experience and familiarity with corpora to be able to apply it in the classroom.

Discussion

As stated earlier, studies on CL courses offered to in-service teachers are scarce, especially for teachers in public schools. Studies regarding running a training course in a virtual environment for teachers who teach in public schools cannot be found. Thus, this study is significant in providing insights for improving and popularising CL worldwide.

The data provided above summarise the participants' responses to the research questions addressed by this study. The first research question addressed the teachers' evaluations of the online training course. The results showed that the participants gave a positive evaluation of the online training course. The teachers' reactions to the course demonstrated that it is highly possible to spread the use of corpora with suitable training courses. The teachers expressed some concerns regarding the possible difficulty of applying the course; the mean of the sub-scale was 3.11, indicating that the teachers were aware of the possible difficulties of using corpora in the classroom. These concerns can be overcome and reduced with solutions that will be presented in the conclusion.

One of the original contributions of this study is the online training course offered to in-service teachers. The literature lacks a comprehensive course that addresses teachers' needs and extensively introduces CL. This contribution is supported by the participants who expressed their willingness to attend the same course if it were offered in a hybrid format, in which some sessions, particularly the training sessions, were offered face-to-face, which agrees with the findings of Ebrahimi and Faghih (2017), as well as those of Goktas, Yildirim & Yildirim (2008, p. 177), who recommend that any teacher training or technology-based training should "provide hands-on practice so that teachers become comfortable with it".

Most of the participants (82%) showed their satisfaction with the course by ranking it as very satisfied or extremely satisfied, indicating that the course served the participants' needs. A course that fits in-service teachers' needs is rare; thus, this course can be a guide to those who are interested in spreading the use of corpora in general education. As O'Keefe and Farr (2003, p. 391) argued, teachers play a significant role "in the process of recontextualising corpora".

The second research question concerned how the training course should be developed to bring maximum benefits to the teachers. The participants answered this question thoroughly. The course was regarded to be comprehensive by the participants, indicating that it focused on all aspects of CL in the classroom. Thus, the participants varied in what they liked and disliked about the course. The participants were fond of learner corpora and how they would help in teaching grammar. They also appreciated the end-course project as an opportunity to design a lesson using corpora. The corpora resources, particularly the BNC, COCA, AntConc, and CLT, were also liked by the teachers. However, they found BNC to be the most complicated resource, which contradicts Ebrahimi and Faghih's (2017) findings, in which the participants found COCA to be complicated to use in the classroom. In the current study,

the participants found COCA helpful in linguistics research, which is similar to Zareva's study (2016). Although the above-mentioned resources were liked by some participants, they were disliked by others, and resources such as BNC and CLT were found to be difficult to use in the classroom, in contrast to Ebrahimi and Faghih's (2017) and Chen, Flowerdew & Anthony's (2019) studies. Participants found AntConc and COCA easy and suitable for average students, which accords with other scholars who argue that corpora can be used for low-proficiency students (Boulton, 2010b; Vyatkina, 2016). Consequently, opinions about resources are affected mainly by the participants' learning styles and preferences, as well as their teaching experiences and computer literacy (Ebrahimi & Faghih, 2017). The theoretical background was important for introducing CL main concepts and basic definitions, but some participants preferred shortening this unit, whereas others believed it was essential to their grasp of CL as it was new to them. The participants liked the material development session and thought it was valuable because CL was new to them, which was repeatedly emphasised in the literature (Leńko-Szymańska, 2014).

On the downside, the participants stressed the need for the availability of computers; this need was also found in Ebrahimi and Faghih's (2017) study. The participants claimed that using corpora in the classroom can be time-consuming and requires more effort, which was consistent with observations in other studies, such as Johns (1991), Lin and Lee (2015), and Zareva (2016). The lack of familiarity and computer literacy were mentioned as constraints to applying corpora in the classroom, which agrees with the findings reported by Hether and Helt (2012), Farr (2008), Liu (2011), and Chen et al. (2019). Of the participants, 12.7% were above 41 years old, and some asked for increased flexibility in how the course was delivered, requesting accommodations for those who may be less computer-savvy. The fact that not all teachers can easily use computers or applications can create an obstacle in utilising corpora (Boulton, 2010a; Yoon & Hirvela, 2004). The participants emphasised that they needed to gain experience and familiarity with corpora before applying it in the classroom, which is expected, as this is found in many studies (Breyer, 2009; Yoon & Hirvela, 2004).

The third research question was about the possible changes that must be made to make the course more effective and appropriate for a growing audience. The participants were clear about what needed to be changed and added to improve the quality of the course. There was a consensus on the need for more training, practical sessions, more activities, face-to-face training, training on a full integration of CL in the four skills, and training on a full lesson. Participants also stated that the course needed more training on the resources, particularly the concordance tools. These requests show the real willingness of the teachers to implement corpora use in their classrooms.

Conclusion

Most of the participants (52%) believed that the course described in this study was comprehensive, useful, and suitable for both teachers and students. Most

participants (60%) did not want to add any recommendations or final thoughts, as they believed the course was effective and useful. Recommendations from the remaining participants included increasing the awareness of CL's importance as a new teaching method and applying it first in secondary schools. Thus, we can claim that the course was well designed for the sample and this context of study. However, there are some limitations to this study that need to be acknowledged. Its exploratory nature limits the generalisation of any conclusions drawn from the study. Therefore, the findings presented here must be interpreted with caution. In particular, it seems necessary to conduct more longitudinal studies that explore the effect of such a course on the teacher's actual CL classroom practices. More research also needs to be done to determine the extent of corpus literacy that teachers need to possess to successfully teach using corpora, as well as the possible uses of learner corpora in the classroom.

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