

## Curriculum Integration of Free Access Online Bilingual Dictionaries: Insights and Implications

Hilda Clarena Buitrago-García (hilda.buitragog@campusucc.edu.co) Universidad  
Cooperativa de Colombia, Campus Cali, Colombia.

Gema Alcaraz-Mármol (gema.alcaraz@uclm.es)  
Universidad de Castilla-La Mancha, Toledo, España.

### Abstract

Information and communication technologies (ICT) curriculum integration is the seamless and systematic use of various digital tools in curricular programs. Despite significant research on bilingual dictionaries, their structure, and their advantages in teaching English as a foreign language (TEFL), there is often unregulated use of free access online bilingual dictionaries (FAOBD) in class. Such an issue demands a deeper examination of the curricular integration of these dictionaries. This research examines four Colombian TEFL university teachers' perceptions and their courses' instructional design to establish the current FAOBD curricular integration level at their workplace and determine the administrative, lexicographic, and didactic factors involved in such integration. This multiple-case study applied an online survey and semi-structured interviews to gather data from a non-probabilistic sample. Additionally, an online evaluation form allowed us to investigate the English courses potential impact on the curricular integration of the FAOBD. Results revealed that scant institutional policies and inadequate teacher and student lexicographical training are detrimental to the pedagogical use of these digital lexical tools. The outcomes and implications led to concrete proposals to further the curriculum integration of FAOBD in TEFL settings.

*Keywords:* online bilingual dictionaries, teaching English as a foreign language, ICT curriculum integration, teacher training, language learning

### Introduction

The curriculum integration of Information and Communication Technology (ICT) has been the object of extensive research (Çapuk, 2015; Ghavifekr et al. 2014; Lloyd, 2006; Maribe & Twum-Darko, 2015; UNESCO, 2005). Proof of this is the almost two-decade-long scholarly efforts to conceptualize this phenomenon and identify its models and components (Dockstader, 1998; Pelgrum, 2001; Saxena, 2017). With the increasing relevance ICT has in educational settings, such efforts are not unexpected. ICT curriculum integration is a process in which technological resources, completely assembled within the curriculum, are imbued with educational and didactic principles to generate learning (UNESCO, 2005). In brief, a correct curriculum integration combines ICT use with traditional teaching methods within the teacher's instructional plans. Unfortunately, this body of research has barely addressed the curriculum integration of

a specific ICT in a given context. Such is the case of the free access online bilingual dictionaries (hereafter FAOBD), a lexical tool that is often adopted by foreign language educators but whose use among students is seldom explained and regulated. Despite extant research in ICT curricular integration, lexicography, and M-learning, to our knowledge, there are no specific studies on FAOBD curriculum integration. This type of ICT has great potential as an innovative teaching resource in teaching English as a foreign language (TEFL) contexts (Jin, 2013; Kit & Berg, 2016; Tseng, 2009). This gap highlighted the need to examine and determine the current level of curricular integration of the FAOBD and to suggest administrative, pedagogical, and didactic strategies and resources tending to favor progress toward the next level of integration.

### Literature review

Foreign language teaching (FLT) is a process that promotes linguistic, pragmatic, and sociolinguistic skills development to complete tasks and sociocultural interactions in diverse contexts (European Council, 2020). Using ICT in FLT fosters effective knowledge integration, new educational technologies development, and vocabulary search optimization (Dedja, 2015; Golonka et al., 2014). Despite these benefits, teachers still hesitate to use ICT due to a lack of information and specific skills (Kamilah, 2019). To counter such resistance, Dedja (2015) advocates for increased use of mobile devices among students. Today's most widely used mobile devices are smartphones (Cui & Wang, 2008). Despite teachers' resistance to their use in the classroom (Messinger, 2011), smartphones have become essential in the implementation of Mobile Learning (M-learning) since they facilitate immediate and ubiquitous instruction (Criollo-C et al., 2018; Cui & Wang, 2008). M-learning favors new ICT incorporation in class (Jin, 2013), such as FAOBD, and facilitates pace and study frequency self-regulation and method and resources self-management (Criollo-C et al., 2018; Cui & Wang, 2008; Gure, 2016; Kumar Basak et al., 2018). However, optimal M-learning requires pedagogical and methodological principles to regulate the use of portable devices in class and to support institutional teaching initiatives (Gure, 2016; Keengwe & Bhargava, 2013).

Mobile communication escalation has increased the use of new ICT in the foreign language classroom (Cui & Wang, 2008). One of these emerging technologies is free access online bilingual dictionaries (FAOBD). Bilingual dictionaries are lexicographic tools that provide equivalent meanings between words in different languages. This feature is useful when teaching a foreign language since learners use their native language to understand the target language through formal and informal translational equivalents (El-Sayed & Siddiek, 2013). Abundant research has focused on the type of digital dictionary that can be accessed, downloaded, and consulted through the Internet and provides users with some additional functions to those offered by printed dictionaries (Aleeva & Safiullina, 2016; Chiu & Liu, 2013; Mohamad et al., 2017; Pasfield-Neofitou, 2009; Schmied, 2009). Although it is a relatively new ICT, scholars have researched online bilingual dictionaries' characteristics and use (Atkins, 1996; Burada & Sinu, 2009; Chiu & Liu, 2013; Chun, 2004; Jin & Deifell, 2013; Loucky, 2013; Lukáč, 2011; Yongwei, 2012). Egido & Meliss (2017) claim that effective online bilingual dictionary searches require linguistic and lexicographic skills adapted to the digital medium. Thus, users need training on appropriate meaning selection and part of speech analysis to achieve adequate FAOBD use and curriculum integration (Egido & Meliss, 2017; Tseng, 2009).

Such curriculum integration draws from two research streams on ICT acceptance and ICT curriculum integration. The frequent use of ICT has led to identifying the factors that affect their adoption in specific contexts. The study of such factors has resulted in a series of technology acceptance theories and models that seek positive responses from potential users of a specific innovation (Donaldson, 2010; Lai, 2017; Taherdoost, 2018). This, in turn, helps to improve the methods used to design, evaluate, and predict the users' adoption responses (Lai, 2017).

The Technology Acceptance Model (TAM) is a well-known model that assesses ICT quality and its adaptation to workplace needs. TAM helps predict and explain new technology acceptance and use by identifying the factors contributing to technological success in the workplace based on user satisfaction (Venkatesh, 1999). This model relies on two variables: (a) perceived usefulness and (b) ease of use (Holden & Karsh, 2010; Lai, 2017). The former is a user's prediction that employing a specific innovation will improve their productivity, efficiency, and performance and increase work incentives. The latter is the degree to which a user believes technology use will reduce job effort (Venkatesh, 1999). Research shows that extrinsic and intrinsic motivation helps predict acceptance and use behavior levels (Venkatesh & Bala, 2008). This model application, validation, and modification identified other variables, such as teacher training, which affect ICT users' perceptions. After previous research revision, Venkatesh (1999) proposed three teacher training modalities: (a) tutoring, courses, conferences, and seminars; b) computer-assisted instruction. Subsequent versions of this model, TAM2 and TAM3, have considered other external and internal variables. TAM2 classifies such variables into (a) social influence processes, such as subjective norm, voluntariness, image, and experience; and (b) cognitive processes, such as job relevance, output quality, and result demonstrability (Lai, 2017). TAM 3 postulates that increased experience results in stronger perceived usefulness and reduced anxiety due to more accurate perceptions of the effort required to use technology.

Research seeking to improve the levels of ICT user acceptance has produced a considerable, and at times confusing, amount of information about theories, technologies, methods, and contexts employed by divergent models (Williams et al., 2015). The Unified Theory of Acceptance and Use of Technology (UTAUT), developed after reviewing and comparing eight technology acceptance models, responded to this confusion. Said review revealed four determinants of intention and use: (a) performance expectancy, (b) effort expectancy, (c) social influence, and (d) facilitating conditions. Gender, age, and experience affect these variables (Williams, Rana, & Dwivedi, 2015; Lai, 2017). Performance expectancy includes three constructs: perceived usefulness, intrinsic motivation, and job fit, while effort expectancy involves perceived ease of use and complexity. This model validation showed that social influence was not significant in voluntary use contexts (Lai, 2017). Another relatively new model is the Lazy User Behavior model (Collan, 2007) which states that an ICT user tends to choose the tool that demands the least effort.

The need to study and create enriched learning environments through the deliberate and effective use of digital resources has bred some curriculum integration models. These models, which combine ICT characteristics with curricular and methodological aspects, fundamentally seek to help teachers give intentionality to ICT use in their classes. This goal requires focusing on didactic elements that directly relate the pedagogical use of digital resources with the academic content that students must learn (Hamilton et al., 2016; TIM, 2021). Some curricular integration models are : (a) Technology Integration Matrix (TIM), which helps teachers design attractive, ICT-mediated, student-focused activities (TIM, 2021); (b) Fogarty's model, which regards

institutional decisions as crucial in the implementation of a variety of within and across curricular integration modalities (Fogarty, 1991); and (c) the Technological Pedagogical Content Knowledge (TPACK) model which intends to identify the type of knowledge that teachers require to integrate ICT in their teaching tasks while addressing complex, multifaceted and situated teacher knowledge (Koehler et al., 2017).

### ***Research question***

The aim of the present study is twofold. On the one hand, it pursues to determine the current level of curricular integration of the FAOBD in the TEFL university context where the participants work. On the other hand, it provides appropriate recommendations to address possible emerging issues and needs associated with such a curriculum integration process.

The research question addressed in this study is:

- What administrative, pedagogical, and didactic constructs are required to achieve a higher degree of curricular integration of FAOBD in TEFL contexts?

## **Methodology**

This qualitative research examines the FAOBD curriculum integration in a higher education TEFL context through a multiple case study design intended to inductively produce theoretical premises by detecting patterns of existing relationships among constructs (Creswell, 2012; Steenhuis & de Bruijn, 2006; Yazan, 2015). This study is also an applied educational research that seeks to solve issues associated with using such dictionaries and propose solutions within a relatively short deadline (Baimyrzaeva, 2018; Beycioglu et al., 2010; Given, 2008). This approach involves descriptive analysis of non-ordinal data gathered through inductive fieldwork and direct interactions with the participants (Creswell, 2012; Guest et al., 2017). Since this design grants the examination of multiple units of analysis, it favors generalization and ensures validity and reliability (Carneiro, 2018; Rule & John, 2015).

### ***Participants***

The participants, selected through non-probabilistic convenience sampling criteria (Given, 2008; Sheppard, 2020), are three women and one man within the 35-60 age group. They are full-time English teachers at a Colombian university language center with extensive teaching experience and post-graduate degrees. They provided typical and relevant cases for this study thanks to their involvement with the language center TEFL policies, practices and initiatives regarding ICT use in the classroom. All four voluntary participants gave informed consent to gather data through each instrument and to record the interviews. Due to Covid-19 pandemic confinement measures they had to shift from face-

to-face instruction to online teaching of courses imparted through three different platforms: *BrightSpace*, *Microsoft Teams*, and *Dexway*.

### ***Instruments***

This study used constructs from different ICT curriculum integration and acceptance models to design a survey, a semi-structured interview, and an online course evaluation form. The survey, designed with the *Survio.com* software, was a mixed, non-coded, and self-administered online format. It had a series of unidimensional cognitive, attitudinal, and behavioral variables (Harmon, 2003; Schaeffer & Dykema, 2011). These qualitative and quantitative variables, extracted from the TAM, TAM 2, TAM 3, UTAUT, and DOI technology acceptance models (Donaldson, 2010; Lai, 2017), sought to obtain information on single characteristics (Nick, 2007). This survey comprised a Likert scale, nominal and ordinal multiple-choice questions grouped into five sections (Joshi et al., 2015; Pimentel, 2019).

The second instrument was an in-depth, semi-structured interview with 33 questions grouped into five sections (Qu & Dumay, 2011). The interview script included various internal and external favorability and application factors related to FAOBD and curricular integration.

Finally, an evaluation form (Appendix) allowed us to probe the English courses' instructional design (Britain, 2004) and the FAOBD curriculum integration level. This form contains a matrix with 25 descriptors of the FAOBD curriculum integration levels. These descriptors fit the research objectives, the learning environment, and the lexicographical tool involved (Florida Center for Instructional Technology, 2019). The following figure shows how the study was conducted in different phases.

### **Data Gathering and Analysis**

The survey data analysis employed descriptive statistics (Maravelakis, 2019) to establish constructs related to the FAOBD curriculum integration and achieve a broader characterization of this phenomenon. *Survio.com* provided numerical, percentage and graphical representations of the data gathered. The participants took this survey, through *Microsoft Teams*, before participating in the interview. The participants' input, previously transcribed through *Watson Speech to Text*, was analyzed with the technological support of the software *Atlas.ti*. This software, which implements the Grounded Theory principles proposed by Glaser and Strauss (Birks & Mills, 2011; Dunne, 2011), facilitated the processing of the text of the interviews into qualitative data before categorizing, coding, and analyzing them. The analytical strategies employed involved a series of open, live, axial, and selective coding steps (Vollstedt & Rezat, 2019) that generated 261 codes and 15 semantic networks. The online evaluation form analyzed the technological, pedagogical, didactic, and linguistic components of the courses' instructional design. Additionally, this form used the teachers' survey and interviews contributions to assess the FAOBD curriculum integration descriptors matrix. Both strategies helped to determine whether such instructional design favored the curriculum integration of this kind of dictionary and to diagnose the current level of such integration.

## Findings

The findings of the study are presented according to the data gathered from each instrument.

### *Findings from the survey*

The teachers' sociodemographic profile, highly relevant in ICT integration processes (Doh et al; 2015; Inan & Lowter, 2010), revealed that their age and teaching experience could negatively affect FAOBD curriculum integration due to resistance to change (Kamilah, 2019; Silviyanti & Yusuf, 2015; Tambotuh et al., 2015). Conversely, their educational level range encouraged them to embrace ICT innovations in their pedagogical activities. All the respondents often used FAOBD to consult word pronunciation, meaning, and definition but barely used them for materials design and academic content writing. They expressed that their students used FAOBD to look up meanings and, to a lesser extent, definitions and pronunciation. However, it is noteworthy that none of the teachers clearly distinguished between FAOBD and online translators, terms they used interchangeably. Therefore, said use could relate to both lexicographic tools.

From the teachers' perspective, the oral and written production activities most required and encouraged FAOBD use among students. Unfortunately, there was no evidence of a clear teacher disposition to design activities and resources to promote the intentional and didactic use of FAOBD among their students. Said reluctance could be attributed to the additional workload utilizing FAOBD implied for teachers since their students could not explore and use these tools autonomously without orientation and follow-up. Table 1 compiles the data obtained regarding psychological, social, and contextual factors influencing the use and acceptance of the FAOBD. Results revealed that teachers and students experienced low anxiety levels when using these lexicographical tools in class. Teachers' high enjoyment levels when using these dictionaries emerged from the compatibility between this tool, their academic training, and their type of work. Contrarily, the participants observed that this lexical tool was less relevant and harder to understand and use for their students.

**Table 1**

*Psychological, social, and contextual factors associated with FAOBD use*

| <b>Dimension</b>   | <b>Code</b> | <b>Variable</b> | <b>Question</b> | <b>Weighted average</b> |
|--|-------------|-----------------|-----------------|-------------------------|
| Psychological and social factors associated with the use of FAOBD. | PFUBD       | Anxiety         | 4.1             | 2,0                     |
|  |             | when            | 4.2             | 2,2                     |
|  |             | using           | 4.3             | 5                       |
|  |             | FAOBD           |                 | 2,2                     |
|  |             |                 |                 | 5                       |

|  |       |  |   |                    |                         |
|--|-------|--|---|--------------------|-------------------------|
|  |       |  | Perception of fun.  | 4.4<br>4.5         | 4,2<br>5                |
|  |       |  | Enjoyment when using FAOBD.                                   |                    | 3,5                     |
|  |       |  | Perception of efficacy and self-efficacy in the use of FAOBD. | 4.6<br>4.7         | 4,2<br>5<br>3,0         |
|  |       |  | Effort expectation when using FAOBD.                          | 4.8<br>4.9<br>4.10 | 3,0<br>4,0<br>4,0       |
| External factors associated with the use of FAOBD. | EFUBD |  | Willingness   | 5.1<br>5.2         | 3,2<br>5                |
|  |       |  | /Perception of external control                               | 5.3<br>5.4         | 3,5<br>4,2<br>54,<br>25 |
|  |       |  | Facilitating conditions                                       | 5.5                | 4,5                     |
|  |       |  | Image   | 5.6                | 2,0                     |
|  |       |  | /Normative and social pressure                                | 5.7<br>5.8         | 2,0<br>3,2<br>5         |
|  |       |  |   |                    |                         |

The exploration of the external factors associated with FAOBD use showed that the teachers did not feel institutionally obliged to use the FAOBD in their classes. Consequently, they could decide when and how to use them without affecting their performance evaluation or image. All the participants agreed that they had received no institutional incentive to motivate them to use these lexicographic tools in their classes. Regarding specific training in using FAOBD as teaching resources, the participants unanimously responded that they had not received any and admitted that they needed it.

### *Findings from the interview*

The research literature review produced most 261 codes managed through Atlas.ti. This data analysis used Strauss and Corbin's open, axial, and selective coding strategies (Vollstedt & Rezat, 2019) to articulate a central category. Obtaining this category required the codes' groundedness and density examination. Groundedness refers to the number of citations of each code, and density means the frequency of relationships with other codes. This central category generated the most comprehensive semantic network labeled Free Access Online Bilingual Dictionaries. The two categories with the highest groundedness and density levels were those of attitudes and perceptions regarding FAOBD, thus confirming the postulates of some ICT acceptance models (Kemp et al., 2019).

Concerning FAOBD use, the user profile analysis showed differences between the teachers' self-perception and how they perceived their students. The participants described their students as lazy, easy-going, and uncommitted to using such dictionaries. They affirmed that their students preferred to use online translators because those tools minimized the consultation effort and simplified the use process. The teachers believed this preference for online translators originated from their students' difficulties interpreting the consulted words correctly. These difficulties were attributed to the students' low mother tongue metacognitive knowledge, lack of consultation skills, and low English as a foreign language level.

Regarding FAOBD use and users' needs, teachers expressed their preferences for and frequent use of *WordReference* and *Linguee*. They used these dictionaries to corroborate the meanings of polysemic words, listen to the pronunciation of unknown words, and learn the contextualized application of specific terms. Conversely, the participants believed that their students' FAOBD was less frequent, efficient, and voluntary and that they had to exert a persuasive, directive, supervisory, and, therefore, exhausting effort to get them to use those lexicographic tools.

One important finding was that the use of these online dictionaries in the language center classes oscillated between the adoption and the adaptation levels proposed by some models of curriculum integration. Briefly, FAOBD were used as support for traditional pedagogical activities and as a direct substitute for printed bilingual dictionaries. This level of curriculum integration derived from the teachers' decision-making power regarding the mode and moment of use of these lexicographic tools.

As for their training needs, the teachers agreed that they required a short course or tutorial to have greater clarity about the characteristics, classification, functions, pedagogical uses, and selection criteria of the FAOBD. They also acknowledged their students' need for effective implementation of didactic activities to learn about the structure of the FAOBD, improve their abilities to interpret the searched information, and increase the accuracy of their searches.

The findings showed that two factors that could facilitate the FAOBD curriculum integration in TEFL contexts were the teachers' positive perspective regarding the impact of these dictionaries in their students' English-learning process and the teachers' perceived self-efficacy and familiarity with these tools.

Nevertheless, the degree of voluntariness teachers had to use FAOBD in class impacted their planning activities that intentionally required their use. As for the students, the teachers perceived that a FAOBD curriculum integration hindering factor was the students' high degree of frustration and low degree of autonomy when using such digital resources. On the other hand, the data compiled revealed that using this type of online dictionary in English classes did not receive any encouragement at the institutional level.

### ***Findings from the online course evaluation form***



As previously explained, there were two data analysis phases. The first phase entailed inspecting the course instructional design components in the three platforms. The second phase involved using the matrix to analyze the integration levels and learning environment descriptors associated with the FAOBD curricular integration. In this phase, it was fundamental to revisit the data gathered from the survey and the interviews and triangulate them with the course instructional design assessment.

The examination revealed that the courses embedded in BrightSpace did not offer any student tutorial explaining how to use FAOBD. On the contrary, the advice to use *WordReference* as a learning resource had notably decreased compared to the previous university term. Using this dictionary had been recommended to do each evaluation activity. Such recommendation for using this FAOBD was later limited to including it in a list of suggested learning resources in Dexway, the platform devoted to independent work. In short, the institutional recommendation of this particular online dictionary decreased from ten to one in each course since the previous term. An impromptu interview with the language center's national director regarding this change in the instructional design revealed that it had been the result of some technical glitch during the course cloning process rather than a decision issued by the leadership.

The analysis of the levels and learning environments associated with the FAOBD curricular integration showed that, as described by Fogarty (1991), there was a connected curriculum integration since the contents of the courses were connected, topic by topic, and from one level to the next, within the English courses. In other words, there was a curriculum integration within a discipline. Based on Fogarty's postulates, the nested integration model is the most appropriate form of FAOBD curriculum integration for the English courses' educational environment. In this model, the students can develop, apply and exercise social and cognitive/ cognitive thinking skills and create content with the FAOBD throughout the specific didactic activities of the English classes.

According to the evaluation form descriptors, the FAOBD curriculum integration fluctuated between the substitute and adoption stages. This finding was significant and predictable because it suggested some progress in the curriculum integration of this lexicographic tool. The learning environments examined with the online course evaluation form descriptors showed that the FAOBD curriculum integration was in an authentic substitution entry phase. This implied that the students used FAOBD as a direct replacement for traditional, printed bilingual dictionaries without further exploration of their functions and integrations. There is an initial transition towards a substitute adoption level. Despite the conventional use of FAOBD as a support for the teachers' pedagogical practices, the teachers somehow anticipate the most frequent FAOBD use problems and look-up errors. Their prevention strategies include the explanation in Spanish of hard-to-consult terms, brief descriptions of grammatical categories, and an explanation of the polysemic nature of the words, both in Spanish and English. At the time of this research, it was still premature to speak of a goal-directed substitution entry phase since teachers did not use FAOBD for instruction, guidance, monitoring, or feedback. Moreover, the design of the courses did not facilitate the development of these pedagogical practices either.

### ***Triangulation matrix***

The data analysis strategy included a matrix designed to triangulate the data obtained through the three instruments. This triangulation strengthened the findings' reliability and concurrent validity. It also corroborated data through qualitative cross-validation (Cohen et al., 2007; Oliver-Hoyo, & Allen, 2006). This triangulation strategy granted a more in-depth, objective examination of the curricular integration of FAOBD.

Since this research was a case study, it considered multiple sources of information (Yin, 2009). This study used a within-method data triangulation (Cohen et al., 2007) with five categories or main axes extracted from the constructs used, examined, and coded in each instrument (see Table 2).

**Table 2**

*Within Method Data Triangulation Matrix*

| <b>Data Source Triangulation Matrix</b> |               |                  |                          |                              |
|---|---------------|------------------|--------------------------|------------------------------|
| <b>Analysis Axis</b>                    | <b>Survey</b> | <b>Interview</b> | <b>Course Evaluation</b> | <b>Integrative Synthesis</b> |
| FAOBD user profile                      |               |                  |                          |                              |
| Use needs                               |               |                  |                          |                              |
| Instruction needs                       |               |                  |                          |                              |
| Facilitating factors                    |               |                  |                          |                              |
| Hindering factors                       |               |                  |                          |                              |
| FAOBD advantages/<br>disadvantages      |               |                  |                          |                              |

The integrative synthesis of this matrix stressed the notable difference, from the teacher's point of view, between the perceptions, preferences, and needs of each of the two user profiles: the teachers and their students. The teachers, with extensive work experience, high educational levels, and previous experience with printed dictionaries, positively valued FAOBD as relevant and compatible English teaching and learning tools. They tended to tolerate online translators in class to avoid an increased workload and conflicting situations with their students. The teachers often used FAOBD to prepare their lessons more effectively and thus avoid embarrassing situations in front of their students. Teachers claimed that their students used FAOBD with a lower degree of enjoyment, autonomy, voluntariness, and efficacy. They believed their students experienced frustration when using the FAOBD because they usually depended on their teacher's guidance regarding parts of speech functions and contextual meaning to conduct successful searches with these lexicographic tools. Their students can find the unknown word with relative ease by typing the entry in the search box, but they do not know how to interpret each entry's information and, therefore, are unable to choose the best-fitting meaning. Therefore, they resort to online translators, especially when doing reading and writing activities. Whether they use online dictionaries or translators, the lack of students' knowledge of grammatical and lexicographic aspects accounts for most of their look-up errors. Regrettably, the quality of the student's English production and their reading comprehension skills are affected by those translations.

Regarding training needs, the teachers concurred that they and their students required the design and implementation of specific initiatives to fully understand the possibilities that FAOBD offer as English teaching and learning resources. Unfortunately, the instructional design of the courses did not consider these training needs. As for the FAOBD curricular integration facilitating factors, it is worth pointing out the relevance and compatibility that these lexical tools have for

teachers since they are the ones who can motivate and guide their students to use them adequately. A potential facilitating factor, which deserves further research, is the paradigm shift regarding the use of mobile devices in online classes as the result of the Covid-19 lockdown. On the other hand, a factor that prevents an adequate FAOBD curricular integration is the teachers' and students' reluctance to use these dictionaries in class for different reasons. The elimination of *WordReference* from the lists of learning resources suggested for each evaluation negatively impacted the visibility and relevance of this lexicographic tool among students and further discouraged planning activities that required their use.

## **Discussion and Implications**

The results drawn from the data analysis revealed that there are no specific institutional policies regarding FAOBD use. This paucity accounts for the low motivation levels among teaching staff concerning the implementation of specific actions that promote the use of these digital dictionaries and discourage the use of online translators. Unclear institutional expectations and regulations regarding lexicographic tools seem to influence the teachers' pedagogical decisions concerning FAOBD use in class despite their positive attitudes toward these dictionaries.

These pedagogical decisions include using deterrent strategies to prevent their students from using FAOBD in class to avoid an increased workload. For instance, one of the teachers provides the list of translated words the students will need in a particular lesson. The other two teachers translate the words or choose the best-fitting meaning for the students instead of explaining how to use these dictionaries. Another one limits the use of smartphones in class. The students receive information passively instead of autonomously searching for it through FAOBD. This situation reflects what the TIM model (TIM,2021) describes as an entry integration level. The students use FAOBD when directed by the teachers to do it, to do simple tasks. The teachers decide when and how to use these dictionaries without explaining which type of FAOBD may better fit the task requirements and without allowing the students to choose. This lack of student choice reflects the TIM adoption integration level.

Another consequence of such a lack of policies is the absence of teachers' training on the didactic use of FAOBD. Since these tools are invariably present in English classes, it is imperative to train the teachers on their use. The Covid 19 lockdown brought about intensive teacher training on the technologies they must use to teach their online classes. This opens a window of opportunity to start establishing policies and offering training regarding the pedagogical use of FAOBD.

The teachers have voluntarily self-taught how to use FAOBD by exploring and experimenting with their functions and integrations. Their lack of pre-service and in-service instruction on lexicographic tools use has not impacted their efficacy with these dictionaries. However, the teachers are aware of their training needs. Such instruction requires the allocation of specific periods within their work schedule. Otherwise, teachers might perceive any training initiative as a burden rather than an incentive. Without sufficient incentives to integrate the FAOBD into the curriculum, it will be challenging to use them properly. Yuen et al. (2006) argue that institutional leadership actions play a significant role in ICT curriculum integration success. Research shows that this leadership involvement, regardless of whether they are technology experts or

not, is a factor that impacts the quality of the teaching provided and the ICT curriculum integration process (Wang & Liu, 2016).

The current lack of incentives also affects FAOBD use in class. The teachers feel that these dictionaries do not improve their teaching performance evaluation and professional image in front of superiors, colleagues, and students. They feel their image threatened only when a student finds the meaning of a word they did not know or if someone challenges their translations by using an online lexicographic tool such as online translators or dictionaries. This intimidating situation, and the mentioned additional workload, compound their reluctance to encourage their students to use FAOBD. These are factors to consider if an adaptation level in which teachers and students naturally, spontaneously, meaningfully, informedly, and systematically use FAOBD in their TEFL classes

Although teachers and students can contribute to the construction of policies and reforms, the leadership team has to offer them the necessary conditions to ensure the proper use of these digital resources (Qureshi, 2013). The FAOBD curriculum integration requires teachers and students to familiarize themselves with their didactic potential. FAOBD comprehension will ensure the meaningful incorporation of these online dictionaries within each course's instructional design. Institutional encouragement and support regarding FAOBD use can make these dictionaries an integral part of the curriculum and not a tool for casual and sporadic use. The previous needs analysis and conclusions led to the formulation of five overarching recommendations:

1. The language center must be better informed about what the ICT curriculum integration process, in general, and the process of the FAOBD, in particular, can contribute to the program in terms of enriched foreign language learning practices and outcomes.

2. The leadership must allocate teacher training and lesson planning time. Otherwise, the initiative would become a burden and discourage teachers' FAOBD use in class.

3. The institution must provide teacher and student training programs on grammar and lexicographic matters to optimize FAOBD use and minimize the current levels of look-up errors.

4. Teacher training must provide ready-to-use strategies and resources to save teachers time and effort.

5. Finally, clear and solid FAOBD curricular integration policies must ensure continuity over time and, more importantly, their effectiveness in TEFL.

The findings somehow refute the TAM model premises because, despite the teachers' positive perceptions regarding FOABD usefulness and improved job performance, they only use them as reference resources in their planning. The teachers' perceived self-efficacy and reduced effort expectancy use do not seem to incentivize FAOBD use either. Results confirm that a lack of extrinsic and intrinsic motivation leads to low FAOBD acceptance and integration levels ( Venkatesh, 1999). The teachers must be motivated to incorporate these dictionaries in their lessons and help their frustrated students use them efficiently. The findings also corroborate TAM2's and UTAUT's premises regarding social influence factors such as voluntariness and image. The subjective norm, namely other people's influence on the user, only impacts the intention of use when there is a submission situation. When the individual is free to choose, such is the case in this study context, the subjective norm variable has no

weight. In other words, since the language center does not mandate FAOBD use, the teachers do not use them.

Variables such as self-efficacy, low anxiety levels, job relevance, and output quality, do not seem to improve FAOBD use among teachers either (Lai, 2017). Contrary to what TAM3 argues, increased FAOBD use and enjoyable experiences with these tools have not increased teachers' use. The Lazy User Behavior assumptions help explain students' reluctance to use FABOD. They resist using this lexicographic tool due to increased use effort in terms of time and mental work. Briefly, using these dictionaries is more demanding than using online translators. Consequently, the students keep using translators despite their teachers' warnings and prohibitions. The Lazy User Behavior model also accounts for the teachers' reluctance to use FAOBD since doing it implies higher demanded effort in terms of lesson planning and student guidance to achieve successful searches.

FAOBD research is still in its infancy and offers few practical suggestions regarding its use in the EFL classroom. Some research focuses on the general characteristics and classification of online bilingual dictionaries. Other studies, conducted from a more lexicographical point of view, analyze the FAOBD structure, classification criteria, and types of usage without delving into their curricular integration. Few studies offer specific recommendations to take advantage of their didactic potential.

In this study, the curriculum integration of the FAOBD, an ICT with very particular characteristics, was addressed from the lexicographical and didactic point of view, requiring a thorough exploration, selection, and adaptation of different authors' contributions to the specific purposes of this research. The conceptualization obtained may promote a more situated, meaningful, systematic, and, above all, pedagogical use of these dictionaries in TEFL contexts.

## **Conclusion**

The literature review revealed that few studies address the intentional use of FAOBD in EFL classes. This finding further validated the need to conduct the present research. Although the case study design included a small sample, the participants teach a student population spread over 18 nationwide campuses and, therefore, had high representative quality. In any case, the application of the surveys and interviews with teachers from other educational contexts could, in future studies, corroborate or refute some of the data collected and improve the pedagogical and didactic proposals designed in this study.

The general objective of this research was to diagnose the FAOBD curricular integration level in a higher education context. The data gathering and analytical strategies applied led to the purported diagnosis and a deeper comprehension of what the curriculum integration of these lexicographic tools involves, requires, and offers to EFL teachers and students. Undoubtedly, this will provide relevant background knowledge on the FAOBD structure, use, and advantages, and research insights and suggestions for future replication and adaptation of this study in other TEFL settings. Results revealed that the absence of clear policies and leadership involvement are the root causes of some challenges teachers face regarding FAOBD didactic use.

Additionally, the teachers and their students need to be trained and encouraged to use the FAOBD as teaching and learning resources in their classes.

As this multiple case study examined the perceptions of a specific sample of Colombian tertiary educators, the research conclusions are related to this particular group of participants. Nonetheless, the analysis and recommendations may be valuable to EFL teachers in general. These research findings should lead to further research into the matter of FAOBD curriculum integration in a variety of EFL programs and contexts. Subsequent correlational studies could help establish the precise type of relationship existing among some factors associated with the FAOBD curricular integration. Accurately determining the impact that the lack of institutional policies has on the teacher training programs and the teachers' pedagogical decisions regarding FAOBD and online translators' use, is fundamental. Considering the online translators popularity among students, a study that explores all the factors involved in their use and their didactic potential might lead to improved pedagogical practices in the TEFL classroom.

Based on the analyzed findings, it is safe to conclude that understanding the curriculum integration of FAOBD is a central issue and a key and growing need for the foreign language teaching field. Such understanding is essential for designing and implementing meaningful, situated, and effective methodological and didactic initiatives that may optimize the use of these tools and the students' learning of English.

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## Appendix

| Online course evaluation form   |   |  |  |   |   |  |
|---|---|--|--|---|---|--|
| Level   |   | Plataform  |  |   |   |  |
| Date  |   | Course code  |  |   |   |  |
| Administrative and technical aspects  |   |  |  |   |   |  |
| Hardware  |   |  |  |   |   |  |
| Software  |   |  |  |   |   |  |
| Technical Assistance  |   |  |  |   |   |  |
| ICT training  |   |  |  |   |   |  |
| Digital resources   |   |  |  |   |   |  |
| Peer-teacher support  |   |  |  |   |   |  |
| Pedagogical strategy  |   |  |  |   |   |  |
| Integration levels and learning environment descriptors related to the FAOBD curriculum integration in the courses' instructional design  |   |  |  |   |   |  |
| Integration Level   | Active learning environment   | Collaborative learning environment   | Constructivist learning environment  | Authentic learning environment  | Goal-oriented learning environment  |  |
| <b>Substitute entry</b><br><br>The FAOBD begin to be used as a direct substitute for printed dictionaries, without functional changes, to provide content to the students in a passive, individualized, and decontextualized manner. The FAOBD are used by the teachers in their teaching activities. Teachers use them with little confidence and experience to provide a traditional or lecture type of instruction. There are problems related to their use. | <b>Active substitute entry</b><br><br>The FAOBD are used as direct substitutes for printed dictionaries to passively transmit information. The students use the FAOBD to do basic and mechanical practice drills. Only the teachers actively use the FAOBD to provide direct, traditional instruction and individual work. Access to the FAOBD is limited and highly regulated. The teacher has low levels of experience and confidence and faces problems related to the use of the FAOBD. | <b>Collaborative substitute entry</b><br><br>Students use the FAOBD either individually or, at times, collaboratively as direct substitutes for printed dictionaries. The teacher mostly directs the students to use the FAOBD individually through traditional instruction. The teacher has low levels of experience and confidence and faces problems related to the use of the FAOBD. | <b>Constructivist substitute entry</b><br><br>The students receive information from the teacher through the FAOBD. The transmission of content to the students, rather than its construction, is favored through the provision of traditional instruction. The teacher has low levels of experience and confidence and faces problems related to the use of the FAOBD.   | <b>Authentic substitute entry</b><br><br>The students use the FAOBD for activities that do not allow them to make connections to the real world or their experiences and interests. The teacher assigns work based on a predetermined curriculum. The FAOBD are used as information resources in digital format through the provision of traditional instruction. The teacher has low levels of experience and confidence and faces problems related to the use of the FAOBD. | <b>Goal-oriented substitute entry</b><br><br>The students receive instructions, guidance, and feedback through the FAOBD. The teacher gives step-by-step instructions to the students and monitors the completion of tasks with the FAOBD. The teacher sets goals or outcomes and monitors progress through the provision of traditional instruction. The teacher has low levels of experience and confidence and faces problems related to the use of the FAOBD. |  |
| <b>Substitute adoption</b><br><br>The students are directed toward conventional and procedural uses of the FAOBD as direct substitutes for printed dictionaries, without functional changes. The FAOBD are used to support and complement the instruction. There is an anticipation of problems of use and strategies are developed to solve them through simple solutions. There is wider access to the FAOBD in class, but                                    | <b>Active substitute adoption</b><br><br>The students use more actively the same FAOBD to carry out sequential activities conventionally and procedurally. The teacher controls the pace of work, the type of FAOBD, and the way to use them to support and complement traditional instruction. There is an anticipation of problems and strategies are   | <b>Collaborative substitute adoption</b><br><br>The students have limited opportunities to work collaboratively through the conventional use of the FAOBD. The learning environment allows for the possibility of teacher-led teamwork to support and complement traditional instruction. There is an anticipation of problems and strategies are  | <b>Constructivist substitute adoption</b><br><br>The teacher begins to provide some opportunities for the students to use, in conventional ways, previously selected FAOBD, to build content and experiences from prior knowledge and to support and complement traditional instruction. There is an anticipation of problems and strategies are developed to solve them. There is greater yet still limited access to the FAOBD in class. | <b>Authentic substitute adoption</b><br><br>The students have opportunities to use the FAOBD, in a teacher-directed way, in some specific content activities related to their experiences or real-world problems. The learning environment grants the availability of FAOBD previously selected by the teacher to support and complement traditional instruction. There is an anticipation of problems and strategies are developed to solve                                  | <b>Goal-oriented substitute adoption</b><br><br>The students follow procedural instructions to use the FAOBD in conventional, teacher-directed ways to set goals, monitor, evaluate, and reflect on an activity. The learning environment offers access to some FAOBD previously selected by the teacher to support and complement traditional instruction. There is an anticipation of problems and strategies are developed to solve them. There is             |  |

|  |   |  |  |  |  |
|--|---|--|--|--|--|
| students still traditionally receive instruction.  | developed to solve them. There is greater yet still limited access to the FAOBD in class.   | developed to solve them. There is greater yet still limited access to the FAOBD in class.  |  | them. There is greater yet still limited access to the FAOBD in class.   | greater yet still limited access to the FAOBD in class.  |
| <p><b>Augmented adaptation</b></p> <p>The students are allowed to independently explore and play with the FAOBD features and to use them with functional improvements. The students use these dictionaries with some degree of choice, with possibilities of collaboration and connection with their daily lives. Both creative use of the FAOBD and task productivity are encouraged. Although the FAOBD have been fully integrated by the teachers into their classes to support learning activities, a traditional type of instruction is still implemented</p> | <p><b>Active augmented adaptation</b></p> <p>The students have some freedom to explore the FAOBD features through conventional yet independent use. The students begin to develop a conceptual understanding of the FAOBD and engage with their use. The teacher supports the students' autonomy and does not need to guide them step by step through activities that require their use. The teacher acts as a facilitator of learning in an environment where the FAOBD are regularly available and used with functional improvements.</p>   | <p><b>Collaborative augmented adaptation</b></p> <p>The students use the FAOBD collaboratively and independently, with some choice and exploration. They are developing a conceptual understanding of how these tools can be used to work with others. The teacher selects and provides the FAOBD and encourages students to explore their functions. The learning environment allows simultaneous access to these tools by multiple students. There is an autonomous use of the FAOBD with functional improvements.</p> | <p><b>Constructivist augmented adaptation</b></p> <p>The students begin to use the FAOBD independently to achieve meaning construction. Their growing conceptual understanding of these tools allows them to explore their functions as they build knowledge. The teacher plans activities that intentionally integrate the FAOBD, provide students with access to these resources, and guide them in their exploration and choice. There is an autonomous use of the FAOBD with functional improvements.</p>                                      | <p><b>Authentic augmented adaptation</b></p> <p>The students begin to use FAOBD on their own in activities that are meaningful and connected to the real world. The teacher plans activities that intentionally integrate the FAOBD and provide information on community and world issues. The teacher directs the choice of the FAOBD but the students use and explore them autonomously. There is increased use of the FAOBD with functional improvements.</p>   | <p><b>Goal-oriented augmented adaptation</b></p> <p>The students use the FAOBD independently to set goals, plan, monitor, evaluate, and reflect on specific activities. They explore the functions these tools provide for such purposes. The teacher facilitates the independent use of these resources in an environment that offers a variety of FAOBD. There is increased use of the FAOBD with functional improvements.</p>   |
| <p><b>Modified infusion</b></p> <p>The learning context is provided to the students who can choose the FAOBD functions that they need to carry out their tasks. There is an intentional, focused, self-directed, creative, collaborative, and effective use of the FAOBD. The experience gained in the use and functions of the FAOBD, especially by the teacher, facilitates the development of the tasks.</p>  | <p><b>Active modified infusion</b></p> <p>The students choose and use different kinds of FAOBD in a self-directed manner. The students understand how to use these online dictionaries according to specific purposes. The teacher guides and contextualizes the students' selection of the FAOBD and is flexible and open to their ideas. The learning environment offers multiple FAOBD options to meet the students' specific needs</p> <p>The experience gained in the use and functions of the FAOBD, especially by the teacher, facilitates the development of the tasks.</p> | <p><b>Collaborative modified infusion</b></p> <p>The students choose and use, regularly, the best-fitting FAOBD for collaborative tasks. The teacher promotes a collaborative learning environment and supports the students' meaningful choices of this kind of dictionary. The experience gained in the use and functions of the FAOBD, especially by the teacher, facilitates the development of the tasks.</p>   | <p><b>Constructive modified infusion</b></p> <p>The students can consistently choose and use the FAOBD that most facilitates knowledge construction. The teacher provides a context in which the FAOBD are perfectly integrated into the lessons and supports the autonomy of the students in choosing the most appropriate FAOBD. The experience gained in the use and functions of the FAOBD, especially by the teacher, facilitates the development of the tasks.</p>   | <p><b>Authentic modified infusion</b></p> <p>The students can freely and comfortably choose the most appropriate FAOBD to conduct meaningful and contextualized activities. The teacher encourages the students to use the FAOBD to make connections to the real world and to their experiences and interests through the provision of a learning environment that favors the pursuit of individual interests and emerging themes. The experience gained in the use and functions of the FAOBD, especially by the teacher, facilitates the development of the tasks.</p> | <p><b>Goal-oriented modified infusion</b></p> <p>The students regularly and independently use the FAOBD to set goals, plan activities, monitor progress, evaluate results, and reflect on learning. They can choose from a wide variety of FAOBD to work towards the achievement of self-directed goals. The teacher facilitates the students' choice and independent use of the FAOBD through the provision of a learning environment that offers a variety of options. The experience gained in the use and functions of the FAOBD, especially by the teacher, facilitates the development of the tasks.</p> |
| <p><b>Innovative transformation</b></p> <p>The students are encouraged to use the FAOBD intensively and innovatively to plan, monitor, and carry out higher-order learning activities and to produce digital products through interaction and collaboration with peers and the use of external resources. The teacher designs activities leading to the development of both digital products and transversal skills through the use of the FAOBD. The traditional teaching model evolves to generate collaborative work that allows the</p>                        | <p><b>Active innovative transformation</b></p> <p>The students are encouraged to use the FAOBD extensively, autonomously, informally, and innovatively to perform higher-order thinking tasks, planned by the teacher, in unconventional ways. The FAOBD become an invisible part of the learning process. The teacher models the use of the FAOBD and guides, encourages and supports the students to be actively involved in the development of tasks</p>   | <p><b>Collaborative innovative transformation</b></p> <p>The students regularly use the FAOBD to work on higher-order collaborative activities, with peers and experts with different experiences, cultures, and perspectives. The teacher designs collaborative activities, with peers and external resources, that unfailingly demand the use of the FAOBD. The traditional teaching model evolves and the teacher experiments</p>   | <p><b>Constructive innovative transformation</b></p> <p>The students use the FAOBD regularly to build and share knowledge in ways that unfailingly demand the use of these dictionaries. Their deep understanding of the FAOBD generates creative ways to construct meaning. The teacher provides learning opportunities for higher-order thinking through activities that require the use of the FAOBD. The teacher encourages the students to use the FAOBD extensively and unconventionally to generate knowledge. The traditional teaching</p> | <p><b>Authentic innovative transformation</b></p> <p>The students explore and extend the use of the FAOBD to engage in meaningful, real-world, higher-order thinking activities that unfailingly demand the use of the FAOBD. The teacher encourages the innovative use of the FAOBD in activities connected with the student's experiences and with the real world. The traditional teaching model evolves and the teacher experiments with new FAOBD applications and with</p>   | <p><b>Goal-oriented innovative transformation</b></p> <p>The students engage in metacognitive activities and work on self-directed goals that can only be achieved through the use of the FAOBD. The students are empowered to extend the use of the FAOBD and to gain a greater sense of ownership and responsibility for their learning process. The teacher creates enriched learning environments in which students are encouraged to use the FAOBD</p>  |

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| <p>construction of knowledge. The teacher discovers new applications of the FAOBD and experiments with new teaching strategies.</p> | <p>that demand the use of the most appropriate FAOBD. The traditional teaching model evolves and the teacher experiments with new FAOBD applications and with innovative teaching strategies.</p> | <p>with new FAOBD applications and with innovative teaching strategies.</p> | <p>model evolves and the teacher experiments with new FAOBD applications and with innovative teaching strategies.</p> | <p>innovative teaching strategies.</p> | <p>unconventionally to monitor their own learning. The traditional teaching model evolves and the teacher experiments with new FAOBD applications and with innovative teaching strategies.</p> |
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