

Communicative Competence Fostered in a Nested EFL Learning Ecology: Technology-Enhanced Learning in the Chinese Context^{*}

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Abstract—This study investigates the self-perceived effectiveness of a nested EFL learning model designed to create an affordance-rich learning ecology to help EFL learners realize the co-evolution of vocabulary knowledge and communicative competence. Adopting an action research approach, this study examined the predicament college students encountered under the CLT paradigm in the Chinese context, and the learning difficulties were identified. A nested EFL learning model was designed to address the issue by creating an effective learning environment in which micro, meso and exo systems interacted with each other to provide multi-mode usage events for the EFL learners' language development. Quantitative data was collected from two online surveys (N=91) and analyzed with IBM SPSS 26, and qualitative data was elicited from students' reflective accounts. The results revealed that the model positively affected students' language development regarding their vocabulary acquisition, listening and speaking proficiency. Other benefits derived from the learning experience outside the classroom, represented by an innovative WeCo (We Connect) reports project based on WeChat, are reflected in students' growing self-confidence as EFL learners and their awakening consciousness to learn English by using the language. Some constructive suggestions were proposed to improve the model. The design in this study provides a solution to the learning difficulties perplexing most EFL learners. It sheds light on how teacher-guided self-regulated English learning beyond the classroom can be augmented by modern technologies to develop communicative competence accompanied by the growth of productive vocabulary knowledge.

Index Terms—affordance, WeChat, usage-based approach, feedback loops, formative assessment

I. INTRODUCTION

The advent of information technology, the Internet in particular, ushered in a new era in which digital tools and platforms have been created to connect the world, and digital resources have been developed by educators to enrich the learning experience, thus enabling new opportunities for EFL practitioners to create a more dynamic learning ecology for their learners. Some Chinese scholars with an acute vision of the emerging social media technology have attempted to incorporate WeChat, the most popular social media application in China, into their teaching practice. Different from the widespread practice of using WeChat as a learning resource database for receptive activities, this study engaged students in more meaning-focused productive learning activities beyond the classroom to develop their communicative competence by capitalizing on the interactive function afforded by itself and XiaoXiaoQianDao (a task management mini-program within the WeChat ecosystem), together with Moodle (an open-source learning platform).

Communicative Language Teaching (CLT), or the communicative approach, being advocated as a revolutionary reaction against the traditional language teaching to promote learners' communicative competence "has produced a great influence on language teaching practice in both ESL and EFL environments" (Feng, 2013, p.44). However, the efforts to promote and transplant this approach have met with only limited success in the Asian context (Hu & McKay, 2012). In China, students' overall communicative competence has been a mandate in college English curriculum requirements since 2004 (Shi et al., 2018), and CLT and its outgrowth - task-based language teaching - have been carried out on a large scale. Unfortunately, "most researchers agree that the application of CLT in China has been a failure for several reasons" (Shi et al., 2018, p.774), "the adoption of CLT remains highly controversial" (Sun et al., 2020, p. 384) and the implementation remains challenging in China (Chan, 2019).

In the author's teaching context, CLT has replaced the conventional paradigm to bring vitality and engagement into the classroom. However, under the exam-oriented English language education system and pedagogy, the rote memorization of vocabulary and grammar rules has long been rampant in English learning practice for Chinese students, and such traditional practice in primary and secondary school curriculum has a far-reaching influence on them, like cultivating an exam-oriented English language learning thinking habit (Liu, 2017), which makes it difficult for college English teachers to "introduce interactive activities and ensure student participation" (Chan, 2019, p.733). Our pilot survey even suggested that with explicit instruction of grammar points and vocabulary being dramatically reduced in class and students' lack of initiative in learning English in out-of-class contexts, some students quickly jumped to a

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conclusion that their English learning was stagnating except for those few who were highly motivated to develop their communicative competence. The CLT practice did not achieve its desired goals due to the reasons mentioned above and other contextual constraints like insufficient time available for listening and speaking in formal learning settings (Chen, 2020). Besides, students' attention was not drawn to developing productive vocabulary knowledge, which seriously restrained them from developing their communicative competence. Researchers point out that vocabulary plays a vital role in realizing the communicative function of language, and Chinese students, however, lack consciousness to develop overall vocabulary knowledge and their knowledge of a word is constrained to its orthography and meaning (Qian & Sun, 2019). Therefore, it is crucial to think out of the box for ways to develop students' overall vocabulary, especially productive vocabulary so as to foster their communicative competence by engaging them in usage events beyond the classroom, serving as an indispensable complement to the formal learning context. Although the communicative approach has been adopted to develop students' communicative competence all over the world, there is a surprising scarcity of practice exploring the self-perceived effectiveness of a self-designed model which combines the learning activities in and out of the classroom to promote students' communicative competence. In fact, usage-based learning outside the classroom has not been fully examined yet. To address this gap, the author designed a nested EFL learning model which was inspired by the usage-based theory, the affordance construct, and Bronfenbrenner's ecosystems model to embed the newly learned vocabulary into usage events in and out of the classroom so that the receptive vocabulary would be transformed into the productive vocabulary to equip the students with a necessary productive vocabulary store for smooth and effective communication.

II. RESEARCH BACKGROUND

A. *English Learning Beyond the Classroom*

Previous studies before the expansive affordances of Web 2.0 functionalities suggested a positive association between active engagement in out-of-class activities and successful language development (Gan et al., 2004). Cases of successful language learners also show that learning opportunities for EFL learners in informal settings have been dramatically expanded by modern technology, and language use beyond the classroom has played a vital role in enhancing the language learning process (Kaceti & Kímová 2019; Nunan & Richards, 2015). However, not all out-of-class language learning experiences are equally beneficial (Lai et al., 2015). Despite the abundant, authentic English learning resources from the Internet and other sources, most students find it confusing and time-consuming to choose what is appropriate for them to develop their English proficiency and do not have constant momentum to carry through the out-of-class learning tasks. Those who can make a sensible judgment on the extra learning materials "predominantly access those materials for receptive rather than interactive or productive activities" (Jurkovič, 2019, p. 27). Researchers suggested that teachers "were significant sources of influence on the quality of students' out-of-class learning" (Lai et al., 2015, p. 278). Therefore they should play a more active role by recommending learning resources or monitoring learning efficacy, and effective language learning activities that maximize the affordances of mobile devices should be designed so that 'informal' learning can better support 'formal' learning (Kan & Tang, 2018).

B. *WeChat Mini Program Xiaoxiaoqiandao*

Being initially launched as an instant messaging app by Tencent in January 2011, WeChat has evolved into the most popular social media platform with its all-in-one functionality. Today, its MAU (monthly active user) has surpassed 1.27 billion (CIW Team, 2022), which means that virtually every Chinese uses WeChat regularly.

WeChat mini-programs are mini-applications developed by third-party companies and can be built within the WeChat ecosystem, offering advanced features like task management, music, and E-commerce to ensure that WeChat users' cravings are just one click away without downloading and managing the apps. XiaoXiaoQianDao is a free signup mini-program embedded on WeChat that allows people to manage their tasks or sign up for group events created by others. For the organizers, they can schedule an event and invite participants to sign up; they can view the event statistics in one place; they can manage the participants by removing the participants or appointing one of the participants as the task supervisor. For the participants, they can quickly sign up with just a few taps; they can post their signup contents in different forms ranging from text, picture, audio to video or interact with other participants by "liking" their posts or leaving comments on their posts orally or in written form; they can receive automated reminders before the deadline and message the organizer. In this study, the teacher organized an English learning activity on this mini-program: WeCo Reports Project, and invited her students to participate. Given the purpose of designing the activity, students were required to post their signups in the audio format.

C. *Theoretical Framework*

According to cognitive linguistics, "all linguistic units are abstracted from usage events: actual instances of language use" (Langacker, 2009, p. 154), and spoken language usage events are regarded as the basic usage events of language (Zima & BrÖNe, 2015). Learning a language involves learning constructions that comprise concrete items like particular lexical items, abstract items like abstract syntactic structures or a combination of concrete and abstract pieces of language (Ellis & Wulff, 2015), and constructions can be learned from language use and experience (Tomasello, 2003). In contrast to the generative tradition that relies on innateness for explaining linguistic categories, usage-based

linguistics views language as a dynamic system of constructions that are constantly restructured under the influence of domain-general cognitive processes involved in language use (Diessel, 2017). Usage-based theories believe that an individual's linguistic competence emerges from language use (Ellis, 2015; Tomasello, 2003; Behrens, 2009). The frequency of input and use plays a central role in L2 acquisition (Supasiraprapa, 2019). As frequency bolsters the representation of linguistic elements in memory, it facilitates the activation and processing of constructions (Diessel, 2017). Evidence from studies shows that frequency effects play an important role in language acquisition by assisting learners in acquiring lexical frames and extending those frames to generalized abstract representations in both L1 and L2 settings (Shin, 2017).

The underlying tenets in the usage-based approach also resonate with the construct of affordance in the realm of language learning ecology (Lier, 2004). Through the lens of the ecological perspective, "affordances arise out of participation and use" (Lier, 2004, p. 92), and "language proficiency emerges gradually, through repeated trials of production and reception, with meaning and precision accruing over time" (Lier, 2004, p. 141). For the emergence of higher language proficiency to happen, the affordances for language learning, "which are relations between the active learner and elements in the environment" (Lier, 2004, p. 53), should be perceived and acted upon by the learner. The teaching-learning environment must be rich in affordances and engage learners in meaningful activities (Lier, 2008).

The nested EFL learning model underpinning this study is adapted from the ecosystems model (Bronfenbrenner, 1979), which provides an ecological perspective to explain the forces shaping the development of human beings in a set of nested and interconnected structures called ecosystems consisting of micro-, meso-, exo-, macro systems. In the current study, the modified model composed of micro-, meso-, and exo- system was developed based on their relevance to language learning in the proximal context to render an affordance-rich learning ecology for students' language development, especially their listening and speaking proficiency and productive vocabulary development, a goal which is hard to achieve in the conventional EFL learning ecology for Chinese students.

Different from the microsystem for College English learning ecology at most Chinese universities in which English learning in the out-of-class settings is normally regarded as an optional extra, being excluded from the course syllabus, the microsystem in the current study was conceived to incorporate teacher-guided, usage-based learning in out-of-class contexts in the course syllabus to expand the EFL learners' immediate interactions between learners and their learning contexts mainly including learning materials, their peers, and the instructor, thus providing more perceivable affordances for learners to achieve language knowledge and skills growth. Since non-English major students in China have a low intrinsic motivation to learn English in out-of-class contexts, extrinsic incentives and feedback could be provided to mobilize and sustain their constant efforts. Research has also shown that under certain circumstances, extrinsic rewards can be combined with, or even lead to, intrinsic motivation (Dörnyei, 1994). Hence, in this study, students' efforts invested in the out-of-class contexts were reasonably counted in their overall course grade as a motivator to entice them to learn English out of class, and diversified formative feedback loops were formed to maintain a balanced focus on form and meaning.

III. METHODOLOGY

A. *Setting*

Implemented at a comprehensive University in China, this 12-week study was carried out in ELC 2, a compulsory integrated English skills course for intermediate learners to develop all four primary skills ---- listening, speaking, reading, and writing while it gives special attention to listening skills and vocabulary acquisition. The primary textbooks for this course are New Standard College English - Real Communication: An Integrated Course (Book 2) (FLTRP) and New Standard College English-Listening and Speaking (Book 2) (FLTRP). Nine reading passages from six units in the Integrated Coursebook and theme-related listening materials in the Listening and Speaking book are covered. The communicative approach is adopted as a primary teaching approach for the course.

This study attempted to help students reconceptualize and reconstruct their English learning environments by engaging them in various language use activities out of the classroom to provide a platform for them to activate and use the learned linguistic knowledge to develop their interlanguage skills before the knowledge becomes inert. The formative assessment and feedback from the teacher and their peers raised learners' awareness of using the language knowledge appropriately and helped build feedback loops for them to improve their linguistic performances. In this learning ecology, gone is the picture of the language learners passively soaking up language knowledge in class and fiddling with their phones idly after class. Instead, we witnessed a vibrant ecology in which active learners go about their business of learning by engaging in various learning activities in or out of class, like working on their own with their preferred materials or working side by side with their peers to achieve better fluency and accuracy. A mixed methods approach was employed to collect data for the study, which comprised the intervention, two questionnaires and students' reflective accounts on the WeCo reports project. Specifically, this article intends to address the following questions:

1. Did the nested EFL learning model help develop students' receptive and productive vocabulary, their overall organizational competence, speaking and listening proficiency based on their self-assessment scales?

2. How did participants perceive the core learning activity in the model: WeCo reports project? What were the challenges and what could be improved to better cater to their needs?

B. The Participants

The participants in this study were 91 non-English major freshmen in 3 groups with a mean age of 18. They came from different parts of China, where their English language education schemes assigned varying weightings to listening and speaking proficiency. They had received approximately nine years of formal English language education before reaching the university.

C. The Intervention: Building a Nested EFL Learning Ecology

The EFL learning ecology (Figure 1) in this study is composed of 3 ecosystems featured by the diversity and depth of learning affordances available to the learners to fulfill desired learning objectives in listening, speaking and productive vocabulary development. In this study, a nested EFL learning ecology was built with micro, meso and exo systems interconnecting with each other to optimize the learning efficiency. The microsystem, the EFL learners' immediate learning environment, was extended from the traditional classroom to WeChat and Moodle, providing language use opportunities to facilitate EFL learners' language knowledge and skills development in out-of-class contexts. The mesosystem, the interconnection between microsystems, afforded multi-mode feedback helping learners to form their self-correction mechanism to facilitate productive vocabulary knowledge development and communicative skills development by examining their problems in productive practice in the microsystem to adjust their learning trajectories. The efforts students invested in the after-class tasks were rewarded by being recognized in the course assessment system, which was the exosystem and served as an instrumental motivation to be combined with learners' intrinsic motivation to maintain a driving force in the learning ecology. The three layers of systems operated together to enable various affordances and to form feedback loops to help EFL learners make incremental changes to their language and skill repertoire.

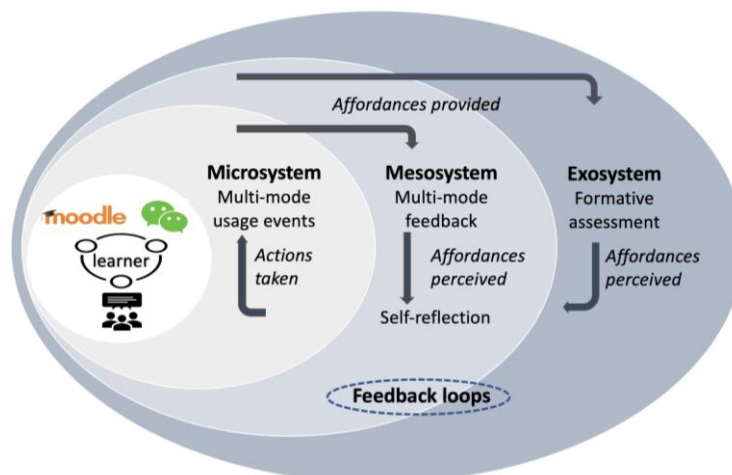


Figure 1 The Nested EFL Learning Ecology

(a). The Microsystem

The innermost layer in this learning ecosystems model is the microsystem, including WeCo reports project on XiaoXiaoQianDao and out-of-class group work in addition to the learning activities in the formal classroom setting.

The most important preparatory work for the WeCo reports project is to provide digital learning materials for those who do not have strong initiative or enough time to choose additional learning resources. The author used Moodle to construct a small-scale learning resources database composed of authentic English listening materials appropriate to students' current proficiency level. The chosen materials in the mini database included audiobooks, tv-series with study tips, and ted talks, some of which were adapted by adding content-oriented or skill-focused listening and speaking tasks. The authentic learning materials were chosen and associated tasks were designed because they are "more effective in developing a broader range of communicative competencies in learners" than the fabricated materials (Gilmore, 2011, p. 786). Besides the resources database, the author recommended a long list of online resources, including English radios, EFL podcasts, and vocabulary learning websites. According to Huang and Jhang (2015), the interest of students, a non-language factor, serves as a motivator for cognitive engagement in learning content in English. Deci and Moller (2005, p. 586) also suggest that "providing learners with choices and letting them have a say in learning materials could enhance their intrinsic motivation". Therefore, if students do not like the recommended resources, they can explore other sources for their preferred materials to achieve individualized learning.

The WeCo reports project (see Figure 2) lasted for 12 weeks during which students were required to finish 30 oral reports in English on the WeChat mini-program: XiaoXiaoQianDao by retelling or summarizing the English learning

materials by incorporating the new words they have learned from the materials, with each report lasting for at least 3 minutes. Nine reports are about nine text passages required for the course; one is about their self-reflection on this project, and the rest are about their preferred English learning materials. Students were supposed to read or listen to those learning materials first, take notes simultaneously, and then organize their language to finish each report. In this way, they could have a deep engagement with the learning materials. Other students were encouraged to listen to the reports and give relevant comments orally or in written form on the Mini Program.

Besides the WeCo reports project, 3 group oral tasks related to the themes of 3 units were designed to develop students' overall oral skills, with each task focusing on one specific scenario like a group meeting or debate in which relevant functional expressions could be applied. Students were provided with guidance on how to finish the task and scaffolding techniques on using proper vocabulary and grammar to achieve effective communication. Some groups met face to face and the rest met online to carry out the discussion, recorded the whole process, and posted all the videos on the Moodle course page for further discussion.

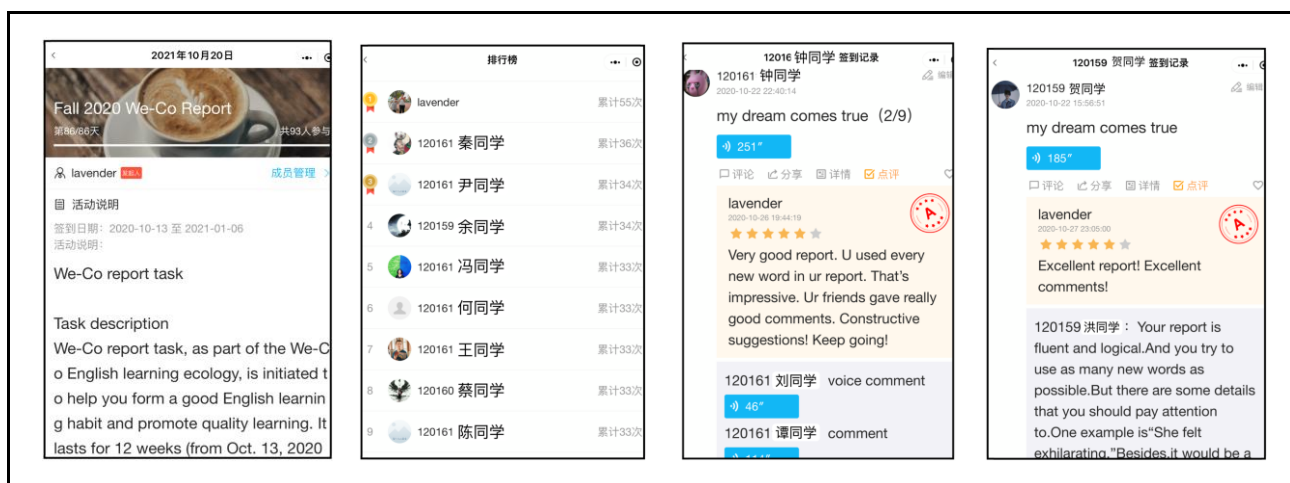


Figure 2 Screenshots of WeCo Reports Project Records (from Left to Right: Activity Homepage, Ranking of Records, Sample Report with Voice Comments, Sample Report with Written Comments)

(b). The Mesosystem

The second layer is the mesosystem which is about effective multi-mode feedback formed by the interconnection between the classroom, WeChat and Moodle to mainly facilitate EFL learners' vocabulary development and overall oral skill development through receptive and productive activities. Students learned the required text passages and finished the receptive vocabulary quizzes on Moodle before class. The teacher's feedback on the quizzes and interactive activities focused on the content and new vocabulary in the reading passage were carried out in class, aiming at improving students' depth of new vocabulary knowledge which includes "the elements of concepts and referents, associations, grammatical functions, collocations and constraints on use" (Daller et al., 2007, p. 8). After class, students were encouraged to finish the WeCo report on WeChat. Meanwhile, the teacher randomly checked their reports, picked out the vocabulary students still found difficult to put to productive use, and encouraged them to create scenarios in which these words could fit and post the scenarios on group chat. The teacher picked some well-designed scenarios, made adjustments/corrections, and formed a new pool of scenarios ready to be used for interaction in class. The teacher then gave whole-class feedback on students' WeCo reports, mainly commenting on the typical misuse of new vocabulary and typical grammatical mistakes. In this way, linguistic affordances were provided by the teacher to activate students' awareness of specific language structures or vocabulary use. Apart from the teacher's feedback, students also benefited from peer feedback which could be more specific and offer a unique perspective. By receiving and giving feedback, students raised their awareness and improved their ability to detect and correct problems in their learning process. Therefore, the teacher's feedback, peer feedback, and students' self-reflection became sources where students can evaluate progress and resources to adjust their learning trajectories.

(c). The Exosystem

The third layer is the exosystem, mainly about the course assessment system with an increasing portion of formative assessment. WeCo reports and out-of-class group discussions were involved in the course assessment system, which underscored the importance of students' efforts in language learning beyond the classroom. The out-of-class group work accounted for 5 percent (5 points) of the course score. The completeness accounted for 3 percent, and students' self-evaluation and peer evaluation based on a grading rubric emphasizing one's attendance, attitude and contribution accounted for 2 percent. As for the evaluation of the WeCo reports project, which accounted for 10 percent (10 points) of the course score, unlike the summative test scores which provided a static indication of students' performances, we rewarded students' ongoing endeavors in the project and the progress they made during the process. The completeness

accounted for 8 points, and the rest 2 points were allotted to the quality, which was described as visible progress in language and fluency which could be observed from the whole process. This course assessment system helped arouse both integrative and instrumental motivation and improve the motivational intensity to a higher level.

(d). *Feedback Loops*

A distinctive feature of this model is the formation of the feedback loops across the three layers of systems, which will be demonstrated in the following example. One of the text passages, "My dream comes true" is an autobiographical extract by Denis Lewis about the moment she won the 2000 Olympic gold medal in the heptathlon. Students were supposed to read the passage and learn the new words with the help of the courseware the teacher posted on Moodle before class. During class time, the students were asked to role-play an interview between Denis and the journalist. The sample interview questions were: "What emotions were you going through just before the race? What was in your mind while the race was going on? Take us through the emotions that you felt after the race. How did you feel after the race? Being on the podium, what was that like? What is there to achieve after you've got a gold medal on heptathlon?" The students were required to use the target words "gently, illuminate, deafening, exhilarating, terrifying, ensure, composed, championship, flutter, unified, vocal, strain, eclipse, exhaustion, grueling, fatigue, roar, boost, stamina, exhausted, scoreboard, tingle, aloft" in the interview. After class, they were encouraged to use all the new words by retelling the story for at least 3 minutes in the first person on XiaoXiaoQianDao and their partners were required to give comments on the reports by mentioning two merits and two aspects they could improve (mainly about problems in vocabulary use such as grammatical functions, collocations, or constraints on use). By checking students' reports and comments randomly, the teacher could easily detect the words students misused and incorporate them into explicit vocabulary instruction and the communicative activities next class. The students would reflect on their learning by perceiving the feedback afforded by the teacher and their peers and then act upon the affordances by reminding themselves to use the new words correctly or correcting themselves in the communicative activities. In this way, multi-mode affordances were provided, perceived and acted upon by the learners, and the feedback loops were formed to improve their language proficiency. With loops of feedback going on, opportunities to close the gap between current and desired performance were provided, and most students could finally perceive the affordances and made conscious efforts to improve themselves.

C. *Research Instruments*

Two online surveys were designed to address the first set of research questions. In the first survey, the participants were required to assess their pre-post intervention differences in overall organizational competence, listening comprehension, and oral expression by using the self-assessment scales prescribed in CSE (CSE means China's Standards of English Language Abilities, which was officially released in 2018). The second survey was designed to elicit students' perceptions of the effectiveness of the nested EFL learning ecology on their vocabulary development and speaking skills development. There were 11 five-point Likert scale questions, which were divided into three categories: vocabulary development (item 1-2), the development of 4 types of oral skills (item 3-6), and speaking sub-skills development (item 7-11). Quantitative data were analyzed with IBM SPSS 26.0. Students' reflective accounts were elicited to answer the second set of research questions.

IV. DISCUSSION AND RESULTS

End-of-semester surveys and the students' self-reflection oral reports showed that the learning ecology is conducive to their vocabulary acquisition and communicative skills development. The main statistical methods employed in the first survey were the Shapiro-Wilk test and the Wilcoxon signed rank tests. The Shapiro-Wilk tests (Table 1) showed a significant departure from normality, $W(91) = 0.893, 0.910, 0.818, 0.918, 0.848, 0.905, p = 0.000$. Then a series of Wilcoxon signed rank tests were run to evaluate if there were any changes in students' self-assessment scales for their overall organizational competence, listening comprehension and oral expression as a result of the implementation of the nested EFL learning model. The results revealed statically positive changes in those scales: the scale for the organizational competence was significantly higher ($Md = 5.00, n = 91$) compared to before ($Md = 3.00, n = 91$), $z = -8.15, p = 0.000$, with a large effect size ($r = .60$); the scale for the oral expression was significantly higher ($Md = 4, n = 91$) compared to before ($Md = 3.00, n = 91$), $z = -7.849, p = 0.000$, with a large effect size ($r = .58$); and the scale for the listening comprehension was also significantly higher ($Md = 5.00, n = 91$) compared to before ($Md = 3, n = 91$), $z = -7.974, p = 0.000$, with a large effect size ($r = .59$).

TABLE 1
RESULTS FOR THE SHAPIRO-WILK TESTS

Variable	Mean	Min	Max	Sk	Ku	W	P
Organizational competence before	3.5714	2	8	0.797	0.619	0.893	0.000
Organizational competence after	4.967	3	8	-0.055	-0.769	0.910	0.000
Oral expression before	3.2308	2	8	1.324	1.611	0.818	0.000
Oral expression after	4.6264	2	8	0.455	-0.55	0.918	0.000
Listening comprehension before	3.5165	2	8	1.254	1.961	0.848	0.000
Listening comprehension after	4.8352	3	8	0.559	0.016	0.905	0.000

The Cronbach's Alpha method was adopted to measure the internal consistency of the 11 Likert scale items in the second survey. The alpha measures true variance over total variance (that is, how cohesive each item is to the others). The range of the alpha is from 1 to 0.1. The result of the Cronbach's coefficient alpha of all the 11 items came out as .933, which suggested acceptable reliability of the Likert scale questionnaires under scrutiny. To test the validity of the questionnaire, the Pearson's Correlation Coefficient test was computed to assess the linear relationship between 12 variables and the total score, and the obtained values were .623, .833, .815, .674, .767, .797, .786, .810, .791, .800, .689, .757 which are greater than the Critical value of .2061, indicating positive correlations between all the variables and the total and the relationships were significant (all the p values are .000), and therefore all the questions are valid. Descriptive statistics (Table 2) for the second survey revealed an overall mean score of 4.5255 (SD = 0.45551). This showed a positive perception of the effectiveness of the nested EFL learning ecology among the students. Their perception of fluency development had the highest mean value (4.6923), indicating that this learning ecology effectively helped them to develop their fluency.

TABLE 2
DESCRIPTIVE RESULTS FOR THE STUDENTS' PERCEIVED EFFECTIVENESS OF THE MODEL ON VOCABULARY ACQUISITION AND SPEAKING SKILLS

	N	Min	Max	Mean	SD
1. Receptive vocabulary	91	2	5	4.5824	0.57862
2. Productive vocabulary	91	2	5	4.5604	0.6184
3. Presentation skills	91	2	5	4.5934	0.55734
4. Retelling skills	91	3	5	4.5275	0.54448
5. Group discussion skills	91	3	5	4.6813	0.51379
6. Debating skills	91	1	5	4.4176	0.74634
7. Fluency	91	3	5	4.6923	0.48745
8. Accuracy	91	3	5	4.3736	0.66078
9. Speaking at length	91	3	5	4.4835	0.62116
10. Self-correction ability	91	2	5	4.4505	0.5824
11. Pronunciation	91	3	5	4.4176	0.65091
Overall mean	91	3	5	4.5255	0.45551

To answer the second research question, students were required to post their perceptions of the WeCo reports project on the mini program, and they were supposed to respond to three questions: 1. What materials have you used to finish the WeCo reports project? 2. What skills have you practiced and improved during the process? 3. Would you please give some constructive suggestions to improve the project?

According to their self-reflection reports, most students used more than one type of learning material, and all of them included listening materials like movies, tv-series, ted talks, or other online videos. The vast majority of the participants reported improved spoken proficiency featured by improved fluency and evolved ability to speak at length without a script. Some suggested that they had become more adept at organizing language with clear logic, appropriate vocabulary and grammatical devices, and mixed sentence structures to express themselves. Most of them liberated themselves from single rote learning activities like remembering the Chinese translation of new words and got well-engaged in the communicative use of the vocabulary, especially productive use of higher-level target vocabulary. The following excerpts showed that the usage-based model helped learners develop their vocabulary, their organizational competence and overall speaking skills.

'I really learned a lot through the process. I can obviously feel that I can speak English more fluently. In the beginning, I could just read my script, but now I can speak without the script, and I can express my feelings more freely...during this term, I also learned many words and phrases' (Cai).

'Before this semester, I could only talk for about 1 minute without the script, but now I can give a 7-minute speech without the script and my fluency becomes better' (Jiang).

'I became more confident when I speak English because I had few chances to speak English before I took this course; I also enlarged my vocabulary and built my logical thinking because I needed to think about how to organize the language and what content should be included in my report' (Zhong).

'I think learning English in this way is very funny. In the past, we just learned English by remembering the words, the grammar, and the article. We didn't have a chance to speak out, to express our opinion. Now we need to do the WeCo report every week. I can speak more fluently and really learned how to use the words I learned to communicate...' (Liu).

'I still remember the first day I went to the classroom, I could hardly follow the teacher. I couldn't follow the ted talk without watching the subtitles. After this semester, I found that I could clearly recognize each word the speaker was using...' (Feng)

Obviously, lack of chances to use English in students' earlier language learning experience is the main factor hindering the development of their communicative competence. The nested model afforded them opportunities to use the new words, the frequency to transform receptive vocabulary into productive vocabulary, and loads of usage events to develop their fluency and the ability to speak at length. The emergence of language knowledge and skills is grounded on active interaction between EFL learners and the language learning environment. This model gave learners partial freedom to choose what kind of interaction they want to happen. Students like Feng who combined listening materials

into practice reported that this task had helped boost their listening skills, which was reflected in their enhanced ability to obtain the key points and details of ted talks at a normal speed.

Besides the language learning outcomes, a non-cognitive outcome: growing self-confidence has been frequently mentioned in students' reports, indicating that they have transformed their previous identities as deficient English learners who have never thought they could orally express themselves in English and nurtured new identities as relatively confident and active interlocutors. They could see signs of confidence sprouting and growing inside them during the process. In addition, incidental content and cultural affordances provided by the extra learning materials, especially ted talks, have been reported by some students to be well perceived and help enrich their body of knowledge besides English learning.

'I become more confident to talk with others in English and I'm not afraid to share my opinions anymore...' (Ai).

'When I watched ted talks, I did not just learn English; I learned some very meaningful and interesting ideas from the speakers ... this task might be difficult, but if you stick to it, you will learn much more than what you have expected' (Qin).

'I could choose my favorite English learning materials by myself, which greatly improved my enthusiasm for learning English and enabled me to learn English in a cheerful mood...' (Zhou)

From the students' self-reflection reports, it could be inferred that the WeCo reports project played a vital role in most learners' English learning in college and was regarded as a challenging but rewarding task.

Different voices from self-reflection reports and the survey showed that learning ecology's affordances to different learners were perceived differently, and various learning outcomes were produced. Most learners acted positively upon the affordances provided by various activities and tried to make the best out of the learning process. However, this model is not flawless, which was reflected in the cases of several reluctant learners (6 out of 91) who only completed part of the WeCo reports project. They reported great difficulty adapting to a totally different English learning style from high school, lack of self-discipline, lack of motivation, and high demand of the project itself. In addition, several students claimed that some of the learning materials such as some of the ted talks in the resources database are beyond their current English proficiency and the solo-report format is a bit boring.

Comments from the participants suggested that more effective measures need to be taken to provide more perceivable affordances to ensure successful out-of-class English learning experiences for all learners. The resources database should include a vast and diversified range of learning materials of different difficulty levels. A mixed format of the reports can be adopted, and the format can be extended to include solo reports, conversations, and even group discussions based on the materials they have learned. Only when the intrinsic motivation is aroused and assisted by the external motivation, will the learner be able to perceive the affordances and even enjoy the learning process. Second, an external supervisory mechanism is needed to help learners start, continue, and finish this teacher-guided self-regulated learning project. The teacher can guide them to make a specific study plan before they start. The rule that at least three reports should be finished every week can be established, and the teacher can check regularly and send reminders to those reluctant learners.

V. CONCLUSION

This study reports students' perceptions as well as the challenges of a nested EFL learning model designed to afford learning opportunities to build EFL learners' productive vocabulary knowledge and enhance their listening and speaking proficiency in three layers of subsystems: micro, meso and exo systems. The results showed that this model was, in general, well-received among students who expressed positive attitudes towards the learning ecology and satisfaction with their performances during the process.

The suggestions from students indicate that the teacher should play a more active role as an effective resource provider, project supervisor and learning facilitator to foster a vibrant learning ecology to engage every student. To encourage each learner to use the materials to learn in out-of-class contexts, the teacher should provide a wide variety of learning materials of various difficulty levels. Therefore, more efforts should be invested to build a high-quality English learning database with more diversified resources. Given that some students do not have strong self-efficacy to carry out the task, the teacher should play a more active part in supervising the whole process, like running a weekly check and giving regular reminders to help keep students on track. For those reluctant learners, some more specific aid measures should be taken to build their non-cognitive skills and guide them to gain fulfilling learning experiences, starting with a specific teacher-guided study plan. Besides, the WeCo reports project can be better structured to engage all types of learners. For example, the format of the oral reports can be more diversified, and it does not have to be limited to solo reports, while pair work can also be allowed to help make the reporting task more interactive and more enjoyable. When all learners are highly motivated, the tasks are well-structured and the supporting systems are established to ensure the implementation, a higher level of agency and cognitive engagement will unfold to bring out deep engagement in learning materials and activities.

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