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Foreword: Innovative Solutions to Common Problems

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The editorial team of AESP is happy to present its quarterly issues with the usual broad variety of papers from different cultural and academic backgrounds. We are always happy to be able to present truly original work that attempts to use knowledge in harmony with technology to provide innovative solutions to common concerns.

Philip McCarthy has assembled a varied team of researchers (Ayah Al-harty, Rachel Hall Buck, Khawlah Ahmed, Anuja Thomas, Noor Kaddoura and Nicholas Duran) with the aim of developing a tool for providing automated feedback for L2 learners. McCarthy has also enlisted the input of the award-winning Dr. Arthur Graesser, a leading figure in the world of intelligent tutoring systems, so rest assured, the aim is not to replace us as teachers, but to help us. This software supports teachers and could help reduce our grading by helping our students help themselves during the drafting process. This paper “Introducing Auto-Peer: A Computational Tool Designed to Provide Automated Feedback for L2 Writers” provides an interesting introduction to their project, which has involved language teaching specialists, computer programmers and cognitive linguists.

ESP classes can be rather dull so it is interesting to be able to report another innovative pilot study which attempted engage students in stimulating and highly creative activities. Lucas Kohnke uses an innovative multimedia approach through comic strips and is able to report in *L2 Learners' Perceptions of a Comic Strip in an ESP Classroom* how they “helped to transform the traditional delivery of instruction and also motivated and facilitated learners’ understanding of discipline-specific concepts and vocabulary”.

In *More than just listening: TED Talks for Teaching Business English to Russian University Students*, Olga Stognieva and David Connolly, continue the theme of innovation to improve our students' learning experience. Their study also provides experimental evidence of the impact of this innovation in a pre-service Business English course on listening, reading, writing and speaking skills: we improve the experience, students are motivated to improve their competence.

Also breaking new ground, in *An Exploratory Study on Establishing an Academic Word List for Food and Nutrition Graduate Students*, Ming-Nuan Yang and Chien-Ling Chiang establish a discipline-based academic word list. Impressively, they compiled the Food and Nutrition Research Articles Corpus (FNRAC), with a running-word count in excess of 2.3 million. Their comparative analyses with other existing academic word lists indicate the greater relevance of their own construction and the importance of being dedicatedly field-specific in the assembly of word lists to meet learners' lexical needs.

Shi Wenjie, in *ESP Instruction and Evaluation: A Case of Business English for Master Programs in China*, focuses on graduate students in the fields of finance and economics and their particular language learning needs. Both designing and delivering specific syllabi for a trio of Business English courses, he finds that although students' needs are mostly met, issues remain within the ESP courses, ranging from instruction to discipline-specific content. One issue of concern flagged by Shi Wenjie is how an inadequate resource input in the language courses does not match prescribed learning outcomes.

In *Designing an Effective EAP Course: A PBL Approach*, Fern Sakamoto, Sean Toland, and Tony Cripps advocate the importance of cultivating academic literacy alongside language ability on EAP courses. Taking an experiential action-research approach, they develop a collaborative program and materials to facilitate meaningful language interactions and their post-program student-reported data reveals improvements in all targeted learning areas. Although there are concerns raised regarding the complexity of course content and "individual imbalances in project effort and workload", Sakamoto, Toland, and Cripps address these, championing the "experiential approach as a systematic yet realistic method" for refining in-house materials.

Another type of learning community collaboration can be found in *EFL-Taxi Drivers' Interaction: Boosting Listening Comprehension and Oral Communication in the Tourist Field*

Using TBL and ESP. Blanca Narcisa Fuertes López and her colleagues, Escudero Orozco Gloria Isabel, Armijos Monar Jacqueline Guadalupe, Lenin Esteban Loaiza Dávila, identify and address the communication problems encountered by taxi drivers as they attempt to negotiate meaning with English speaking tourists. This team of researchers both design and implement specific purposes task-based learning to boost taxi-drivers' listening and speaking skills in order to enable them to be more effective communicators.

In *Discussing Findings in Applied Linguistics and Mechanical Engineering Research Papers: A Data-Driven Analysis of Linguistic Characterisation*, Thi Ngoc Phuong Le and Minh Man Pham extend our understanding of genre analysis with their research on move structures in applied linguistics and mechanical engineering. Their focus on the move 'comment on results' and authors' utilization of linguistic features provides valuable insights into similarities and differences between the two disciplines, pointing to particular communicative functions and disciplinary conventions. The pedagogical implications and recommendations discussed by the authors will help both language and content instructors advance their students' writing skills to be part of their discourse communities.

Needs analysis in ESP studies has been an area of interest to many researchers. With his paper *Toward a Balanced Curriculum: A Needs Analysis of Content Topics and Field Trips for English for Tourism*, Wutthiphong Laoriandee contributes to the ESP literature by focusing on content topics and types of field trips for students at a Bangkok-based public university. The author argues that the predominant themes of history and Buddhist temples in the field trips and textbooks disproportionately reflect the country's tourism. The results of his study are rather interesting and the recommendations made by the author will serve ESP instructors in preparing tourism students to hold conversations with tourists about different aspects of Thailand. Wutthiphong Laoriandee's study has clear implications for ESP instructors and curriculum designers in other contexts as well.

Student engagement is a significant factor contributing to the quality of learning. A variety of initiatives have been taken to increase student engagement. A recent approach that has attracted considerable attention is 'flipped learning'. In *The Impact of Flipping on Students' Behavioural, Emotional, Cognitive and Agentic Engagement in Academic Writing Skills*, Afef Ahmed Gasmi focuses on the impact of flipping on students' behavioral, emotional, cognitive, and agentic engagement in academic writing skills in the Omani context. Her research results

point to students' holistic development. Afef also draws attention to students' negative emotions and areas in which they need further development.

In Memoriam: Mark Krzanowski (1963-2021)

It is with great sadness that we announce the untimely passing of Asian ESP Journal Book Review Editor, Mark Krzanowski. After a short illness, Mark passed away on 19 January 2021 in Ghana, where he loved to spend his winter holidays. Mark was Associate Professor in English for Specific Academic Purposes at Brunel University London & Chongqing University of Post and Telecommunications. Prior to this he had also had an extensive career in English for Academic Purposes (EAP) with senior roles at a number of universities, including UCL, the University of Hertfordshire, Goldsmiths, the London School of Hygiene and Tropical Medicine, the University of the Arts London, the University of Westminster, and the University of Surrey in Dalian, Liaoning, China.

Very well known throughout the entire Higher Education ESP community, Mark was a cherished and highly respected colleague who will be sorely missed, far and wide. His kindness and enthusiasm will never be forgotten and will live on through the many projects he helped to initiate.



Introducing Auto-Peer: A Computational Tool Designed to Provide Automated Feedback for L2 Writers

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Biodata

Dr. Philip McCarthy is an Assistant Professor and discourse scientist, specializing in software design and corpus analysis. His major interest is written-text, especially the writing of students of English. McCarthy has been a teacher for 30 years, working in locations such as Turkey, Japan, Britain, the United States, and the United Arab Emirates.

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Ayah Al-harthy is a student of computer science and the lead programmer of Auto-Peer. Her expertise is in Java, C++, Xojo, and Python. She also has expertise in the NetBeans and Visual Studio platforms. Her major interests are game and app development. Her plans are to specialize in NLP gaming.

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Dr. Duran's research is focused on the ways in which complex cognitive processes are revealed in the dynamics of movement and language, both within individuals and across dyads and groups. Major areas of study include deception, perspective-taking, and collaborative problem-solving, as well as the connection between language and action, cognitive dynamics, and natural language processing and corpus analytics.

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Dr. Arthur Graesser is a professor of cognitive science and intelligent systems. He has served as editor for two journals, president for four scientific societies, and has over 700 scientific publications. Graesser has received numerous awards and is a leading figure in the

development of intelligent tutoring systems with computer agents and discourse measurement tools.

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Abstract

Peer reviewing is an important part of the L2 writing process, but implementing effective peer reviewing activities can present challenges. Technology, in the form of Automated Writing Evaluation (AWE) has certainly helped to address these challenges; however, while AWE has been effective in tackling issues such as time constraints, it has faced difficulties with providing effective feedback at both the holistic and local levels. In order to address this and many similar issues, Auto-Peer has been developed. The primary goals of the Auto-Peer software are 1) to guide students towards improved writing skills through analysis and feedback; and 2) to allow instructors insight into student misconceptions. The software achieves its goals by identifying a wide range of such student-writing issues, requiring the students to either 1) modify their text or 2) justify their writing choices. Following the identified checks, instructors receive all generated feedback. As such, for students, there is the opportunity of free, on-demand peer-reviewing towards the goal of excellence in writing, and for instructors, endless hours of repetitive commentary can be avoided, allowing for far greater student/instructor interaction. This paper presents how Auto-Peer can be used in the writing classroom as a pedagogical tool assisting students with identifying writing issues, and preparing them for conferences with instructors to receive more substantial feedback on their writing.

Keywords: Peer-Reviewing; Automated Writing Evaluation (AWE); computer assisted feedback, L2 writers, classroom technology

Introduction

Receiving peer feedback is an essential component of both the writing process and L2 writer development (Hedgcock & Lefkowitz, 1992; Lam, 2013; Long & Porter, 1985; Min, 2006). More specifically, peer reviewing can help engage students in the process of writing and revision (Miao et al., 2006), enhance students' understanding of audience and purpose (Ho & Savignon, 2007; Lee, 2015; Rollinson, 2005), and develop students' understanding of how writing communities can be a space where students offer advice and suggestions during the writing process (Ferris, 2003; Ferris & Hedgcock, 2005; Hyland, 2000).

Despite its broad support, however, the clear benefits of peer feedback do not necessarily guarantee its successful implementation or execution. For example, Cheung (2011) analyzes fourteen articles published in the *Journal of Second Language Writing* and claims that the results of peer feedback were “disappointing” (p. 536). Similarly, the analysis of Chang (2016) demonstrates that there were both benefits as well as challenges to peer feedback. Such findings should not be too surprising. Indeed, social interactions about writing are complex because they involve multiple factors including personal and cultural preferences, group mechanics, and various interactive strategies. Hyland and Hyland (2006) also note that the “ways that feedback is situated, shaped, and negotiated” impact the “role and significance of response in second-language writing instruction” (p.15). Consequently, important factors in peer reviewing are the framing of the task itself (Hicks, et al., 2016) and student training and guidance given by instructors (Caulk, 1994; Hu, 2005; Kong & Bui, 2019). Without this guidance, L2 writers may often lack confidence in their ability to provide effective feedback or distrust the accuracy of the feedback provided by fellow L2 writers (Guardado & Shi, 2007; Tsui & Ng, 2000).

One of the recent areas in peer feedback research to facilitate L2 learners during the writing process is automated writing evaluation (AWE). Cotos (2014) defines AWE as an automated system designed to “complement instruction with computerized affordance that are otherwise either unavailable or extremely time and labor-intensive” (p. 5). Cotos argues that such systems have the potential to transform and revolutionize L2 writing; however, for the present at least, studies of AWE assisted peer feedback have been mixed. Such results may be because much of the research about AWE focuses on error correction within students’ writing, meaning that studies often appear to demonstrate learners’ improvement largely for surface linguistic features such as grammar, spelling, and mechanics at the word or sentence levels (Chodorow et al., 2010; Heift & Hegelheimer, 2017; Warschauer & Grimes, 2008; Wang & Wang, 2012). While such corrective feedback can be helpful, it seems that holistic scores may show little over-all improvement (Kellogg et al. 2010). As such, the challenge for both face-to face (f2f) and AWE-based online peer feedback is to find ways to incorporate both holistic and surface level feedback while also connecting f2f review sessions with online activities while also taking into account the needs of the specific ESP learners (Una, 2016).

In order to assist teachers and students in meeting these challenges, we have developed Auto-Peer, a freely downloadable application that provides feedback to students by offering 1) 24/7 access to those who may not have extended opportunities for f2f interaction; 2) both holistic

and surface level error analysis; 3) textual modification suggestions; and 4) a report of the online feedback that can be used in f2f interactions with peers or instructors.

As writing teachers, we know that successful students make conscious choices about the wording, structure, and organization of their writing. However, such writers are successful because they know that these choices are available. Automated systems like Auto-Peer appreciate that these choices may not be known to all L2 students, and so information as to choices is explicitly provided so that writers can modify or justify their decisions. As Heift and Hegelheimer (2017) explain, “The usefulness of computer-generated corrective feedback largely lies in enabling learners to self-study and practice the target language by identifying and explaining error sources and, with regard to L2 essay writing, allowing for draft revision” (p. 61). Huong (2016) also notes that an instructor’s feedback is confusing for students, often because corrective feedback needs to be written hurriedly and without the necessary explanation and examples. As such, Auto-Peer can fill the gaps between student and instructor by providing clear guidance for the former while freeing valuable time for the latter. This newly available instructor time can be used to provide more substantial commentary and more meaningful interactions that meet specific ESP/EAP students’ needs during the writing process. If the writing process is conducted in full, then numerous benefits are likely to result (Connor, 1987; Crowhurst, 1990; Geiser & Studley, 2001; McNamara, Crossley et al., 2010; McNamara et al., 2014; “National Commission on Writing,” 2004; Porter, 1997). Although peer-reviewing is only one part of that process, it remains a vital part, and if the availability of this vital element of the writing process can be improved for L2 students through systems such as Auto-Peer, then it is reasonable to assume that the final product of the writing itself will also see improvements.

The purpose of this paper is show how an automated system, in this case Auto-Peer, can offer guidance and advice to student-writers, especially for those who are non-native speakers of English, and also to prepare instructors for providing more substantial feedback. We created this freely available system at The American University of Sharjah, a Middle Eastern university with a high international student population. The primary goals of the Auto-Peer project are 1) to guide students towards improved writing skills through analysis and feedback; and 2) to allow instructors insight into student misconceptions, providing the instructor with greater opportunity to produce meaningful and productive instructor-student feedback. Thus, Auto-Peer seeks to improve opportunities for students and instructors to engage in the feedback and

revision processes of good writing, leading to a final student-written product that attains the benefits of the writing process.

Technology Developments in Writing

The ubiquity of writing research has not gone unnoticed by software developers (McCarthy et al., in press). Since the turn of the century, writing tools have been developed to grade writing (e.g., e-rater: Attali & Burstein, 2006; LSA: Landauer et al., 2003), summarize writing (e.g., Summary Street: Kintsch et al., 2001), analyze writing (e.g., CohMetrix: McNamara et al., 2014), to strategize writing (e.g., Writing Pal: Roscoe et al., 2014), and to assess performance and efficiency: Project Essay Grade (PEG), Intelligent Essay AssessorTM (IEA), Electronic Essay Rater (e-rater®), and IntelliMetric (see Cotos, 2014).

To be sure, technology developers have also served the field of peer-reviewing. These peer-reviewing developments are appropriate as the globalization of academic English has put an enormous strain on writing teachers who spend large amounts of time giving feedback on L2 student drafts (Cotos, 2014). Unfortunately, many developments in automated peer-reviewing (e.g. the Reddit-based model, the Amazon-style rate and review model, and the GitHub-style model) are either unavailable or inappropriate for L2 students as the technology is largely geared for professional writers who are willing to meet up on-line and provide time-intensive ratings. The closest tools to peer-reviewing that actually are available to L2 college student writers are Grammarly (see www.grammarly.com), the Calibrated Peer Review tool (CPR: Londe, 2007), and Peerceptiv (see www.peerceptiv.com). Although certainly useful, these tools have notable limitations. For example, Grammarly has been criticized for focusing mostly on grammatical and spelling issues, meaning it offers little more than what Microsoft Word already provides. In addition, anything more than the most basic service requires a costly subscription, and even greater costs for specialized services (Holdridge, 2012). CPR, by contrast, has been viewed as successful (e.g., Sadler & Good, 2006); however, the CPR approach requires real-time active students to evaluate text against a rubric. This requirement of present and available student participation also underlies Peerceptiv. As such, these tools cannot be described as on-demand, nor can they be described as automated or expert. It is this lack of freely available expert systems for college student-writers, particularly L2 students, which has led to the development of Auto-Peer.

Introducing Auto-Peer

Auto-Peer does not seek to replicate any of the achievements of the systems mentioned above. Instead, Auto-Peer is designed to improve student writing prior to assignment submission through the process of automated feedback. Specifically, Auto-Peer 1) identifies *potential* writing issues, 2) supplies explanations, examples, and practice for these writing issues, and 3) requires students to modify their text and/or acknowledge their understanding of the identified issues. Following the student submission of a paper, the instructor is able to view the student's assessment of the Auto-Peer report. As such, the instructor can quickly and easily assess any specific student misunderstandings. The combination of the student's self-corrections and the specific highlighting of potential student misunderstandings allows the instructor to focus greater time on the more nuanced issues of the paper.

Auto-Peer is designed to be particularly sensitive to the needs of L2 student writers. Indeed, the Auto-Peer team is based in the Gulf region, and the first instantiation of the tool was for use by international students from countries across Asia, Africa, North America, and Europe. Given this broad application to the great diversity of potential students, Auto-Peer development has considered the extensive literature on L1 and L2 writing differences (e.g. Chenoweth & Hayes, 2001; Crossley & McNamara, 2009; Ferris, 1994; Kharma, 1981; Min & McCarthy, 2013; McCarthy et. al., 2007). Moreover, the design of the tool (and its assessments, explanations, and practice material) keeps in mind that writing issues faced by L2 writers are far from homogenous. As such, it is sensitive to the unique challenges faced by L2 writers and incorporates appropriate material for the widest possible range of students.

To achieve its goals, Auto-Peer utilizes both basic and sophisticated technology and approaches. The basic approaches identify a wide array of common student mistakes, misconceptions, and poor practices (e.g., overly long sentences/paragraphs, misused deployment of transitionals, and problematic topic sentence structure). The basic approaches also include addressing the most mundane of corrections and commentary (e.g., where the appropriateness of certain word choices is questionable). Basic approaches such as these provide important feedback, but sophisticated approaches are also needed to better improve the likelihood of a quality product. Accordingly, the Auto-Peer design includes automated assessments that include cutting-edge identification of writing issues such as counter-argument development, paragraph ending strategies, cohesion, lexical diversity, and readability. It is through a combination of these basic and sophisticated approaches that Auto-Peer aims to

provide students with the feedback needed to modify their papers and produce a qualitatively improved example of excellent student writing.

Using Auto-Peer

If an automated learning environment is to be used extensively and frequently then simplicity is paramount (Pass & Kester, 2006; Van Merriënboer et al., 2006). As such, Auto-Peer is designed as an optimally user-friendly *paste & click* system. Thus, for a user to receive a full Auto-Peer review, nothing more is needed than to *paste* the paper to the open Auto-Peer text window, and *click* the on-screen assessment button (see Figure 1). This ease-of-use approach allows student-writers to frequently review their papers and modify their writing where appropriate.

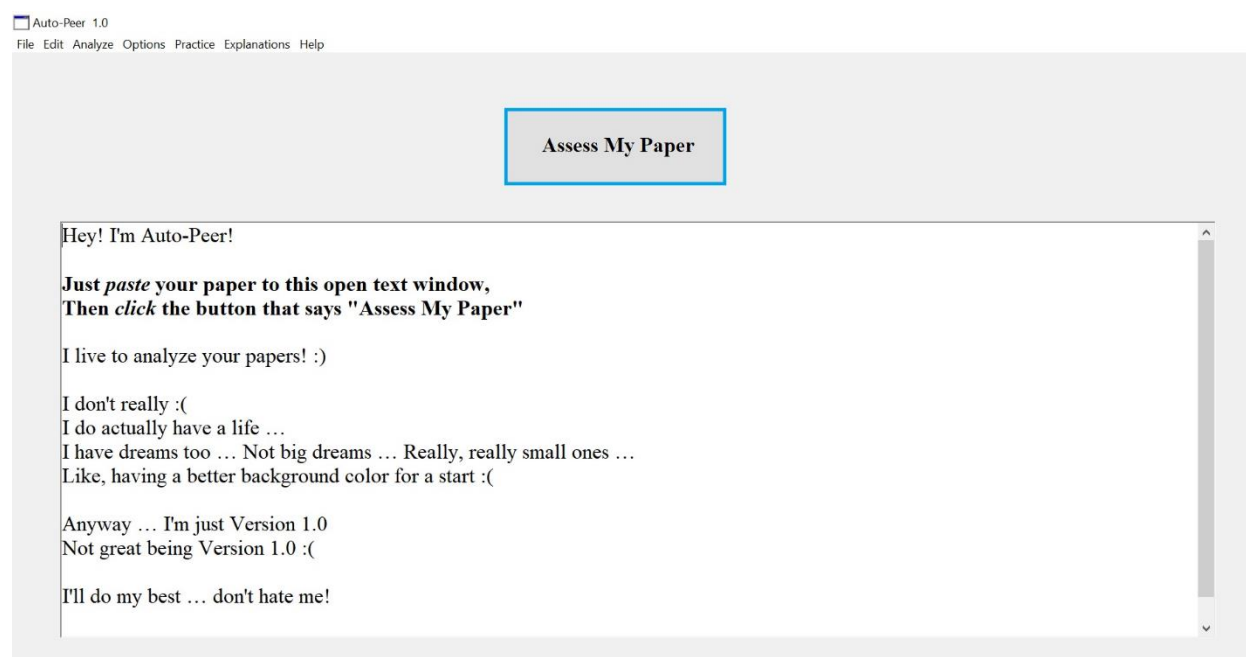


Figure 1: The Auto-Peer Interface Showing Initial Welcome Message

Most often, users will likely need no more than this over-arching *paste & click* function. However, if desired, Auto-Peer also provides a menu offering a range of further features. These options are briefly described below:

Analyze. Allows users to analyze papers for a specific writing issue rather than all issues

Options. Provides options such as whether explanations are included or excluded

Practice. Allows users access to practice material for the Auto-Peer analysis features

Help. Provides users with extensive explanations of writing issues

An Auto-Peer analysis of a student paper is virtually instantaneous, with the output automatically appearing in the on-screen window. The default analysis provides 1) an introduction to any identified writing issues, 2) all examples of the identified writing issues from the student's paper, 3) an explanation of the writing issue and how the issue can be addressed, and 4) guidance to where the student may find further practice for the writing issue. Having received the analysis, Auto-Peer requires students to either 1) modify their text, or (of equal importance), 2) justify maintaining their writing choice.

Following all identified checks, instructors can receive an Auto-Peer generated report, from which the instructor is able to see the corrected text as well as any remaining student justifications for unchanged text. If the justifications do not meet the instructor's satisfaction, then the instructor can focus directly on that specific misunderstanding. In most cases, the student is likely to have rethought and addressed the identified issues. Thus, instructors will have saved valuable time, and this time can be used to focus instructor attention on more global and idiosyncratic aspects of the paper.

Auto-Peer Feedback

A wealth of research finds that the role of instructor feedback is essential to student success (Ackerman & Gross 2010; Carless et al., 2011; Hattie & Timperley, 2007; Higgins et al., 2002; Hounsell, 2003). Indeed, some studies report that feedback may be the single-most important factor (Brown & Knight, 1994; Hattie, 1987; Hattie & Timperley, 2007). Auto-Peer may not be an actual classroom instructor, but it is still a provider of feedback; therefore, we should assume that the design of Auto-Peer feedback has the potential for significant impact.

Auto-Peer is grounded on well-researched principles of effective feedback. Although each study may differ slightly as to the kind of feedback that is emphasized, we can group the information into three overarching principles: timeliness, voice, and appropriacy. The

remainder of this section examines these three principles more closely and explains how Auto-Peer responds to their requirements.¹

First and foremost is the issue of timeliness (Anderson et al., 1995; Beaumont et al., 2011; McTighe, & O'Connor, 2005; Roediger & Marsh, 2005). Simply put, no feedback can be effective without sufficient time afforded to the student for successful implementation (Mulliner & Tucker, 2015; Weaver 2006). Indeed, late feedback responses appear to frequently result in student feelings of frustration and anger, often leading to students simply abandoning their work (Brooks et al., 2019; Gamlem & Smith, 2013). The primary cause for slow feedback response may well be that instructors often perceive that their own feedback has actually been conducted in a timely manner (Robinson et al. 2013). However, such a sentiment does not appear to be shared by students, with the issue of feedback timeliness being a frequent student complaint (HEA 2012; West & Turner, 2016; Williams & Kane 2008).

Students' desire for timely feedback would seem far from unreasonable, especially considering that the requested timeline for responses can be as generous as 10 to 15 days (Mulliner & Tucker, 2015). On this issue of timeliness then, Auto-Peer would seem to more than cover student expectations, supplying, as it does, around the clock almost instantaneous feedback. This said, there will always be issues where students need a human response; however, if Auto-Peer can accommodate many (or any) of the students' needs then, as a consequence, instructors are likely to have more time available to make the kind of human responses that are most effective.

Just as students have the reasonable expectation that instructor feedback should be timely, so too do they have the reasonable expectation that feedback should be courteous (Straub, 2000). An abundance of textbooks serves as a good guide to the voice of feedback (e.g., Bean, 2001; Gottschalk & Hjortshoj, 2004; Nilson, 2003). Works such as these remind us that feedback should be 1) suggestive, rather than authorial, 2) constructive, rather than dismissive, and 3) functional, rather than vague. These distinctions are important because student writing is unlikely to improve if the feedback is impenetrable, unconstructive, or disheartening.

¹ It is important to note that as with a great deal of technology design, core experiments have to be conducted once the software is completed and has been sufficiently stress tested by presumed users. This differs from other kinds of research design in education and L2 research studies. Therefore, examples given in this section refer to broad principles.

While we might expect humans to be polite during exchanges of information, it is less clear if this expectation extends to automated educational tools. Indeed, there is research suggesting that even a rude tutoring system may have benefits (Person et al., 2003). With regard to L2 students, we must also be careful to recognize that different students have different perceptions as to what constitutes an effective voice, and as Brooks et al. (2019) remind us, the same feedback may result in different effects depending on the cultural context, the timing, and the student (Allaei & Conner, 1990; Yu, et al., 2016). For all these reasons, we acknowledge that there may be value in providing Auto-Peer users with a *voice-choice*². Accordingly, Auto-Peer's initial and default feedback voice is polite, humble, and *peer-like*. For example, in the feedback excerpt provided below, the software addresses issues with a colloquial “hey” and “anyhoo” when making suggestions and responds informally with such phrasing as “I’m not perfect, but I think ...” and “Don’t get me wrong,” Future plans include research as to providing a variety of voices from which students may select the voice that best meets their needs.

Finally, there is the issue of appropriacy. Timely feedback that is delivered in an effective voice is only beneficial if the feedback itself is appropriate in terms of presentation and explanation (Halpern et al., 2007; Mayer, 2001). With this in mind, we emphasize here again that Auto-Peer is not an “auto-grader.” Consequently, Auto-Peer does not in any way *judge* a student paper; instead, Auto-Peer simply identifies elements of a text that have *potential* issues, supplies information on those issues, and asks student-writers themselves to be the judge.

This avoidance of judgement serves two benefits. First, it allows the tool to operate simply as a student peer: asking for confirmation of student intent rather than prescribing a final verdict. Consequently, the tool is able to highlight an abundance of *potential* but common issues, rather than potentially mislead students with programmatically dubious assessments and grades. Second, the non-judgement approach forces students to critically rethink their writing choices. Thus, the student is encouraged to either rewrite the issue or justify the issue, but what the student cannot do is *ignore* the issue. By not evaluating the text, the students themselves are forced to be their own critical evaluators, developing critical thinking skills as they do so.

This non-judgmental approach is appropriate for an automated peer-reviewing system because writing issues are often subjective. That is, Auto-Peer recognizes that different writers, and

² Not to be confused with offering suggestions for writers to develop their own authorial voice as defined by Zhao (2019).

different instructors, have differing perspectives on what is appropriate in writing. Consequently, to label anything as simply *wrong* is not only potentially counter-productive, it is also likely to be often inaccurate.

Taking these three issues of timeliness, voice, and appropriacy together, consider the opening of the *Sentence Starter* writing issue produced below (produced in full in Appendix A). In this very basic example, Auto-Peer has flagged a sentence that begins with the word *and*:

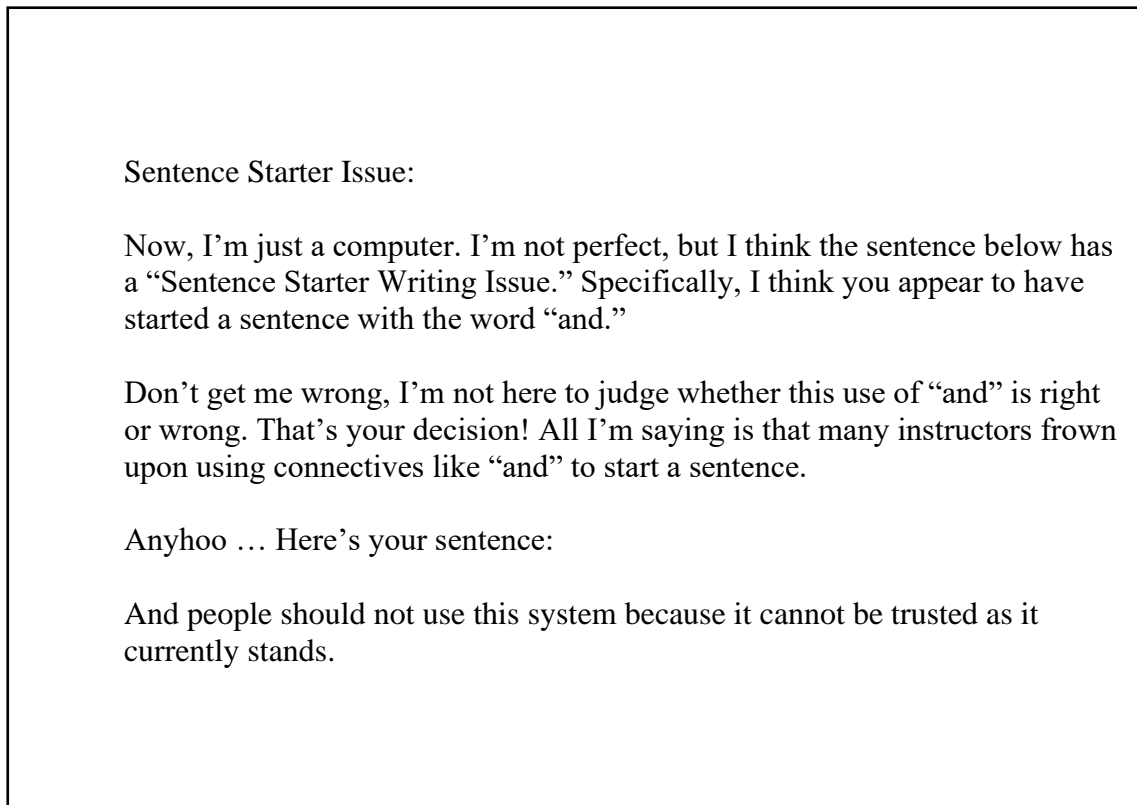


Figure 2: Sentence Starter Issue

As we see in the above example, the Auto-Peer feedback explains that the flagged sentence (i.e., starting with the word *and*) may be perfectly fine; it further explains how the word may sometimes occur in sentences, but it also explains that many instructors will frown upon such usage, especially when frequently employed. Ultimately then, it is the student writer's decision as to whether the sentence in question requires modification. *And* if not, the instructor has access to the student writer's justification of the usage, allowing the instructor to decide whether more individualized attention is necessary.

Empirical testing, along with student and instructor feedback, will ultimately decide whether Auto-Peer feedback is effective in terms of timeliness, voice, and appropriacy. It would certainly be difficult to argue that Auto-Peer is anything other than prompt in terms of timeliness; however, the voice and appropriacy presentations remain a work in progress.

Currently, our developmental focus is on appropriacy, which includes the presentation, explanation, and practice of the identified writing issues. But appropriacy also requires that Auto-Peer provides the range and depth of assessments that will facilitate improvement in student writing. For this reason, we now turn to Auto-Peer's current and developing assessments along with their associated benefits.

Auto-Peer Assessments and Benefits

Auto-Peer assesses student papers for a wide variety of writing issues. Many of these assessments have been developed (or are in development) as a result of research on identified writing issues (e.g., cohesion, topic sentences, lexical diversity), innovation through the Auto-Peer team (e.g., paragraph ending strategies, counter-argument features, paragraph structure), or requests from fellow writing instructors (e.g., colloquial language, quotation formatting, in text referencing). Each of the strands consists of numerous possible assessments, and each strand offers benefits to students and their instructors. However, not all assessments can be developed simultaneously or instantaneously. As such, the order in which algorithms are integrated into Auto-Peer results from four development considerations: *low-hanging-fruit*, *bang-for-buck*, *feed-me-now*, and *show-me-the-money*. An explanation of these considerations (along with examples, benefits, and underlying theory) follows below:

The *low-hanging-fruit* consideration addresses the ease of developing and testing the assessment. For an example, we begin with the basic assessment of writers' common issues with long sentences and paragraphs (see Hinkel, 2012; also see Wang, 2012 for a discussion of differences between L1 and L2 academic writing). Auto-Peer explains that there is nothing explicitly wrong with lengthy text. However, Auto-Peer goes on to explain that good writers *tend* to break up complex ideas into smaller pieces, linking the components of each through cohesive bonds. This practice facilitates ease of processing for the reader (McNamara, Louwerse et al., 2010). If the student follows the advice of Auto-Peer, the quality of the writing is likely to improve (Pinker, 2014).

The abovementioned lengthy text assessment is clearly beneficial, yet the algorithm for its calculation is quite simple: requiring little more than a word count and a comparison to typical sentence and paragraph lengths. Other low-hanging-fruit assessments also offer useful benefits for the cost of little computation expertise. For example, the *Fake Friends* writing issue is simply a list of words or phrases that student writers frequently use - but most instructors wish they would not. Thus, identifying phrasing such as *huge*, *talks about*, *revolves around*, and the ubiquitous *in today's society* requires very little development time or computational challenge. Identifying *colloquialisms* is an equally simple search and label operation, and even *dropped quotations* needs little more than a search for a sentence that begins and ends with quotation marks. While these assessments are simple to create, they are surprisingly effective.

The *bang-for-buck* consideration addresses the relationship between the degree to which writing quality may be improved and the effort required to develop the assessment. For example,

Auto-Peer houses a number of assessments that consider *transitionals* (e.g., *additionally*, *as a result*, *by contrast*). These transitionals are discourse markers that add the essential ingredient of cohesion to a text (McNamara et al., 2014, Pinker, 2014). By adding transitionals, the connections between sentences become much stronger. If the presence of transitionals is unusually infrequent in a text, Auto-Peer informs the student of both the potential problem of their absence and the potential usefulness of their increased inclusion. Auto-Peer informs the student that good writers *tend* to use transitionals to forewarn their readers of forthcoming information, thus increasing the ease of processing and the likelihood of comprehension.

Although transitionals are effective cohesion devices, students still may need help in knowing where, how, and why to use them. As such, Auto-Peer offers guidance tutorials with techniques such as asking plausible inter-sentential questions (referred to as “Plausible Question Contention,” McCarthy, 2004). As can be seen in the extract below, the tutorial encourages students to make questions that fit between sentences: if the subsequent sentence answers the question then the text is more likely to be cohesive. Students are informed that transitions (underlined below) are frequently employed in facilitating the answering of these questions.

A: Video games are reported to have significant impacts on the mental well-being of teenagers.

B: Can you provide supporting evidence for this claim?

A: For instance, Jones et al. (2014) found that moderate video gaming enhances teenagers' emotional stability, especially by reducing their "feelings of anger, guilt, and frustration" (p. 2).

B: Are there other studies that support the claim?

A: Additionally, Gee (2003) reports that self-esteem and better mental health is relatively high among teenagers who use video games moderately.

B: What conclusion can be drawn from this effect of video games?

A: Therefore, video games can be seen as a means of relaxation, stress reduction, and self-development for teenagers.

As always, Auto-Peer provides examples, explanations, and practice for these writing issues. If the student follows the advice of Auto-Peer, the quality of the writing is likely to improve. While bang-for-buck assessments may be more time consuming to develop and test than the *low-hanging-fruit* assessments, they are likely to cause student writers to rethink their paragraph organization, an action that many instructors would warmly welcome.

The *feed-me-now* consideration addresses issues that instructors have requested through surveying data. Requests for algorithms are important because Auto-Peer development reflects what instructors want in a system, and not just what is convenient for the Auto-Peer team to make. These requests include assessments for such issues as topic sentences, paragraph organization, quotation formatting, vague pronouns, contractions, sentence structure, punctuation, restrictive vs. non-restrictive clauses, and parallel structure.

With the above list in mind, let us consider the Auto-Peer assessment for topic sentencehood. This assessment facilitates students with both topic sentence clarity and subsequent paragraph organization. Research abounds with the importance of these issues, not least because they strengthen textual cohesion (e.g., McCarthy et al., 2008). However, writing effective topic sentences and integrating subsequent supportive sentences does not come easily to many students. One way that student writers can easily violate a desirable structure is to have a paragraph initial sentence that *explains* rather than *introduces* the paragraph topic. Note here that explanations often include words such as "*because*", and while a clause that follows the word *because* may provide important information, it is actually a fully developed subsequent

independent sentence that is more likely to be easily processed. Ironically for many student writers, the second sentence of such a paragraph is often quite short, seemingly introducing a contrasting topic. Research from a wide variety of fields suggests that such a structure may violate reader expectations, leading to potential misunderstandings and increasing cognitive load (Burgoon, 1978; Downs, 1998; Houser, 2005; Hymes, 1972; Meyer & Wijekumar, 2007; Oakhill & Cain, 2007; Williams, 2007).

From a computational perspective, the above problem is often nothing more than the first sentence of the paragraph being longer than the second sentence. Research shows that topic sentences (generally, the paragraph initial sentences) are shorter than body sentences (McCarthy et al., 2008). As such, flagging paragraph initial sentences that violate this assumption provides students with the opportunity to rethink the organization of their work. If the student acknowledges the potential issue and reworks the sentences, the quality of the writing is likely to improve.

The *show-me-the-money* consideration addresses the reality of developing any software. That is, to be successful, Auto-Peer needs to be innovative and original so that it can best help students and instructors through not only addressing what *can be done* effectively, but also by addressing what *has yet to be done* effectively. To this end, Auto-Peer development includes cutting-edge approaches for reading quality, writing quality, paragraph ending strategies, and counter-argument development. Assessments such as these are the most time consuming to develop and validate; however, if student writers are to be successful, then Auto-Peer needs to have the vision to supply the assessments and feedback that students require.

As an example, consider the issue of *reading quality*. Reading quality is largely dependent on the level of cohesion (see for example, Loxterman et al., 1994; McNamara & Kintsch, 1996; McNamara et al., 1996; Snow, 2002). In fact, the reading issues identified in most studies are likely the result of what is better described as *local* cohesion. That is, reader processing is facilitated when writers provide clear links between sentences. Such local cohesion can be achieved through a number of approaches. For example, writers can simply add a corresponding noun after the word *this*, such that sentences like “*This can be addressed with relatively simple solutions*” are likely to be more easily processed if written as “*This processing problem can be addressed with relatively simple solutions.*” A further simple solution for local cohesion is the frequency and application of transitional words such as *in addition*, *by contrast*, *for example*, and *more specifically*. However, a more sophisticated approach to local cohesion

assessment is the use of sentential overlap measures (McNamara et al., 2014). These measures assess the range of repeated vocabulary across adjacent sentences.

Writing quality may contrast with reading quality in as much as the assessment switches from *local* cohesion to *glocal*³ and *global* cohesion. That is, while *reading* quality is facilitated by the local cohesion measures described above, *writing* quality may rely more on the consistency of language deployed across larger stretches of text and/or across the text as a whole. Accordingly, glocal and global cohesion measures calculate a wider distribution of the writer's vocabulary range, leading to an assessment that speaks more to the writer's skills with content and language rather than to the reader's desire for ease of sequential processing. For example, McNamara, Crossley et al., (2010) found that measures of lexical diversity⁴ were more effective than local cohesion measures in identifying writing quality.

As instructors know well, it is advantageous for students to be aware of both the reading quality and the writing quality of their papers. Moreover, students and instructors alike may well be unaware that reading quality and writing quality are distinct features. However, reading quality speaks more to ease of processing whereas writing quality may speak more to the range of content, meaning that both assessments are useful in any review.

Although both reading and writing quality have a rich empirical history to guide Auto-Peer development, other writing issues require new data and new approaches. For example, crafting effective *paragraph ending sentences* (PES) are an important feature of writing as they wrap up the importance of a paragraph in much the same way that a topic sentence sets the forthcoming scene. However, despite the functional usefulness of PES, they have received very little attention in the literature when compared to their topic sentence counterparts (see Harvey 2013, Weaver et al., 2016). Meanwhile, although some attention has been given to the feature of *counter-argument development*, the effective integration of such language is rare for student writers (Kuteeva, 2011; Pessoa et al. 2017). While all student writers can struggle with language features such as these, they are particularly challenging for EAP writers (Hirvela, 2017; Johns, 1993), and so the Auto-Peer project includes assessments and feedback that directly address these issues (Kaddoura et al., 2020; Thomas et al. 2020).

³ *Glocal* is an intermediate stage between local and global.

⁴ Lexical Diversity is a measure of the degree to which words are repeated across an extend piece of text rather than simply restated in adjoining sentences.

The inclusion of *show-me-the-money* assessments will remain on-going in Auto-Peer development. And while many of the developments will certainly be applicable for all student writers, the focus remains highest for writing issues that affect L2 students. It is presumably through these kinds of innovative assessments and subsequent feedback that a review system is likely to facilitate students' modification of their papers, presumably leading to a better product, higher grades, and more instructor time for nuanced issues.

Psychological Considerations

It is important to emphasize that the Auto-Peer design is consistent with extensive research produced by the field of cognitive psychology. Thus, the Auto-Peer design includes research on 'human factors' of educational issues as they apply to learning principles, teaching environments, and automated software (Halpern et al., 2007). Below, we offer a brief explanation of some of the research that has guided Auto-peer design, particularly where this research applies directly or indirectly to the aforementioned Auto-Peer interface, operationalization, feedback, and assessments.

Beginning with the interface and operationalization, Auto-Peer follows the segmentation principle (Mayer & Moreno, 2003). That is, although Auto-Peer offers multiple features, all newly presented concepts are introduced in manageable segments rather than cluttering the interface with gadgetry. Thus, higher-level features are made available as discrete items through the menu option. Such a design reduces cognitive load and allows users to make best use of the system, only exploring analysis options as and when comfortable.

With reference to feedback and assessments, the Auto-Peer design acknowledges that fast, frequent, and appropriate analysis is beneficial, but questions whether it is sufficient. That is, the Auto-Peer design appreciates that system responses should not simply be a collection of graded or corrected text. Instead, the Auto-Peer findings should allow students themselves to distinguish what is correct from what needs to be corrected (Halpern et al., 2007; Pahler et al., 2005). It is therefore the student's responsibility to generate modified text, which, as a result, facilitates learning (Butler & Roediger, 2007; McDaniel et al. 2007). Although these textual modifications may be time consuming and even stressful for the students, research suggests that learning is enhanced when learners are compelled to reorganize their work, and that this learning is subsequently better remembered and more readily accessed (Bereiter & Scardamalia, 1985; Bjork, 1999).

Although student modifications to the text are useful, students do not have to assume the existing text has problems: the student also has the opportunity to simply explain why the text is fine as it is. In such cases, the *explanation effect* becomes relevant. That is, the act of justifying writing choices facilitates deeper comprehension, learning, and memory. These justifications promote deeper learning of the complex organization of any text, including causal and functional relations, links between claims and evidence, and the logical reasoning necessary to maintain a persuasive paper (Ainsworth & Loizou, 2003; Beck et al., 1997; Chi et al., 1994; Magliano et al., 1999).

Student justification for maintaining any Auto-Peer flagged example also provides opportunities for *cognitive disequilibrium* resolution (Kibler, 2011). Cognitive disequilibrium occurs when a new piece of information cannot easily be integrated into existing schema, meaning that new schema development is required. The positive effects of resolving cognitive disequilibrium include stimulating inquiry and formulating deep questions. Consequently, deeper learning (i.e., the development of productive cognitive practices and higher-order thinking skills) is likely to prevail as the student is compelled to engage in reasoning, thinking, and problem solving so as to restore the desirable effect of cognitive equilibrium (Chinn & Brewer, 1993; Graesser & Olde, 2003; Graesser et al., 2005).

Future Developments

Innovative and advanced computational software directly focused on the needs of L2 writing students are as necessary as they are frustratingly rare. Ironically, one reason for their rarity is ESP/EAP researchers are quite reasonably unused to the stages of development for the software and the necessity of having a viable product prior to any meaningful efficacy testing. The current paper, therefore, is a ‘proof of concept’ (see MacPherson, 2018), demonstrating the viability of the tool, its theoretical underpinnings, and above all else, its potential benefits. It is only the establishment of these foundations that allow for the more traditional validation studies that determine effectiveness and guide future development. Thus, while initial anecdotal responses to the first instantiation of Auto-Peer assessments and feedback have been positive, we recognize that Auto-Peer requires substantial future experimental evidence. To this end, the Auto-Peer project seeks to primarily address four questions: 1) Does Auto-Peer lead to a more qualitatively improved writing product than real-time student peer-reviewing? 2) Does Auto-Peer result in greater text revision than real-time student peer-reviewing? 3) Does Auto-Peer

reduce time-on-task for instructor grading and feedback? And 4) Does Auto-Peer lead to qualitatively improved instructor feedback?

In order for the primary questions to be addressed, Auto-Peer requires substantial further development. Accordingly, the most obvious future developments involve the integration of further writing analysis algorithms for assessments. Many of these algorithms are relatively simple, so their implementation is likely to occur in the near-term. Other developments are more likely to be mid- to long-term as they will likely require corpus analyses, experimentation, and computational models developed through machine learning. These latter developments will likely also require consultation with instructors who have specific expertise and interests.

Assessments are a critical feature of Auto-Peer; however, the assessments are only a feature of the greater goal of learning. For this reason, attention also needs to be devoted to expanding and developing explanations and practice material. It should be noted here that these explanations include Auto-Peer material but they also include student generated explanations. Similarly, practice material can include but must not merely be a collection of multiple-choice exercises. Research on the importance of such features is extensive (e.g., Ainsworth, & Loizou, 2003; Dempster, 1997; Graesser & McMahan, 1993; Magliano et al., 1999; Roediger & Karpicke, 2006; Wheeler & Roediger, 1992), and careful integration needs to be applied for optimal student learning opportunities.

The developments described above are important; however, the collection and application of feedback from stakeholders (i.e., students, instructors, and/or administrators) is also critical to the system's development. For example, the Auto-Peer project needs to conduct research to 1) assess students' perceptions on the viability/use of the tool as a technological and pedagogical intervention, 2) develop a fuller understanding of learners' preferences for feedback, 3) modify where necessary the Auto-Peer interface for ease of use, and 4) understand teachers' classroom use/instruction using Auto-Peer and related technology. Feedback from stakeholders is vital because the efficacy of a system depends as much on its computational accuracy as it does on its perceived accessibility, and the accessibility of the system is ultimately determined by users rather than software designers.

Conclusions

Auto-Peer has the potential to offer lasting and meaningful benefits to all stakeholders of the writing process, and particularly to those in the fields of ESP/EAP. The project stands to

provide teachers and instructors across many departments with an effective approach to improving student-writing through automated feedback and emergent, targeted instructor intervention. The technology is adaptable, extendable, and transferable - suggesting that the approach may provide outcomes in any area in which the writing of information has importance (e.g., reports, emails, narratives, instructional documents, job applications).

Taken as a whole, the Auto-Peer project presents an abundance of opportunities. First, for students, there is the opportunity of on-demand peer-reviewing towards the goal of excellence in writing. Second, for instructors, endless hours of repetitive commentary can be avoided, allowing for far greater student/instructor interaction. Third, for researchers, the tool presents opportunities for a wide array of studies of peer-reviewing methods and techniques. Fourth, for curriculum and material designers, the tool presents as many opportunities to save valuable time as it does opportunities to increase technological awareness.

Finally, critically, and emphatically, it is *not* the goal of Auto-Peer to replace the real-time student peer-review process. Indeed, it is not the goal of Auto-Peer to replace Microsoft Word's spellcheck, to compete with Grammarly, or to render instructor office hours redundant. To be clear, any and every arrow in the student and instructor quiver should be available, should be embraced, and should be employed. Good writing takes a village, and Auto-Peer is just one more market stall, catering to its residents (albeit a free stall, and one that is open 24/7).

Empirical research has established the effectiveness of *real-time* student peer-reviewing. The Auto-Peer project seeks to further this development through making peer-reviewing available endlessly, accurately, effectively, privately, and painlessly. The success of Auto-Peer is a subject for future studies involving focus interviews with both teachers and instructors on the perceived effectiveness and use of Auto-Peer in the classroom, and also textual comparison of students' revisions after using the program; however, through this paper, the purpose, the design, and the goals of Auto-Peer are now available to *our* peers for *their* feedback.

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Appendix A

Example of Auto-Peer assessment and output for the 'Sentence Starter' writing issue

Sentence Starter Issue:

Now, I'm just a computer. I'm not perfect, but I think the sentence below has a "Sentence Starter Writing Issue." Specifically, I think you appear to have started a sentence with the word "and."

Don't get me wrong, I'm not here to judge whether this use of "and" is right or wrong. That's your decision! All I'm saying is that many instructors frown upon using connectives like "and" to start a sentence.

Anyhoo ... Here's your sentence:

And people should not use this system because it cannot be trusted as it currently stands.

Explanation:

You see, (and in all honesty, I'm just reading this from my programming) many instructors argue that "and" serves the function of joining independent clauses (which basically just means "making two shorter sentences into one larger sentence.")

For example, look at the sentence below:

We have all tried to lose weight by exercising, *and* many of us have succeeded in reaching our goal.

Do you see how "and" joins two independent clauses? It's like this ...

1) We have all tried to lose weight by exercising

AND

2) many of us have succeeded in reaching our goal.

Now, here's the question. Is your 'and' sentence 'wrong'?

Well, I honestly don't know.

All I can really tell you is what my engineers told me.

They told me that the more cases of 'and,' 'but,' and 'so' that you have, the more likely it is that ... eh ... there's a problem ☹

Oh, and I have to tell you one more thing too. The word 'and' can get really tricky because sometimes you need a comma before the word 'and,' and sometimes you don't ☹

Yeah ... sorry about that ☹

So, if you'd like more practice or further explanation on this writing issue, then please go to the main menu on Auto-Peer and click Help (for explanations) or Practice (for practice exercises).

And if none of this helped - then please go see your instructor - or maybe there's a writing center that can help. And also feel free to write to my engineers and tell them what a lousy job I did ☹



L2 Learners' Perceptions of a Comic Strip in an ESP Classroom

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Biodata

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Abstract

This article reports on the results of a qualitative interpretive pilot study investigating the role of comic strips on tertiary ESP learners' motivation and discipline-specific language learning. The participants were 10 third-year students enrolled in two discipline-specific English courses at a university in Hong Kong. The results show that integrating multimodality through comic strips helped to transform the traditional delivery of instruction and also motivated and facilitated learners' understanding of discipline-specific concepts and vocabulary. Participants also indicated that technology contributed to more student agency and fostered language creativity as they expended more effort in their learning. The findings suggest the need for ESP teachers to explore technology and integrate creativity and multimodality in the delivery of discipline-specific course content.

Keywords: Comic Strips; Discipline-Specific, ESP; Hong Kong; L2; Learners; Motivation; Tertiary; Technology; Perception

Introduction

In the field of English for Specific Purposes (hereafter described as “ESP”), it is widely agreed that course design and teaching should always be based on learners’ needs (Woodrow, 2018). Specifically, such forms of learning should emphasise – and factor in – each learner’s specialization by preparing and disseminating discipline-specific content, promoting the development of skills that pertain to learners’ particular workplace settings (Hyland, 2012). As such, ESP courses attempt to address learners’ specific needs and interests by “tailoring instruction to specific rather than general learning purposes” (Hyland & Hamp-Lyons, 2002, p. 2). Learners are, thus, able to transfer the knowledge and skills that they have acquired and developed as a result of undertaking such studies to their current and future workplace settings (Hutchinson & Waters, 1987). The adoption of such an approach would suggest that ESP students may well be more motivated than students who embark on English for General Purposes (“EGP”) programmes; for the former, their course content is structured according to their specific needs. However, ESP still faces its own pedagogical challenges in terms of how to present the target languages in motivating ways so that learners will be engaged in their classes.

In today’s tertiary education sector, multimodal texts – including images, graphs, drawings, and photographs – have become prevalent components of students’ assignments (Molle & Prior, 2008; Parkinson, 2019). Hafner and Miller (2018) suggest that introducing multimodal forms of teaching resources to ESP programmes serves to prepare learners for authentic scenarios of discipline-specific communication. Students live and work in a world that is rich in multimodal resources; ESP teachers should, as such, take advantage of the cultural climate by incorporating visual aids – and providing relevant contextual information about them – into their teaching so as to help learners. Comic strips constitute just one form of visualisation that can communicate discipline-specific meanings. By combining just a few words and images, comic strips can capture a student’s attention and, thus, increase their levels of motivation and their interest in learning (Schwartz & Rubinistein-Avila, 2006; Williams & Williams, 2011). Furthermore, by incorporating the consideration of comic strips into our teaching, we promote student-centred teaching and allow learners to embrace their own creativity while using multimodal resources in the ESP classroom (Parkinson, 2019). Discipline-specific teaching – that incorporates the use of visual components – should be considered to be an integral part of ESP courses.

In this study, I aim to provide insights – from the perspective of an ESP teacher – into the impact and effective implementation of comic strips as a pedagogical tool in a discipline-specific course at a university in Hong Kong. In particular, I explore the ways in which such resources can aid students to better comprehend useful discipline-specific concepts and vocabularies in realistic contexts. By utilising teaching materials that incorporate visual elements rather than solely relying on textual and literary forms, learners may perceive the content as being easier to learn. This may, in turn, improve their attentiveness, thereby leading to improved learning performance. In this interpretive study, I have undertaken my research process within the framework of a broad research question:

RQ: Which elements of comics strips do students in the tertiary education sector find to be the most motivational and effective in assisting them in the acquisition of knowledge throughout their ESP course?

My analysis of the findings can provide ESP practitioners and researchers with useful information on how to incorporate new forms of multimodal teaching in their pedagogical practices which will, in doing so, serve to engage and motivate today's multimodal learners.

Literature Review

As a result of globalization, English has become the predominant *lingua franca* in the workplace (Crystal, 2003). Learners enrol on ESP courses for particular reasons (Viana, Bocorny, & Sarmento, 2018). These reasons often relate to one of two main interests: one's profession or one's academic studies (Dudley-Evans, 2001). ESP courses focus on that which L2 learners need to know in order to be able to communicate effectively in professional contexts; specifically, students are taught about the register, lexis, grammar, discourse, and genre of key phrases and texts (Dudley-Evans & St. John, 1998). Teachers place a strong emphasis upon learners being able to communicate effectively in the context of their individual disciplines; less emphasis is placed upon mastering field-specific vocabulary (Smoak, 2003). L2 students are, however, still expected to have a sound understanding of specialised discourse so that they may succeed in their course and in their workplace (Hyland & Tse, 2007; Woodward-Kron, 2008).

Pedagogically, in the classroom, a symbiotic relationship exists between teachers and learners; they complement each other. The former are language specialists whereas the latter often have considerable knowledge of a particular professional field. A productive partnership forms

between teacher and learner inside the ESP classroom as both parties work hard to close the information gap between them and, in the process of doing so, increasingly strengthen the quality of the communication between them (Viana et al., 2018). In the context of ESP programmes, teachers are particularly eager to use authentic materials in their classes and to set tasks which engage with learners' real-life work situations (Li, 2018). Therefore, an essential pedagogical component of ESP teaching is that teachers conduct a "needs analysis" of their learners prior to the commencement of the course and before creating or, if necessary, adapting materials to reflect the specific learner needs that have been identified (Belcher, 2004). It is important to do so if one hopes to provide realistic material to learners that will interest and motivate them.

ESP Learner Motivation

The motivating factors that drive English language learners in their studies have been explored widely in existing scholarship. Gardner and Lambert (1972) proposed the notion of "integrative motivation": a term that describes L2 learners' feelings of motivation with regard to developing their language skills so that they can participate in – and contribute effectively to – the L2 community. Another key concept was introduced by Dörnyei (1990): the idea that L2 learners become motivated to undertake their studies when they do so specifically to gain something. Such benefits could be, for example, financial rewards or better employment opportunities. Both strategies can be considered as being appropriate for and effective in increasing learners' levels of motivation and sustaining their goal-oriented behaviours (Guilloteaux & Dörnyei, 2008).

While few studies into motivational factors have, to date, focused on ESP students, several researchers have explored the field in greater detail. Cerqueira's and Badger's (2015) study of Brazilian learners aligns with Gardner's (1985) finding that students who maintain a positive attitude towards the English-speaking community are typically more motivated to learn. Correspondingly, Komiyama (2013) discovered that learners' extrinsic motivations contributed to their learning. In Huang's (2006) research into learners' levels of engagement with textual study, language difficulty was shown to be a major factor that influenced learners' levels of motivation. Indeed, Huang's study indicated that texts which included illustrations – and highlighted accessible vocabulary and grammar – served to increase students' levels of motivation. In light of these findings, it is essential to conduct further, detailed investigations into how visual elements could motivate ESP learners and enhance the quality of their learning.

ESP and Technology

In English language teaching today, technology is an integral part of the delivery of learning and teaching (Healey, 2018). As such, technology has impacted all areas of ESP teaching. Previous studies have proven the benefits of integrating technology into the process of second language acquisition (Cardenas-Claros & Oyanedel, 2015; Chappelle & Sauro, 2017). Technology provides ESP teachers with numerous tools with which they can address the specific needs of their learners. Specifically, technological tools and devices afford learners with the means to participate in professional virtual communities and to access up-to-date information that is relevant to their disciplines; teachers, meanwhile, are able to create suitable materials and to provide appropriate environments in which language learning may take place (Arnó-Macià, 2012). ESP teachers must carefully consider the forms of technology that they adopt to optimise the quality of their teaching. Moreover, teachers need to decide which types of writing or printed material are best supported by technology as well as thinking about how different forms of technology may be used most effectively in educational contexts (Chappelle & Sauro, 2017). Such decisions must, of course, be made in accordance with the needs of the specific learners with whom the teacher is working. Technology has the potential to be an invaluable component of ESP courses in that it can enrich learners' experiences and facilitate authentic language usage so that learners can experience – rather than simply acquiring – the language in a particular context (Li, 2018).

Among the key benefits of using technology is the educational autonomy and ownership with which it provides learners. Previous studies have established that learners should positively participate in learning activities by choosing content themselves, evaluating their own progress, and honing their knowledge and skills by taking responsibility for their own learning process (Nunan 1997). This model for self-directed learning is an integral component of ESP courses (Carter, 1983). Digital learning environments offer valuable educational opportunities to learners through which they may engage in language learning by undertaking context-rich, authentic tasks – that offer many visual aids – in the target language.

Visuals and Comic Strips

English language teaching materials tend to incorporate visually-rich components such as photos, cartoons, and charts in order to make the content more appealing and to activate learners' individual schemata (Kiss & Weninger, 2017; Mitsikopoulou, 2015). Comic strips

provide effective means of and opportunities for bringing authentic examples of the target language into the classroom (Kohnke, 2019). Studies that illustrate the ways in which comic strips can increase learners' levels of interest and motivation (Schwartz & Rubinistein-Avila, 2006) have been of particular interest to me in the context of this research. Likewise, this study has especially been keen to consider scholarship that shows how such resources may encourage learners to become more skilled at critically engaging with texts that examine complex concepts: both in terms of analysing texts and in producing their own (Khan, 2019; Morrison, Bryan, & Chilcoat, 2002). A comic strip is a useful yet simple visual medium; it consists of words, phrases, and short sentences for the purposes of telling a story. The expressive potential of comic strips lies in their authors' skilful utilisation of both words and images to create realistic situations. Visual aids in the classroom are vital resources that serve to connect ESP learners with discipline-specific vocabulary and contexts. Despite visual aids constituting a significant component of language teaching, little research has been undertaken hitherto to examine the ways in which learners engage with comic strips. As noted by Tomlinson (2012), "There seems to be very little published on what teachers and learners actually do with materials in the classroom" (p. 156). Therefore, more research is needed so that we can investigate the extent to which learners' levels engagement and motivation are affected when online comic strips are integrated into the course design of ESP programmes.

Methodology

In undertaking this pilot study, I have investigated learners' perceptions of the benefits of incorporating comic strips into the course design of two ESP courses at a university in Hong Kong. This study is emergent in nature. I have adopted a qualitative research design in undertaking this research. I have conducted semi-structured interviews within an interpretive paradigm to gain a rich and complete understanding of participants' experiences of their programmes (Geertz, 1973). In line with interpretivist research, I have outlined the context and description below, and each reader will decide the relevance and value to his or her own context (Guba & Lincoln, 1989; Merriam & Tisdell, 2016). To convey the content of participants' responses as accurately and effectively as possible, I present a thematic analysis in this paper.

Pixton: Comic Strip Maker

I have used *Pixton* (www.pixton.com) for the purposes of this study. I define a "comic strip" as being a series of pictures – which are presented inside boxes – that tell a story. With regard

to the learners whom I interviewed for this study, *Pixton* helped them to improve their understanding of discipline-specific vocabulary and concepts. The website comes with pre-made templates and characters, thereby making the visual material relatively easy to navigate. As such, *Pixton* exemplifies the ways in which comic strips can be customized for learners – who are at different levels and are of varied abilities – within a single classroom. Neither teachers nor students need to possess any particular pedagogical skills in order to optimise their use of *Pixton*'s comic strips for educational purposes. I deemed the software to be suitable for the objectives of the study due to its simplicity and adaptability. A teacher can develop several frames (e.g., single panel/drawing) by using the free version of the software. As the study used *Pixton* throughout the semester a paid licence was acquired.

Course Content and Procedure

I introduced comic strips in the very first week of the “English for Digital Media” and “English for Interactive Media” courses at the university in order to help students to be able to understand new concepts and to promote their use of the target language through student-centred work (e.g. student discovery, group discussion, role-play). Each week, I used comic strips to explain and expand on various concepts and as key components of our activities in class. Activities included: jigsaws; grammar and vocabulary cloze exercise; adding panels; adding dialogue bubbles (target vocabulary, phrases); and re-telling comic strip segments by supplying alternative endings so as to encourage a more creative and learner-centred environment. These activities helped the students to develop and to practice their use of the target language. I also asked students to create their own comics, working both in pairs and individually, by way of demonstrating their levels of understanding of discipline-specific concepts such as creative strategy and treatments. I then posted these comic strips on our course learning management platform so as to illustrate students' levels of understanding of specific concepts as well as the target language more broadly. Moreover, at the end of each week, I created a two- or three-frame comic strip to reinforce and consolidate the learners' knowledge of the key concepts that we had already discussed in class. From my perspective as a teacher, comics strips provided productive means and opportunities to bring authentic instances of the target language into the classroom.

Research Participants in the Pilot Study

Ten participants volunteered to take part in this study: five males and five females. All the participants were enrolled in two discipline-specific courses, and all were in their third year of undergraduate study. Their ages ranged from 20-21 years old. The participants were culturally and linguistically homogenous; Chinese was their L1 and English was their L2. All the participants had previously completed an English for Academic Purposes course during the first year of their university studies. In formulating my sampling strategy, I included both purposeful and convenience elements involving information-rich cases (Merriam & Tisdell, 2016; Patton, 2002). All the students who were enrolled in the two courses were invited to participate in the study; as a teacher of one of the courses, I had already taught a few of the participants. To ensure that all the participants understood the purpose of the study, how the data I collected from them would be used, and their right to withdraw at any time, I explained all of the information to them verbally before asking them to sign consent forms. All the participants were assured that their names and answers would be kept secret; I then assigned them pseudonyms to protect their anonymity.

Data Collection and Analysis

Each participant took part in a semi-structured interview. The interviews ranged from approximately 34-51 minutes in duration; I recorded each of them and transcribed the content afterwards. I prepared an interview guide in advance of conducting the interviews to ensure that I requested and collected exactly the same information from each participant (Kvale, 2006). In asking my interview questions, I sought to explore the following topics: how learners had found their experiences of reading comic strips throughout the course; how useful learners had found the use of comic strips in helping them to understand course content; what learners had found the most interesting aspects of using comic strips throughout the course. My aim in doing so was to generate “a thicker and richer narrative of [participants’] experience” (Hostetler, 2005, p. 17) and their perceptions of comic strips, and how these perceptions had been used to facilitate learning in their discipline-specific courses.

I asked the participants to perform two member checks. Firstly, I provided all participants with a copy of their transcripts and asked them to verify whether or not the transcripts accurately reflected their experiences. Then, I coded the transcripts and categorized them manually in accordance with the six steps that Braun and Clark (2006) recommended for thematic analysis.

A key strength of this approach is its flexibility (Reicher & Taylor, 2005); the analysis is guided by the key ideas and perspectives of the researcher (Gibbs, 2007; Kelle, 1997) which helps to generate a rich, complete, and complex account of the data. Finally, I presented the participants with a final draft of my thematic analysis and quotations from my interviews with them so that they would have an opportunity to verify that the information that is presented in this report accurately reflects their experiences. None of the participants suggested any additions or revisions in either of the member checks.

Results and Discussion

I have organised my findings in accordance with the guiding research question. Each italicised heading introduces a theme that consists of discussions of, and answers to, the question. In the data that I have presented below, I have introduced the participants' responses to the interview questions as direct *verbatim* quotations in order to illustrate the participants' experiences of using comic strips as accurately as possible, enabling them to give their own, rich accounts of their programmes.

RQ: Which elements of comics strips do students in the tertiary education sector find to be the most motivational and effective in assisting them in the acquisition of knowledge throughout their ESP course?

Breaking Down Complex Concepts

This response was a common one among participants. Indeed, it appeared in all the interviews, as participants perceived this as a key benefit of using comics for educational purposes. Although the use of comic strips may initially seem somewhat juvenile for pedagogical purposes at the tertiary level of education, as expressed by Julie: “I’m 20 years old and attending university.” Like Julie, Zoe was at first was also hesitant in using comic strips, which she though oversimplified concepts and made learning rather superficial:

We are only learning some words or phrases in the comic strips. What about the big picture? I can’t see how it will help us.

This comment highlights that some may initially consider incorporating comic strips unfitting for tertiary students, and that not all students will see the benefits in the learning process.

However, most participants asserted that comic strips presented and broke down complex ideas in a simple, effective and comprehensible manner:

The speech bubbles really helped me to understand the creative strategy, especially when the first character asked a question and then his friend answered. Actually, this is all the information I needed, and I understood how to complete the task. (Jessica)

Normally, we have to read a passage and I would have trouble to follow [*sic*], I would talk to my classmates afterward[s]. But the comic strips make it ... so simple, and all the main points are right there. I knew what I should be doing. (Ken)

Comic strips present visual language with both simplification and exaggeration. Concepts are deconstructed and simplified through the economy of expression that defines the comic strip as a form (Morrison, Bryan, & Chilcoat, 2002). However, most students consider that this aspect of comics greatly helps them to undertake and complete tasks throughout the course. Since an inadequate understanding of key concepts can lead to a learner's inability to carry out a task – thus diminishing his or her learning progress (Nunan, 1997) – it is crucial that the chosen comic strip represents the “one thing” that students should understand as a result of completing a topic. The following excerpt illustrates the specific ways in which students benefited from the use of comic strips:

First, I was really hesitant, I mean, this seems a little bit childish, and I didn't believe [that] they [comic strips] could provide me with enough information. But, after a while, I really started to understand the concept [that] our teacher introduced quicker [*sic*], especially [as] the pre- and post-class comics made me more willing to actually complete the tasks. It didn't seem so boring! (Tom)

Others reiterated this point in their interviews with me. Thus, comic strips were eventually seen as beneficial in the ESP classroom, bridging the gap between learner needs – in terms of functional understanding – and the theoretical needs of the teacher. The interactive nature and, perhaps, the ostensibly more informal, relaxed register of comics brought learning to life. As Tom mentioned, comic strips transformed students from passive reluctant learners into active co-creators.

Visual Elements Are Engaging and Fun

Seven interviewees reported that they found the dialogue balloons in comic strips more fun and engaging than traditional paragraphs and teacher-led or written instructions. This is a very pertinent finding, as these students are naturally visual learners and they tend to be unmotivated to complete reading tasks; breaking down complex concepts in this way while making learning more engaging and fun will lead to better learning outcomes (Williams & Williams, 2015). Daisy, Sue, and Ben offered the following comments on this subject:

It is so much more fun reading comic strips than boring academic texts. I feel I can understand the concept easier. I feel I don't have to keep pushing myself as hard, but I still accomplish the goal our teacher set for us. (Daisy)

Yes, I actually enjoyed the classes more! The pictures [comics] showed how something actually worked, what language we should use, and it made it all [seem] so easy. (Sue)

I felt it like a step-by-step approach, first this comic, then the next one and, finally, I got it. Instead of getting everything at once, here it was presented as a visual process, broken down with the key ideas illustrated. (Ben)

As these quotations illustrate, certain elements of comics – such as the “fun factor” – can aid and motivate learners and, in this context, they were certainly conducive to effective learning practices (Cary, 2004). Comics were particularly useful for Ken, who enjoyed reading and reviewing the comics before and after his lessons respectively. This correlates with Krashen's (1982) input hypothesis that if students are engaged in their reading, they are more likely to perform well. Other participants reiterated this point: that comics break complex concepts down into manageable, bite-sized learning chunks. Previous studies have also found that comic strips have an innate power to motivate students to read, learn and engage with texts (Carter, 2009; Norton, 2003).

Positive Attitudes Toward English

Key skills that learners should gain and develop throughout the process of embarking on ESP courses include their motivation to learn the language, being able to communicate using discipline-specific vocabulary, and developing the confidence to participate in the community

(Li & Gong, 2019; Woodrow, 2018). While conducting this study, I found that the simplicity of the comic medium undoubtedly made students more confident and eager to contribute to discussions – both inside and outside their classes. Michael commented that, as a result of learning with comics, he felt more secure and relaxed about using discipline-related words accurately while communicating both in class and during professional internships. He stated:

Having seen how the word could be used in a simple conversation, I realized it doesn't have to be so complicated. Actually, as long as I can use the word, I don't have to make it sound super academic.

Other interviewees agreed that comic strips provided an instrumental source of motivation. Though, one participant, Tom, was not confident that the skills he had acquired through the comic-based learning would help her to obtain better employment opportunities. However, most students disagreed with this notion, as stated by Julie: “the illustrations and simple vocabulary and grammar make me more confident to speak to potential clients”.

Thus, generally, comic strips enabled students to feel a stronger sense of belonging within the L2 community (Gardner & Lambert, 1972) as well as encouraging them to be more confident in seeking and securing future occupational rewards (Dörnyei, 1990). As these quotations suggest, having opportunities to encounter complex concepts and challenging words through plain English – with the support of visual aids – enhanced learners' levels of motivation and increased their willingness to participate in the discourse among members of their professional communities. The use of the aforementioned technology facilitated the delivery of key knowledge to the students and transformed their learning opportunities from seemingly complicated ones into simple, active forms of learning.

Technology as a Tool

The findings of this study show that students enjoyed the experience of using *Pixton* to create comic strips to illustrate their understanding of concepts. As previous studies have shown, technology provides ESP students with important tools with which they may facilitate their acquisition of linguistic and content-specific knowledge (Macaro, Handley, & Walter, 2012). The interviewees mentioned that, by being able to illustrate discipline-specific content in frames with visual aids, they were better able to show their understanding of the course's learning objectives. Adam and Zoe remarked:

Instead of writing a short paragraph on “treatment” for my storyline, I could instead create a four-frame comic strip, explaining it in a visual manner. (Adam)

This is more helpful in learning how to present specific information. We learn how to be more precise and present our ideas with few words using technology. (Zoe)

Other learners made similar comments, noting that the use of technology was an integral part of their learning and it facilitated discipline-specific vocabulary acquisition. Additionally, Jessica thought that using comics was “enjoyable and helped [me to] recall specific words and concepts better than traditional materials”. Integrating technology as a multimodal tool in the ESP course was something all participants found helpful. These findings echo previous studies that have found that technology is a vital component of contemporary English language teaching (Healay, 2018). The integration of technology and multimodality in ESP teaching and learning means that concepts, thoughts and ideas can be conveyed to learners through interactive visuals (Li, 2014).

Technology as a Space for Communication

Technology is constantly changing and evolving. Today, it is a communicative tool that allows learners to collaborate and facilitates the acquisition of discipline-specific knowledge (Li, 2018). While I was conducting this study, it became clear to me that the interviewees preferred to create comic strips as a follow-up activity to explain a new concept introduced in class or as a response to the comic strips their classmates had produced. As Michael explained:

When I see my classmates posting one or two frames on Blackboard, instead of just replying with a sentence, I can create my own response using a comic with fun colours, speech bubbles and expressions. It really shows more what I think, and I also think everyone likes it more.

Another participant, Tom, expanded on this point:

I can access the comic strips on Blackboard multiple times at my own pace. I can think about what I really feel and take time to create something which shows my ideas. I don’t mind the extra work.

As the two quotations above illustrate, learners feel motivated to engage in self-directed learning when they have the freedom, opportunity and resources to produce responses that demonstrate their level of understanding as well as their feelings. This correlates with previous studies in ESP and learner motivation (Hamzaoui-Elachachi & Graia, 2014) and university culture in Hong Kong (Lau, 2018). Moreover, as Michael and Tom highlighted, technology allows students to have more agency – to feel that they have more control – and this has the effect of engaging and motivating students, fostering creativity in their learning.

Conclusion and Implications

In this small pilot study, I have explored the potential impact of using comic strips as pedagogical tools in discipline-specific courses by reporting participants' perceptions of comic strips and the ways they affect learners' levels of motivation. The findings of this study revealed a positive effect on the levels of motivation and self-directed learning amongst 10 L2 tertiary students at a university in Hong Kong. The use of comic strips contributed to the creation of an environment that was conducive to learning. In spite of their initial hesitancy, participants found that the strategy of incorporating comic strips into learning served to motivate them and facilitated their understanding of complex concepts through a simple medium. Moreover, the results illustrate that well-designed comic strips may increase the willingness of learners actively to participate in and take responsibility for their learning, leading to improved learning performance. This study enhances the broader knowledge among educators of how a simple comic strip – a visual connection between images and discipline-specific vocabulary – can be presented in a practical way to connect students' concrete and abstract thinking.

Another important implication of these findings is the clear need for multimodality in the presentation of materials to ESP learners. Teachers should take into account which type of visual aid works better for an individual learner's level of proficiency. The goal of ESP courses should be to address learners' specific needs and interests. Rather than forcing students to read long paragraphs of text, comic strips can transform the presentation of a text's critical information from a literary form to a more visually memorable form. Rather than being driven by traditional learning materials, multimodality is a new approach with which we might aid students in their endeavours to learn discipline-specific vocabulary and concepts. Moreover, multimodality can help students to develop their levels of confidence and to increase their exposure to the target language in the context of a low-stakes environment.

Comic strips allow learners to foster and exploit their own creativity while exploring discipline-specific vocabulary and concepts. One advantage of incorporating multimodality into ESP classrooms is that learners are creatively engaged while applying their knowledge in more dynamic, flexible ways. Learners acquire specific vocabulary and improve their knowledge of grammar in a more organic way when doing so through the use of comics. Elements of multimodality improve L2 learners' skills in vocabulary acquisition, visual literacy and reading comprehension. Furthermore, the results of this initial study indicate that comic strips are incredibly effective in engaging learners in the learning process.

While this study focused exclusively on the use of comic strips by ESP students, there are other multimodal forms – for example, cartoons, illustrations, photographs, and maps – that could have different, greater or lesser results on L2 learners' levels of motivation and engagement. Although the current study suggests that comic strips have a positive effect on L2 learners' levels of motivation and language acquisition, the impact of using comic strips for pedagogical purposes on the retention rates of L2 learners was not investigated. Moreover, interviews were the only form of data collection, and the sample size for this pilot study was relatively small. Thus, the results may not be generalizable to L2 learners in different contexts. The full study will employ multiple data collection methods including questionnaires, discourse analysis, and interviews to better understand the pedagogical use of comic strips can have on learners' levels of academic success. In addition, the full study aims to test comic strips' effect on ESP learners' discipline-specific vocabulary retention using recall protocols and scoring measurements. Another finding of this pilot study revealed that comic strips helped students to undertake tasks and to explain key concepts in a functional manner. As for future research directions, it would be worthwhile to investigate how ESP textbook and material designers can make informed decisions in regard to linguistic complexity when selecting and creating comic strips for ESP learners in terms of processing linguistic inputs and retrieving the necessary information for output.

In summary, learner motivation is an integral component of ESP courses., I have shown in this initial explorative study how the pedagogical use of comic strips in tertiary education afforded a sample group of students with engaging and motivational language practice – both inside and outside the classroom – by using authentic, realistic examples of discourse, with visual aids, in the target language. Due to the use of comic strips, these 10 learners invested more effort in learning English and course content; indeed, they developed more positive attitudes towards

learning overall. ESP teachers need to prepare for today's diverse multimodal learners by weaving both texts and visual aids of all types into the learning environment and the curriculum for language courses. This initial study established that comic strips offered ESP students a stronger sense of belonging within the L2 community and facilitated their understanding of complex concepts. It offers a feasible way to increase authentic exposure to target language input.

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More Than Just Listening: TED Talks for Teaching Business English to Russian University Students

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Abstract

This study measured the impact of using TED Talks in a pre-service Business English course on university students' listening, reading, writing and speaking skills. The pretest-posttest

comparative method with experimental-control groups was used. For the experimental group TED talks were integrated into the course, while for the control group listening and reading texts on the same topic were used. The findings revealed a statistically significant improvement in the experimental group for listening, reading, writing and speaking scores over the control group. In addition, we observed that integrating TED talks in the ESP course improved the students' spontaneous self-reported learning experience.

Keywords: authentic materials, Business English, integrated skills, TED talks

1. Introduction

As course books still take several years to be published, content can be outdated even before they are published. The internet can fill this gap if course books are supplemented by online material (Chairat, 2018). With digital videos continuing to gain popularity, it seems natural that this medium extends into the education setting. Teachers and students have access to a vast variety of online audiovisual resources, which bring the outside world into the classroom, provide authentic contexts in which English is used, expose students to different varieties and accents of English, and give supplementary listening practice. One well-known resource is TED.com. Our motivations for choosing TED talks include the scope of topics, the high quality of the materials, the fact that they are free of charge, and that they are constantly updated. There are about 380 talks on business, which can be used to the benefit of university students studying business as their major and also English for professional communication as part of their university curriculum.

Contemporary authentic language is appealing for students (Baeva, 2017). Such motivation could affect not only students' listening skills, but all language skills. The students are preparing for EMI and therefore require all language skills to be successful. While online video materials such as TED talks are popular with teachers to supplement coursebooks, their effectiveness for improving all language areas has yet not been studied. This paper is the first to address this. We proposed the following research questions:

What is the effect of using TED talks in a pre-service business English course on university students' listening, reading, writing and speaking skills?

How did the students feel about TED talks being integrated into the course?

In the ensuing sections, we review the literature about the benefits of TED talks for ESP; describe the organization of ‘Business English with TED talks’ course component, the criteria for selecting TED talks and the structure of a TED talk lesson; present the research methodology; and discuss the findings of our experiment.

2. Literature Review

2.1 Teaching and Learning Materials for Business English

Selecting quality materials includes determining the degree to which they are consistent with the goals, principles, and criteria of the course curriculum. It is important to consider the teaching-learning context within which specific materials will be used (Berk, 2009; Pangaribuan & Sipayung, 2019).

Business English can be divided into English for Specific Business Purposes (ESBP) for language learners who are already working in business and English for General Business Purposes (EGBP) for pre-experience language learners from universities, colleges or trade and commerce schools who have no experience of the business world (Ellis & Johnson, 1994). Our paper reviews the teaching context of the second group – non-native pre-experience language learners.

Dudley-Evans and John (2001) recommend published course book materials with input in text, audio and video format, which contains work on the traditional four skills as well as specific grammar and vocabulary development. However, various limitations need to be considered when using published course books. Course books can quickly become outdated. Furthermore, the learners might have very specific requirements, depending on their cultural background and learning context (Tajeddin & Bahrebar, 2017). Price might also be a factor, depending on who is paying for the course (Frendo, 2005). Though there is no shortage of printed or online textbooks, they do not necessarily reflect the real-world needs of teaching and learning ESP (Evans, 2013). That is why language practitioners should be aware of other types of teaching and learning materials for business English such as job-specific materials, self-access materials, reference books, video materials, business simulation games, etc. (Sampath & Zalipour, 2009).

Frendo (2005) mentions three types of business English materials for teaching and learning: framework materials, such as course books; authentic materials, which are, according to Ellis and Johnson (1994, p. 156), “any kind of material taken from the real world and not specifically

created for the purpose of language teaching”; and tailor-made materials, which teachers create from scratch.

2.2 TED Talks as a Teaching Tool

TED-Ed (<https://ed.ted.com>) is a platform for creating and sharing lessons using TED talks. These cover a range of subjects, but are limited to a short video, a few multi-choice questions and a discussion topic. They cannot be described as complete lessons, nor are they explicitly ELT lessons. TED-based ELT lessons are available on the internet (see for example <https://freeenglishlessonplans.com/tag/ted-talks/>) but although they are explicitly ELT focused they are similarly limited. The impact of TED talks and similar online material on individual language skills has been studied, though none of these studies have considered the effect on all the four skills.

2.2.1 Listening

In recent studies, TED talks are mostly explored in connection with extensive listening for enhancing listening comprehension skills of university students (Floyd and Jeschull, 2012; Park and Cha, 2013; Seung, 2014; Abdulrahman, 2017; Takaesu, 2017; Wingrove, 2017). The studies conclude that TED talks provide a range of academic listening applications. The findings indicate improvement in the students’ listening comprehension and pronunciation skills, increased motivation and active vocabulary, and the ability to understand different English accents. None of these study the effect on other language skills. Rudneva et al. (2019) investigated the effect of implementing TED talks in an ESP course for undergraduate ecology students, where TED talks were used to extend the listening component of the course. The results demonstrated a significant improvement in listening comprehension among the upper-intermediate and advanced groups after using the video content.

2.2.2 Vocabulary

As a multi-sensory video medium, TED talks offer students more than listening comprehension (Terantino, 2011). Coxhead and Walls (2012) and Nurmukhamedov (2017) studied how TED talks promote vocabulary instruction. These studies examined the lexical coverage of TED talks by using a corpus of TED talks presentations. Nurmukhamedov’s findings show that 4,000 word families provided 95% coverage, and 8,000 word families provided 98% coverage

of TED Talks presentations. That means that TED Talks could be effectively used for higher intermediate and advanced English learners.

2.2.3 Reading and Writing

Bianchi and Marenzi (2016) illustrated the use of TED talks for teaching discourse comprehension integrated in a module on consecutive interpreting for MA students studying English as their main foreign language. Metruk (2018) found that watching the videos with English subtitles (rather than L1 subtitles) could lead to improved reading comprehension. Using authentic videos also promotes developing writing skills (Hanley, et al., 1995). There has been little research about the potential of TED talks for developing writing skills except Wagner (2011) and Hashimoto, Fukuda and Okazaki (2015). Wagner (2011) suggested that TED talks could be the basis for a larger project incorporating research and writing skills, enabling learners to focus on such issues as the target audience, genre and written output.

2.2.4 Speaking

Incorporating TED talks into the instruction of public speaking can be beneficial for English language learners (Chang & Huang, 2015; Leopold, 2016). The use of corpus-based move analysis to study TED talks has resulted in the development of a genre prototype based on move frequencies, lengths, and patterns of occurrence and associations, which helped learners to understand and produce the genre of public presentation (Chang & Huang, 2015). The students showed progress in applying the techniques learned from analyzing TED talks “to get audience’s attention and make the supporting points in their own presentations memorable” (Leopold, 2016, p. 54).

2.2.5 ESP

Hashimoto et al. (2015) found progress in science and technology students’ summary writing skills after introducing TED talks on technical topics. Danilina and Shabunina (2018) studied TED talks in the ESP context for philosophy students. They found that TED talks benefited students by their “explicit emphasis on the content” giving them a chance “to acquire syntax, lexis, and discourse style skills as a by-product of content-oriented learning” (p. 47).

We found only two studies on using TED talks for teaching Business English (Ramejkis, n.d.; Salem, 2019). Both explore the impact of using TED talks on improving oral presentation skills

of Business English students and reveal that Business majors' presentations were more enthusiastic, energetic and motivated after using TED talks.

2.2.6 Motivation

Motivation is one of the most important variables in language learning. Cultivating motivation is crucial to a language learner's success and therefore crucial for the language teacher to understand (Dörnyei & Ushioda, 2011). Teachers can increase their students' motivation by providing them with learning experiences that meet their needs, interests and aspirations (Bray and McClaskey, 2015).

Ishinuki (2014) explored the attitudes of technical college engineering students towards TED talks as a learning resource. The study displayed an overall increase in students' motivation after using TED talks due to their authenticity and more individualized attention to student needs, wants and interests. TED talks provide relevant and important content in an educational environment and customize viewing experience. Hashimoto et al.'s (2015) research also evidenced the motivational factor, which was reinforced by the students' interest in the content of TED Talks. According to Rubenstein (2012), teachers can use TED talks not only to promote students' motivation, but also to introduce innovative instructional practices, which inspire further exploration and consideration.

3. The TED Talk Component of the Course

3.1. Criteria for Selecting TED Talks

1. The content of the TED talks should be relevant to the students' professional interests and provide real life examples of doing business in an international environment. The problems discussed should develop the learners' professional competencies and expand their outlook by acquainting them with business practices from around the world.
2. The content of the TED talks should have an educational value. The sequence of TED talks should fit in with the overall goals of the course, introduce or expand on a theme that is already part of the curriculum.

3. The popularity of the TED talk is measured in the number of views. The view count is a reflection of how the audience responded to the talk. We selected talks with more than

1 million views.
4. The TED talks selected should provide relevant, up-to-date information and topics, which are interesting and motivating for the learners. Content older than 3 years was excluded.
5. The length of the TED talks should be determined by the students' language proficiency. Teachers might explore talks of different durations as set by TED.com (0-6 minutes, 6-12 minutes, 12-18 minutes, and 18+ minutes). With low-level students, for example, a lengthy video material with many tasks could be discouraging. If students are not familiar with lengthy transcripts, then the shorter ones might work better initially.
6. The difficulty level of TED talk content can be determined by using Ted Corpus Search Engine (TCSE) (Yoichiro, 2015), a free online search tool specializing in the meta-analysis of TED talks. It has been created for educational and scientific purposes. From among the metrics TCSE provides, words per minute and readability are used for video selection.

The content of the TED talks satisfies the professional interests of our Business students, provides real life examples of doing business, has educational value and is up to date. The other two criteria, i.e. the length of the recording and the difficulty level of TED talk contents might meet different teaching and learning needs. We should admit though that there will always be an element of subjectivity, as “materials are chosen not for what they are, but for how suitable a particular teacher (or course-planner) views them as being” (Ramejkis, n.d., p.11).

3.2. The Structure of the TED Talk Component

Our TED talk lessons are focused on Business English; allow students to acquire and practice new vocabulary; develop all four skills, leading to better comprehension, analytical thinking and individual knowledge gain (Stognieva, 2019).

Each lesson has a regular structure. The warm-up introduces the topic and target language of the lesson, sets the atmosphere and the expectations of the lesson. The vocabulary section introduces new words, their use and provides practice for the students. The listening section aims at developing various types of listening skills applying the strategies of a successful listener. The reading section aims at developing various types of reading skills applying the strategies of a successful reader. The speaking section aims at discussion and response to the content of the TED talk. The writing section stimulates the students to express their personal reactions to the content of the TED talk by applying the conventions of academic writing in English.

4. Methodology

4.1. Participants and Materials

The study took place during the 2018-2019 academic year while teaching Business English (ESAP module) at the Business and Management Department of the National Research University Higher School of Economics, Moscow, Russia.

Ninety-three Bachelor's students, whose English proficiency was tested at B2-C1 according to the Common European Framework for Languages (CEFR), participated in the study. They were randomly assigned to the experimental group (n=48, mean age 19) or the control group (n=45, mean age 19). The experimental phase lasted for six months and in total took 48 sessions of 90 minutes. The teacher, the first author, was the same for both groups.

Both the experimental and the control groups used the course book 'English for Business Studies in Higher Education' (Walker, Harvey & Phillips, 2013), which is a skills-based course designed specifically for students of business who are about to enter EMI at tertiary level. Integrated learning is important as the more senses involved in language learning, the more successful the results will be. If the students have the opportunity to watch and listen to the material, read it, discuss it and write in response to it, the assimilation of a foreign language is significantly increased (Passov & Kuzovleva, 2010).

Each unit of the course consisted of four lessons. Lesson 1 is devoted to learning business vocabulary and developing vocabulary skills such as word-building and the use of synonyms for paraphrasing. Lesson 2 aims at reading or listening development. In Lesson 3, we introduced a writing assignment or to a spoken language point (for example, making an oral

presentation), which is further developed in Lesson 4. In Lesson 4 the students are assigned listening or reading tasks to use their new skills; in addition, written or spoken output is further practiced. In Lessons 2-4, besides the course book materials, we used authentic materials from www.youtube.com, www.forbes.com, www.tutor2u.net, www.businessinsider.com, to boost students' motivation and language skills.

For the experimental group Lesson 4 was substituted by one of the TED talk lessons relevant to every unit of the course. For example, the TED talk 'How to build a business that lasts 100 years', was included in the unit *The business of business*, which is devoted to the history of business, types of business, and the factors contributing to business sustainability. The control group were given listening and reading texts on the same topic (Walker et. al., 2013, p.10-11, p.116). All the other classroom activities and teaching approaches remained the same. We used a control group for comparison purposes, as this group were given similar material (although in a different format) they were not disadvantaged in terms of the learning material we presented.

4.2. Testing Procedures

The pretest-posttest comparative method was used. Both groups were tested using the same pretests and posttests based on TED talks. The pretest was done to ensure that the control and the experimental groups were equally proficient in English, and the posttest to explore the effectiveness of the method. Pretest-posttest intervention data were collected and then analyzed by means of independent samples t-tests, run by IBM SPSS Statistics 21.

The four skills are strongly correlated, but not to the degree that a measure of one can substitute perfectly for the measure of another (Powers, 2010); for example, the reading level predicts, to a certain extent, the levels of the other skills. Each of the 4 skills were assessed according to a 10-point grading scale.

To assess listening, the students were asked to watch a TED talk without subtitles and answer ten comprehension questions based on the content. This checked how the students could follow the ideas in the TED talk and identify the speaker's point of view.

To assess reading comprehension skills, the students were given a transcript of a TED talk for detailed reading and were asked to fill in a table with the specific information. As the task was to identify specific information, the transcript was used although this is the written

representation of an oral text rather than what might be considered more genuine reading material.

To assess writing, students wrote an argumentative essay of 200–250 words by selecting and reporting the main ideas of a TED talk using a given prompt. The essays were scored using a rubric consisting of the following criteria: task achievement, coherence and cohesion, the use of vocabulary, grammatical range and accuracy.

To assess speaking, students responded to the issues discussed in the TED talk in an interactive form. To stimulate the discussion the instructor asked clarifying questions. We recorded the speaking part, which were scored by three independent assessors according to the following criteria: fluency and coherence, lexical resource, grammatical range and accuracy, pronunciation. We calculated the average score for each student.

4.3. Hypotheses

Our study tested the following null hypothesis:

- 1) There is no statistically significant difference between the control and experimental groups in mean pretest skill scores.
- 2) There is no statistically significant difference between the control and experimental groups in mean posttest skill scores.
- 3) There is no statistically significant difference between the control and experimental groups in mean gain skill scores.

4.4. Motivation

This was not measured formally but was revealed in the end of course reflective essays in which students described their learning experience on the course in the format of a learning log (see <https://sway.office.com/E3rII38GpeUA3vjY?ref=Link&loc=play>). The essays did not require comment on the TED talks specifically, but one of the reasons students identified was the integration of TED talks into the course.

5. Results

5.1. Pretesting and Post-Testing

The pretesting t-values and their significance levels are shown in Table 1. A t-test determines if there is a significant difference between the two groups. There are no statistically significant differences in scores for the experimental and control groups. Both groups gained similar mean scores of between 4.7 and 5.5 on pretesting (p-values > 0.1), indicating strong evidence for group equivalence.

Table 1. Pretest Results for the Experimental and Control Groups

Skills	Group	N	Mean	Std. Deviation	t-value	Sig
<i>Listening</i>	Control	45	5.2444	0.71209	1.017	0.312
	experimental	48	5.0625	0.99800		
<i>Reading</i>	Control	45	5.3333	0.79772	- 0.295	0.769
	experimental	48	5.3958	1.21585		
<i>Writing</i>	Control	45	4.8222	0.71633	0.630	0.530
	experimental	48	4.7083	1.00970		
<i>Speaking</i>	Control	45	5.4222	0.69048	- 0.552	0.582
	experimental	48	5.5208	1.01036		

The data in Table 2 indicate an increase in all scores from the pretest to the posttest. They show clear evidence against the second null hypothesis. There is a statistically significant difference between the experimental and the control groups in favor of the experimental group. The differences are larger for listening ($p < 0.001$) and speaking ($p < 0.001$) than for reading ($p < 0.01$) and writing ($p < 0.05$).

To compare the performance of students in the experimental and the control groups the t-test with gain scores was conducted to evaluate the effect of experimental teaching.

Table 2. Post-Test Results for the Experimental and the Control Groups

Skills	Group	N	Mean	Std. Deviation	t-value	Sig
<i>Listening</i>	Control	45	6.8667	0.84208	-4.662	0.000
	experimental	48	7.8125	1.10427		
<i>Reading</i>	Control	45	7.0667	1.03133	-2.719	0.008
	experimental	48	7.6875	1.16977		
<i>Writing</i>	Control	45	6.6667	1.67874	-2.306	0.023
	experimental	48	7.4167	1.45622		
<i>Speaking</i>	Control	45	6.7333	0.98627	-5.531	0.000
	experimental	48	7.8542	0.96733		

Table 3 shows that the experimental teaching improved grades in both groups. In the control group, the grades improved by 1.6 points, while in the experimental group on average by 2.6 points. There is a notable difference between the experimental and the control groups in the improvement in listening ($p < 0.001$), reading ($p < 0.05$), writing ($p < 0.05$) and speaking ($p < 0.001$) scores in favor of the experimental group. The data provide clear evidence against the third null hypothesis.

Table 3. The Difference in Gain Scores Between the Experimental and the Control Groups

Skills	Group	N	Mean	Std. Deviation	t-value	Sig
<i>Listening</i>	control	45	1.6222	0.83364	-6.044	0.000
	experimental	48	2.7500	0.95650		
<i>Reading</i>	control	45	1.7333	1.19469	-2.245	0.027
	experimental	48	2.2917	1.20210		

Writing	control	45	1.8444	1.95350	-2.333	0.022
	experimental	48	2.7083	1.61058		
Speaking	control	45	1.3111	1.20269	-4.558	0.000
	experimental	48	2.3333	0.95279		

5.2. Motivation

Motivation should also be taken into account while considering the results of the research. The use of TED Talks and ICT-related devices can increase student motivation (Ishinuki, 2014). Although not part of the experimental design there was evidence that motivation was a factor in the improved results. The majority of the students provided positive feedback about the course integrated with TED talks. From the student' perspective

1. teaching with technology is more engaging;

Using TED talks is a successful idea [...]. This is an example of modern ways and nonstandard methods that are more effective for young people that were born in the age of the Internet—lots of technologies and information.

2. the TED talks are authentic;

The best thing is that we heard the real speech [...] with different accents and at real speed.

3. the TED talks were relevant to the course;

A lot of new information came from the TED talks that also served as a basis for our discussions during the classes. I also particularly enjoyed the teacher's choice of talks.

4. the content of TED talks satisfies the students' educational needs;

It's cool when you understand complex speech after learning specific vocabulary with www.quizlet.com. However, the most astonishing thing was the fact that all the themes we discussed in English classes were connected to my other subjects at uni. For example, the knowledge of the themes like

“Business Strategies” and “Company Management” helped me to pass Management course successfully.

5. TED talks develop students’ language skills and may be useful for their future studies;

To tell the truth, I have some problems with listening, and it is practically hard for me to understand everything from Ted talks. Nevertheless, at the end of the course I started to catch more words and improved my skills in listening. I will continue working at this section of the language and will not stop watching Ted Talks.

This feedback suggests that TED talks improve the ESP learners’ experience, and this platform should be extended in the ESP setting.

6. Discussion and Conclusion

This study has investigated the effects of integrating TED talks into a pre-service Business English course on university students’ listening, reading, writing and speaking skills.

Our findings indicate significant differences between the experimental and the control groups due to the integration of TED talks, which is consistent with prior research on the effect of using TED talks on specific skills: listening (Floyd and Jeschull, 2012; Park and Cha, 2013; Seung, 2014; Ishinuki, 2014; Abdulrahman, 2017; Takaesu, 2017; Wingrove, 2017; Rudneva et al., 2019), speaking (Chang & Huang, 2015; Leopold, 2016; Ramejkis, n.d.), reading (Bianchi & Marenzi, 2016; Metruk, 2018) and writing (Wagner, 2011; Hashimoto et al. 2015). The present study has shown that TED talks can enhance exposure to Business English and develop all four language skills.

Because of the subject-matter and the up-to-date content of the TED talks selected for the course, the students from the experimental group were more engaged in discussions with their groupmates and were more willing to express their ideas. Students could take advantage of the speakers’ experience to assume and defend what they think about a particular topic (Maria, Junior & Astrid, 2018).

In ESP, teachers do not ‘teach writing’ but teach particular kinds of writing which are valued and expected in academic or professional contexts (Hyland, 2013). The better performance of

the experimental group over the control group in writing might be due to the fact that TED talks follow the structure of an argumentative essay in the form of a talk. The TED talk speakers are trying to support a single point; they give reasons and evidence often in the form of statistics. Having such examples, the students can better learn how to produce target genre essays.

However, TED talks go beyond inspiring conversations, questions and critical thinking in the ESP classroom. Since videos are received through both the visual and the auditory channels, learners are able to make more relevant associations that help with memory and recall (Mayer, 2001). The TED speakers often provide visual prompts that facilitate the perception of information. TED talks increase knowledge retention since they can be replayed as many times as needed or can be reviewed after the initial lesson was taught. That might explain the higher scores obtained by the experimental group in the posttests.

TED talks can facilitate language learning, but the results of the implementation depend on how pedagogically appropriate they are and how effectively they are integrated into the ESP course. Therefore, TED talks should be reviewed, evaluated and selected according to professionally relevant content, educational value, the number of views, date of talk delivery and difficulty level with reference to a particular ESP course. First, the subject matter of the course should be defined, and the scope of lessons determined. Then, the lesson design and the types of activities corresponding to the teaching aims, including other resources, should be developed. Finally, the lesson should be piloted in the classroom to ensure that it meets students' needs, and then adapted if needed.

This study does have limitations: time constraints only allowed two groups of students to be studied and students were in an EFL environment sharing the same L1, which could affect the generalizability of the study. As noted above, the structure of TED talks is similar to an argument essay and the transcripts were used as reading material. Although this material improved students' reading skills, further research would benefit from using published articles on related topics.

Our results have highlighted a number of topics on which further research would be beneficial. The sample size and scope of study could be expanded by engaging other teachers who are ready to integrate TED talks in other ESP courses. Additional research could be conducted to determine the effect of integrating TED talks at lower levels of language proficiency.

We are intrigued by the effect on motivation that appeared, without being a focus, in our study. In future research, we would like to explore how motivation interacted with our results. Did the improved language proficiency come from the TED talks themselves or was it mediated by increased motivation? Does instruction tailored to the learning needs and specific interests of students increase the motivation for learning a foreign language?

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An Exploratory Study on Establishing an Academic Word List for Food and Nutrition Graduate Students

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Abstract

This study set out to explore the most frequently-used academic vocabulary in the food and nutrition field and aimed to establish a food and nutrition academic word list. In order to understand whether it is necessary to create a discipline-based academic word list for each discipline, the study also compared the coverage of the word families found in the study with

those of other word lists.

The Food and Nutrition Research Articles Corpus (FNRAC) including 2,311,227 running words was compiled for the study. A total of 560 articles were chosen from 28 international journals for the FNRAC. Eighty articles were selected from seven main subject areas. The results indicate that the text coverage of all the 570 word families in Coxhead's (2000) Academic Word List (AWL) account for 10.05%. The established Food and Nutrition Academic Word List (FNAWL) consists of 781 word families, which provides coverage of 16.45% of the texts in the FNRAC. The findings of the study suggest that it is important to build field-specific academic word lists to meet learners' lexical needs. Based on the results of comparative analyses, the FNAWL provides a better coverage of food and nutrition English than the Medical Academic Word List (MAWL) and Nursing Academic Word List (NAWL). Pedagogical implications are made for material designers, EAP teachers and food and nutrition graduate students.

Keywords: academic word list, EAP, corpus, food and nutrition

1. Introduction

It has been firmly believed that the ability to read depends on academic linguistic, especially lexical knowledge (Ward, 2009). Hu and Nation (2000) pointed out vocabulary is a good predictor of reading comprehension. Khachan and Bacha (2012) claimed that vocabulary is an indicator of academic writing proficiency and developing vocabulary improves writing skills. Corson (1997) also argued that knowledge of academic vocabulary is essential for successful comprehension of academic texts and for writing appropriately and professionally in particular subject areas. Teng (2016) also found that vocabulary knowledge is necessary for successful academic listening comprehension. Many graduate students in EFL countries, where English is not an official language and English is not the medium of instruction, are required to study their specialist subject matters by reading English academic texts. They also need to fulfill their partial requirement for the master degree or the doctoral degree by publishing English research papers in international journals. Research articles are the primary learning materials for these graduate students. However, the insufficient knowledge of vocabulary has been regarded as a major impediment to fluent reading and listening comprehension for students of English for academic purposes (EAP) (Evans & Morrison, 2011; Wu & Hammond, 2011). As a result, researchers suggested that EAP teachers and language teachers should improve EFL graduate

students' lexical knowledge, especially for those whose vocabulary knowledge is not as good as that of native speakers. (Evans & Morrison, 2011; Wu & Hammond, 2011). In response to the needs, the study on the development of academic vocabulary has become the focus of EAP research for the past three decades.

Thanks to the demand for teaching vocabulary in language courses, deciding which words are worth teaching is the main challenge that language teachers have to face. Since not all English words are equally important in different stages of language learning, researchers have suggested that learners should be first equipped with high-frequency words and then with academic words (Dearth, 2001; Schmitt, 2010). Nation (2001) grouped vocabulary in academic writing into four categories, namely, high-frequency words, academic words, technical words and low-frequency words. Nation's (2001) division of vocabulary shows that some vocabulary deserves more attention during the process of language learning. High-frequency words are core words that are essential for any language use and occur highly frequently in all kinds of spoken and written texts. Such words are worth the effort required to teach and learn explicitly. Nation (2001) and Schmitt (2000) stated that West's (1953) General Service List (GSL), which was created with the most widely and frequently-used words in the language, provides the vocabulary necessary to function in general contexts.

Academic words, also known as 'semi-technical vocabulary' (Farrell, 1990), are relatively frequent in a wide range of academic texts but less frequent in general texts (Nation, 2001). They provide the framework for description and evaluation of actions during the process of constructing and reporting scientific experience (Coxhead & Nation, 2001). These words are considered to be necessary for learners studying for academic purposes to learn. However, academic words are reported as the most problematic for language learners to acquire (Santos, 2002; Thurston & Candlin, 1998) because they are not very salient in academic texts, or they are not specific enough to an area to be taught by content teachers (Nation, 2001). Moreover, Cobb and Horst (2004) stated it is challenging for the majority of non-native English speakers to acquire academic vocabulary especially if the learning goal is to achieve proficient level of literacy. In recognition of the importance of setting vocabulary learning goals and guiding learners in their independent study, Coxhead (2000) developed an Academic Word List (AWL), acknowledged by researchers, material designers and EAP teachers to be beneficial in preparing English learners for higher education. This AWL, containing 570 word families and 3107 types of word, provides about 10% of the beneficial learning coverage of academic texts.

The high coverage of AWL is thought to be a useful teaching instrument in EAP contexts. Cobb & Horst (2004) suggested that the knowledge of the AWL words and that of words in West's (1953) GSL are keys to learning and teaching of English academic texts. DeCarrico (2001) also promoted the importance of the AWL for academic English and suggested that students should learn the words on the AWL. Laufer (1992) argued that if L2 learners want to successfully comprehend academic research articles, they have to know at least 95% (about 3,000) of the words contained in academic reading texts. In other words, they need to be familiar with both West's (1953) GSL and Coxhead's (2000) AWL.

Previous research has explored the frequency and coverage of the AWL in different disciplines, such as in engineering English (Mudraya 2006), applied linguistics (Vongumivitch, Huang & Chang, 2009; Chung & Nation, 2003) and medical research (Chen & Ge, 2007). Although the AWL plays an important role in these fields, researchers have questioned the usefulness of Coxhead's AWL and argued that general academic vocabulary may not be enough for students studying in specific disciplines because academic vocabulary use often varies across academic disciplines (Hyland & Tse, 2007; Ward, 2009). They then called for the need to develop discipline-specific words lists in different fields. In response to the needs, several specific academic word lists have been created, such as Mudraya's (2006) engineering academic word list, Wang, Liang, and Ge's (2008) Medical Academic Word List, Valipour and Nasaji's (2015) Chemistry Academic Word List, Yang's (2015) Nursing Academic Word List and Deveci's (2019) Education Academic Word List. However, none of these developed lists has exclusively targeted in the food and nutrition field. A food and nutrition academic word list will be beneficial in helping teachers "to set goals for their students' vocabulary learning" (Coxhead, 2011: 357) and EFL learners pursuing higher education in the food and nutrition discipline. Hence, this study aims to develop a food and nutrition academic word list to serve the needs of its prospective learners.

1.1. Literature Review

Even though academic words are often encountered in academic texts of different genres and fields, they are not very salient in academic texts. They are those most often identified as unknown by students in academic texts (Anderson & Freebody, 1981). However, without sufficient knowledge of academic vocabulary, EAP learners cannot effectively and appropriately comprehend academic texts they are required to read and listen to (Laufer & Nation, 1999). For this reason, some very useful academic word lists have been created to help

learners. Of these word lists, Coxhead's (2000) AWL is the most widely-cited academic word list across different disciplines. She has established a corpus of 3.5 million running words selected from different academic journals and university textbooks in 28 sub-disciplines of four main areas: the arts, commerce, law and natural science. She created an AWL list of 570 word families, which were selected according to three criteria: a) frequency of occurrence, b) range and c) specialized occurrence. These word families account for approximately 10% of the total words in her selected academic texts. The 570 word families consist of head-words plus their inflected and derived forms. The AWL is divided into ten sub-lists based on frequency. Except for the tenth sub-list with 30 word forms, the first nine sub-lists consist of 60 word families. Words in sub-list 1 are of the highest frequency and those in sub-list 10 are of the lowest. The coverage, however, is not the same for all the subject areas: 9.3% in the arts, 12% in commerce, 9.4% in law, and 9.1% in science.

With the purpose of exploring the usefulness of the AWL in academic texts, many studies have examined the coverage of AWL in different disciplines. Mudraya (2006), for example, analyzed almost 2,000,000 running words in textbooks covering 13 engineering disciplines and created an academic word list of 1,200 word families for engineering students. The words in the list represented that engineering students were more likely to have repeated exposure to the words in engineering textbooks, irrespective of their field of specialization. Mudraya (2006), thus, suggested that teachers and students should focus on these academic words. The coverage of the AWL word families was also examined by Chen and Ge (2007) in their medical research articles. They found that the AWL words accounted for 10.07% of their medical corpus and also represented around 10% of the five sections of a medical research article. Academic vocabulary had high text coverage and served some important rhetorical functions in medical research articles. They also found that the AWL did not include all the frequently-used medical academic vocabulary in medical research articles. Accordingly, they recommended the establishment of a medical academic word list in medical science. The coverage of the AWL was also investigated by Vongpumivitch et al. (2009) in a corpus of applied linguistics research articles containing 1.5 million words. The findings of the study showed that AWL words accounted for 11.17% of the Applied Linguistics Research Articles Corpus (ALC). Its text coverage was higher than that in Coxhead's (2000) and Chen and Ge's (2007) studies. Martinez et al. (2009) explored the frequency and distribution of Coxhead's AWL word families in agricultural research articles. The findings showed that the AWL words accounted for 9.06% of their agricultural corpus of 826,416 running words, and also represented around 9% of the

five sections of an agricultural research article. Moreover, they found that many generally-used words had an academic meaning in their corpus. Martinez et al. (2009), therefore, argued for the need to produce field-specific academic word lists for various specific needs. Hyland and Tse (2007) also argued that AWL items vary widely across disciplines and fields. The words in the AWL are not of equal value to all students, and some words are even no use to them at all. They, therefore, claimed that more research should be conducted to develop domain-specific word lists for students in different disciplines.

Wang, et al. (2008) compiled a 109,301-word corpus from medical research articles. They established a Medical Academic Word List (MAWL) of 623 word families, which accounted for 12.24% of the tokens in the medical research articles. Only 342 (54.9%) of the 623 word families in the MAWL coincided with the 570 word families in the AWL. They proposed that a more restricted discipline-based word list is necessary for each discipline. Valipouri and Nassaji (2015) compiled a 4-million-word corpus from chemistry research articles and created Chemistry Academic Word List (CAWL). Of the 570 word families in AWL, 327 occurred frequently in their corpus and accounted for 9.96% of the corpus. Based on the findings, they pointed out that it is essential to develop domain-specific word lists for students in different disciplines. Liu and Han (2015) developed an Environmental Academic Word List (EAWL) of 458 word families totally 2332 words. The EAWL accounted for 15.43% of the running words in the environmental science corpus. Yang (2015) has established a corpus of one million running words selected from different academic journals in 21 sub-disciplines. She produced a Nursing Academic Word List (NAWL) of 676 word families that accounted for approximately 13.64% of the total words in her selected academic texts. Of the 570 AWL items, only 378 (66.31%) were frequently used in the Nursing Research Article Corpus. Yang (2015) also supported the necessity of developing field-specific academic word lists, which incorporate all the frequent academic vocabulary necessary for the rhetoric of the specific research field.

The above-mentioned studies found that the AWL, a general academic word list, may not be adequate for students in each discipline. Moreover, to date no such word lists have been done specifically for the food and nutrition learners. A study providing a more accurate description of specific academic vocabulary is important and beneficial for non-native English speaking food and nutrition graduate students and professionals. With the purpose of developing an academic word list for students majoring in food and nutrition, we conducted this corpus-based study to explore the frequently-used academic words in the specific field of food and nutrition.

This study aims to develop a discipline-specific academic word list in the food and nutrition field. The following research aspects are to be addressed in the study:

1. This study investigates the necessity of developing the food and nutrition academic word list;
2. It develops the first food and nutrition academic word list;
3. It establishes a validity test to examine the suitability of the academic word list;
4. It explores the text coverages of different health science word lists in the FNRAC.

2. Methods

2.1 Data Collection

The present corpus contained a 2.3 million-word corpus of food and nutrition academic English composed of journal articles. Nutrition research articles are the primary and indispensable learning materials for food and nutrition graduate students, so the study targeted research articles for academic purposes. For this corpus-based study, we compiled a corpus of research articles in the food and nutrition (hereafter the RNRAC, see Appendix A for a complete list of acronyms used in the study). A corpus of 2.3 million words containing 560 research articles was then established as a database to generate a field-specific academic word list. The sample articles were chosen in three main steps. First, a professor from the nutrition department helped the researchers, an experienced EAP researcher and a dietitian, to classify the food and nutrition discipline into seven subject areas, namely, food & nutrition, food chemistry, food technology & engineering, food safety, functional foods, nutrition & public health, and nutrition & illness. The research articles in the corpus were selected equally from the seven subject areas and 28 journals. Eighty articles published in international journals in the field of food and nutrition were selected from each subject area. Second, following Swales (1990), only the articles having identifiable IMRD (Introduction-Method-Result-Discussion) sections were chosen for the FNRAC. Third, previous research shows that there are some certain differences between the way native and non-native speakers of English express themselves in academic writing (Moreno et al, 2012). Therefore, we chose the articles written by writers who were affiliated

with an institution in a country where English is spoken as the first language (Wood, 2001). All the research articles in the corpus were downloaded full-text from the database *ScienceDirect Online* (<http://www.sciencedirect.com>), accessed at the library of the university where the first author was teaching. The FNRAC consists of 560 research articles. The length of the chosen articles was longer than 2,000 running words and shorter than 10,000 running words. The tables, figures, reference lists, appendices, captions, notes, endnotes, footnotes, and acknowledgements in the articles were removed. A corpus of 2.3 million words was then established as a database to generate a field-specific academic word list.

2.2 Data Analysis and Processing

The computer program *RANGE*, which is available as a free downloadable zip file at http://www.vuw.ac.nz/lals/staff/paul-nation/nation_aspx, was employed to process the data in the study. The frequency, the range of each word in each subject area, and the words not in the GSL and AWL word lists can be identified by running the program on the FNRAC (Heatley, Nation & Coxhead, 2002). The program was installed with three ready-made base lists, namely, the first and second 1000 most frequent words in the GSL and the AWL word lists. Words in the GSL and the AWL are all in word families, which serve as the basic data processing units in this study. The criteria used in the present study are based on Coxhead's (2000) criteria. We set three criteria to investigate the frequency and distribution of the word forms that are used in food and nutrition research articles. First, for the range criterion, word forms occur in five or more of the subject fields were included. Second, Coxhead's frequency selection of AWL was followed when investigating frequently-used academic vocabulary in the study. In the study, word forms occur 77 and more times in the FNRAC were included in the word list. Third, the notion of a word family, as defined by Bauer and Nation's (1993) scale, was adopted in the study. Coxhead (2000, p.218) pointed out "comprehending regularly inflected or derived members of a family does not require much effort by learners if they know the base word and if they have control of basic word-building process." Bauer and Nation (1993) stated that "once the base word or even a derived word is known, the recognition of other members of the word family requires little or no extra effort." Gardner and Davies (2014) adopted the lemma form to report the words in the Academic Vocabulary List (AVL) because it is more informative and user friendly (Lei & Liu, 2016). According to Brezina & Gablasova (2015), the use of lemma form in establishing word list is more suitable for beginner learners whose morphological awareness and word building skills might be limited. As the list is primarily intended for EFL

graduate students with low-intermediate English level, word family instead of lemma was used in the study. The frequently-used academic vocabulary, which has to meet these three criteria, were then counted and listed as Food and Nutrition Academic Word List (hereafter FNAWL). Since there is no clear cut between technical and academic words, one food and nutrition professor and one native English speaking EAP teacher were consulted. If it is hard to identify whether the word is technical or academic, it is considered as academic word.

3. Results and Discussion

3.1 Coverage of the GSL and the AWL Word Families in the FNRAC

This study examines the frequency and coverage of the AWL word forms used in food and nutrition research articles. There were 2,311,227 running words in the FNRAC. Table 1 displays the coverage of the GSL and the AWL. The word families in the GSL cover 65.88% of the FNRAC and the text coverage of all the AWL word families account for 10.05%. Totally, the GSL and the AWL word families provide a cumulative coverage of 75.93% of the overall corpus. The unlisted words cover 24.07% of the running words in the FNRAC. The findings appear to support the claim that the AWL “covers approximately 10% of any academic text” (Coxhead & Byrd, 2007, p. 132). However, according to Laufer (1992), if L2 readers want to successfully comprehend academic research articles, they have to know at least 95% of the words contained in academic reading texts. The coverage of GSL and AWL only amounts to 75.93%, which cannot effectively facilitate learners to comprehend research articles. Developing a more restricted discipline-based lexical repertoire to meet learners’ needs seems necessary and important for food and nutrition students.

Table 1: Coverage of the GSL and the AWL Word Families in the FNRAC

Word List	Coverage %	Accumulative %	Number of Word Families
GSL’s first 1000 words	59.84%	59.84%	981
GSL’s second 1000 words	6.04%	65.88%	832
AWL	10.05%	75.93%	568
Not in the list	24.07%	100%	N/A
Total	100%		

3.2 The Development of Food and Nutrition Academic Word List

We applied Coxhead's (2000) three selection criteria of range, frequency and word family to choose words of the FNAWL. For the members of a word family to be contained in the FNAWL, they had to occur at least in five subject areas, at least 77 times in the corpus and outside the first 2000 most frequently-occurring word families of English. In total, 818 word families met the criteria. By consulting the above-mentioned food and nutrition professor and one native English speaking EAP teacher, 37 word families were judged as too technical and were eliminated from the final word list. Some examples of these words are *comorbid*, *leptin*, and *prandial*. The FNAWL included 781 word families. The full list of the word families is shown in Appendix B. There was an overlap of 384 word families with Coxhead's (2000) interdisciplinary AWL. The most frequent word families in the FNAWL are *analyze*, *significant*, *acid*, *concentrate*, and *data*.

Table 2: Subject Area Coverage of 781 Words in the FNAWL

Subject area covered	Number of word families	Percentage	Accumulative percentage
7	609	77.98%	77.98%
6	113	14.47%	92.45%
5	59	7.55%	100.00%
Total	781	100.00%	

Table 2 shows the distribution of the food and nutrition academic words in the FNRAC. As Table 2 indicates, the words in the FNAWL occurred in a wide range of the texts in the FNRAC. Of the 781 words in the list, 609 (77.98%) of word families covered all the seven subject areas, 113 (14.47%) covered six subject areas, and 59 (7.55%) covered five subject areas. About 78% of the words in the FNAWL vocabulary occurred in all of the seven subject areas.

Table 3: Coverage of the 781 FNAWL Word Families in the FNRAC

FNAWL word families	Frequency	Coverage of the FNRAC	Accumulative percentage
1-100	178,384	7.72%	7.72%
101-200	71,153	3.07%	10.79%
201-300	44,764	1.94%	12.73%
301-400	29,439	1.27%	14.00%
401-500	21,173	0.92%	14.92%

501-600	16,121	0.69%	15.62%
601-700	12,033	0.52%	16.14%
701-781	7,222	0.31%	16.45%
Total	380,289	16.45%	

Table 3 shows the frequency and coverage of the 781 FNAWL word families that occurred in the entire FNRAC. These appeared a total of 380,289 times and accounted for 16.45% of the frequency in the food and nutrition research articles. The occurrence of the top 100 word families accounted for 7.72%. The coverage of the second hundred, third hundred and fourth hundred word families were 3.07%, 1.94% and 1.27% respectively. The remaining 401-781 word families made up 2.44% of the whole FNRAC. The results show the FNAWL word families had a higher coverage than that described by Coxhead (2000) in the whole of her cross-disciplinary academic corpus (10%). A 240-word paragraph from an article of the corpus (Stewart, Feinle-Bisset, Golding, Delahunty, Clifton, & Keast, 2010), in which FNAWL words were bold-faced, is presented in Appendix C. The FNAWL text coverage in the passage is 16.67%, which is in line with the findings of the study.

Table 4: The Most Frequent 60 AWL Word Families in the FNAWL Compared with Those in AWL Sub-Lists

Rank	Headword	Sub-list in AWL	Rank	Headword	Sub-list in AWL
1	analyses	1	31	period	1
2	significant	1	32	expose	5
3	concentrate	4	33	evaluate	2
4	data	1	34	require	1
5	consume	2	35	intervene	7
6	participate	2	36	positive	2
7	method	1	37	adult	7
8	vary	1	38	investigate	4
9	process	1	39	interact	3
10	assess	1	40	available	1
11	extract	7	41	ratio	5
12	previous	2	42	demonstrate	3
13	respond	1	43	conduct	2
14	indicate	1	44	affect	2
15	factor	1	45	status	4
16	similar	1	46	inhibit	6
17	range	2	47	select	2
18	individual	1	48	component	3
19	research	1	49	source	1
20	identify	1	50	area	1
21	potential	2	51	contribute	3
22	estimate	1	52	distribute	1

23	detect	8	53	normal	2
24	energy	5	54	evident	1
25	obtain	2	55	percent	1
26	supplement	8	56	compound	5
27	function	1	57	negate	3
28	statistic	4	58	major	1
29	specific	1	59	occur	1
30	consist	1	60	design	2

Table 4 displays the 60 most frequent AWL word families in the FNAWL. These AWL words occurred 118,573 times in the FNAWL and accounted for 5.13% of the whole corpus. The top 60 items in our corpus provided a higher coverage (5.13%) than Coxhead's 60 most frequent items (3.6%) and Hyland and Tse's 60 items (3.9%). When comparing these items with those in Coxhead's sub-list 1, 28 items coincided with Coxhead's sub-list 1, which is 10 items more than that in Marinez et al.'s (2009) corpus of agricultural research articles, but seven items less than that in Hyland and Tse's multidisciplinary corpus. The findings of the study support the claim that AWL words are not equally valuable and effective in every discipline.

3.3 Validity Test of the FNAWL

To show whether the FNAWL is suitable for the discipline of food and nutrition, we used a validity test to explore the coverage of FNAWL and that of the AWL in the field of food and nutrition. A small-sized validating corpus including new research articles was compiled for the purpose. The corpus was built by using the same selection criteria to choose new research articles from the same seven subject areas and 28 journals. One new research article was randomly selected from each journal. The validating corpus contained 28 texts with 124,973 running words. The average length of the text was 4,463 running words.

The FNAWL and the AWL were adopted to conduct an analysis of the test corpus. Table 5 shows the coverage of the FNAWL and that of the AWL in the validating corpus. FNAWL's coverages in the validating corpus and FNRAC are 16.66% and 16.45%, while those of AWL are 10.17% and 10.05%, respectively. As Table 5 shows, the FNAWL covered the validating corpus and the FNRAC better than the AWL did. It reveals that the AWL word families are used differently across various fields; therefore, it can't meet the specific lexical needs of students in different fields. This further indicates that the FNAWL is more suitable for academic learning than the AWL in the field of food and nutrition.

Table 5: The FNAWL's Coverage and the AWL's Coverage in Validating Corpus

	The FNAWL's coverage	The AWL's coverage	Difference
Validating Corpus	16.66%	10.17%	6.49%
FNRA Corpus	16.45%	10.05%	6.40%

3.4 Comparing NAWL, MAWL and FNAWL used in the FNRAC

Table 6: Coverage of the 424 MAWL Word Families in the FNRAC

MAWL word families	Frequency	Coverage of the NAWL	Accumulative percentage
1-100	163,261	7.06%	7.06%
101-200	59,775	2.59%	9.65%
201-300	30,041	1.30%	10.95%
301-400	15,366	0.66%	11.61%
401-424	2,299	0.10%	11.71%
Total	270,742	11.71%	

As shown above, only 384 of AWL were found in the FAWL, which means that not all words in the AWL are of equal value to the students in the food and nutrition field. To further verify the claim that it is necessary to develop field-specific word list in the food and nutrition field, we made comparison among the coverage of FNAWL, MAWL and NAWL word families in the FNRAC. The reason for using the MAWL and NAWL is that two of the main subject areas in the FNRAC, nutrition and public health, nutrition and illnesses, are also included in the field of health care. Table 6 shows the frequency and the coverage of the 424 most frequently-used MAWL word families in the FNRAC. The total frequency counts of these 424 word families were 270,742, which was 11.71% of the whole FNRAC. The overlap between the FNAWL and the MAWL was 424 (48.35%) word families occurring in both, with 40 items more than those that occur in both the FNAWL and the AWL.

Table 7 presents the frequency and the coverage of the 442 most frequently-used NAWL word families in the FNRAC. The total frequency counts of these 442 word families were 273,359, which was 11.83% of the whole FNRAC.

Table 7: Coverage of the 442 NAWL Word Families in the FNRAC

NAWL word families	Frequency	Coverage of the NAWL	Accumulative percentage
1-100	136,740	7.09%	7.09%
101-200	59,625	2.58%	9.67%
201-300	29,677	1.28%	10.95%
301-400	16,139	0.70%	11.65%

401-442	4,178	0.18%	11.83%
Total	273,359	11.83%	

The comparison shows that the overlap between the FNAWL and NAWL was 442 (49.83%) word families occurring in both, which has 58 items more than those that occur in both the FNAWL and the AWL. The high coincidence among the FNAWL, NAWL and MAWL might be partly attributed to the overlaps among the sub-disciplines they cover in the field of health science. According to Hyland & Tse (2007), it appears that the more specificity the two corpora share, the more identical academic word families they have in common.

To gain a whole picture of how a discipline-specific word list works for its target users, it is necessary to know its coverage and those of other words lists. Figure 1 shows the coverage of the AWL, MAWL, NAWL, and FNAWL word families in the whole FNRAC. The FNAWL word families had about 16.45% coverage of the running words in the FNRAC corpus. The coverage of the FNAWL is higher than 10.05% of the AWL, 11.71% of the MAWL and 11.83% of the NAWL word families in the FNRAC. The coverage of AWL in the FNRAC was lower than those of other word lists. It can be attributed to the inclusion of various genres and a wide range of disciplines in Coxhead's corpus (2000). Of the four word lists, FNAWL coverage of FNRAC was the highest. It shows that FNAWL is a more suitable word list for those students who need to read research articles and publish articles in English journals. The findings of the study are in line with those of previous studies suggesting a more restricted, discipline-based word list is necessary for each discipline (Hyland & Tse, 2007; Martinez et al., 2009; Wang et al., 2008; Valipouri & Nassaji, 2013). Hyland and Tse (2007) noted that each discipline has its own way of reporting experience and expressing argumentation. Based on the results of the current study, we also believe that developing a discipline-specific word list is essential for its prospective users.

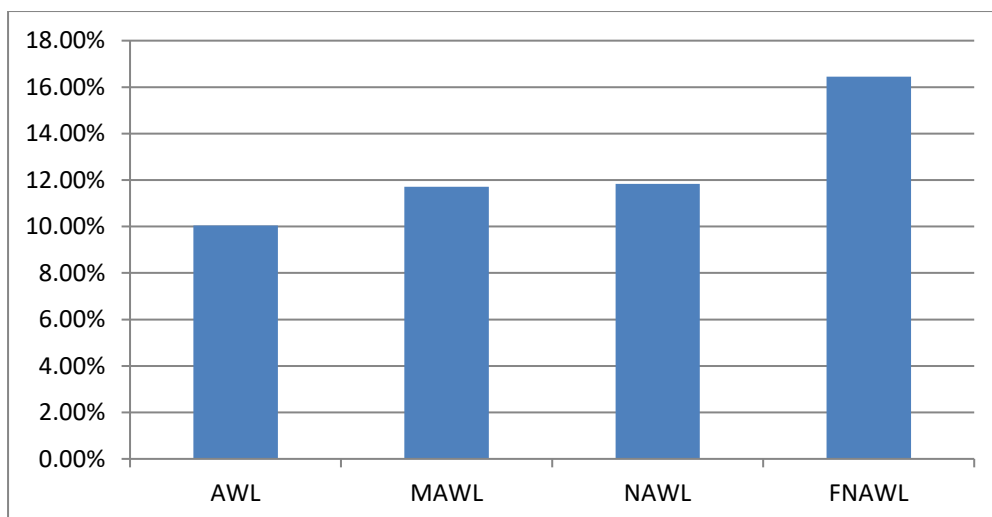


Figure 1: Text Coverage of AWL, MAWL, NAWL and FNAWL in the FNRAC

4. Pedagogical Implications

The establishment of FNAWL can enhance EFL learners' performance in fulfilling academic tasks in English. With high text coverage, FNAWL, a comprehensive academic word list, can meet food and nutrition students' lexical needs. It can serve as a guide in curriculum preparation, particularly in setting vocabulary learning goals. In light of the findings of the study, some pedagogical implications are suggested to facilitate students' development of abilities to read and listen to academic texts. First, FNAWL can serve as a reference for ESP teachers when setting their vocabulary teaching goals and selecting teaching materials. Second, to facilitate students' optimal vocabulary development, ESP teachers and material designers can include these high-frequency academic words into their academic texts to raise learners' awareness of the words found in the study. Third, researchers found that intentional learning is more effective than incidental learning (Hulstijn, 2003; Mehrpour, 2008). Learners can actively learn these academic words by the use of mobile devices and web tools, For example, dictionary app and quizlet can help learners classify topic-relevant words, practice pronunciation and make visual association between words and their meanings. Fourth, as knowledge of affixes can increase students' achievement, they can explore the relationships between words and their word formations, such as word families, prefixes, roots and suffixes. Fifth, previous studies have shown that repeated exposure to vocabulary in various contexts can aid word learning (Ward, 2009). Language learners can learn new words better when they encounter the same words often and in different contexts. Accordingly, learners should read more English academic texts to increase their exposure to the new words and imitate the use of the words in different sentences. Finally, since collocation information is useful in learning the use of academic words,

learners have to draw their attention to the words that the FNAWL words collocate with and make themselves familiar with word collocations (Akbari, 2011). To improve learners' listening comprehension and reading speed, they can train themselves to comprehend and produce collocations as unanalyzed chunks (Farrokhi, 2012).

5. Conclusion

This corpus-based study has established a list of 781 FNAWL word forms based on a Food and Nutrition Research Article Corpus with 2,311,227 running words. The FNAWL list provides high coverage (16.45%) of a wide variety of food and nutrition academic research articles. The FNAWL list is comprehensive, balanced, genre-specific and relevant to its potential learners' lexical needs. In other words, the words represent topics in a variety of food and nutrition fields, give equal importance to each sub-field and are relevant to students' academic reading texts. Hence, the findings are valuable to food and nutrition students interested in pursuing higher education, teachers, and material designers. Although several discipline-specific academic word lists have been created, the FNAWL is the only academic word list that can address the specific needs of students in the field of food and nutrition. Comparing to other academic lists, the FNAWL provides better text coverage than the AWL, NAWL and MAWL in the food and nutrition field. Therefore, it would be of special significance for food and nutrition students in reading, writing and listening to research articles.

6. Implications for Future Research

The current study is only an exploratory study on the academic word list used in food and nutrition research articles. The FNAWL is made of isolated words. That is, it does not indicate how the words are used in the field of food and nutrition. In order to help learners identify how words are used in a given context, future studies can investigate the co-contexts where these words appear. Moreover, Hyland and Tse (2007) claimed that disciplines use words with preferred meanings and field-specific collocational patterns. Future studies can investigate the different meanings and collocational patterns of the words in the FNAWL.

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Appendix A

ALC	Applied Linguistics Research Articles Corpus
AVL	Academic Vocabulary List
AWL	Academic Word List
CAWL	Chemistry Academic Word List
EAP	English for Academic Purposes
ESP	English for Specific Purposes
EAWL	Environmental Academic Word List
EFL	English as Foreign Language
FNAWL	Food and Nutrition Academic Word List
FNRAC	Food and Nutrition Research Articles Corpus
MAWL	Medical Academic Word List
NAWL	Nursing Academic Word List

Appendix B: Food and Nutrition Academic Word List

abdomen, absorb, abstract, abundant, accelerate, access, accessions, accompany, accumulate, accurate, ace, acetate, achieve, acid, acquire, activate, acuteness, adapt, additionally, additives, adequate, adhere, adjust, administer, administrate, adult, adverse, affect, aggregate, aid, alcohol, algorithm, aliquot, allergy, allocate, alpha, alter, alternative, ambient, analog, analyses, analyte, anemia, annual, anorexia, antagonize, antibody, antigen, antioxidant, apoptosis, apparent, appetite, approach, appropriate, approximate, area, aroma, array, ascertain, aspect, assay, assess, assign, assist, assume, asthma, astringent, athlete, atmosphere, attach, attenuate, attitude, attribute, author, automate, available, aware, bacteria, barley, barrier, baseline, batch, beast, beef, bench, benefit, beverage, bias, bile, bioactive, biochemistry, biology, biscuit, blend, blot, bond, bovine, brand, brew, brief, broth, buffet, bulk, burden, caffeine, calcium, caloric, camel, cancer, capable, capacity, capsule, capture, carbohydrate, carrot, category, cation, cell, cellulose, centrifuge, cereal, challenge, chamber, chemical, chloride, chocolate, cholesterol, chronic, circulate, circumference, clarify, clinic, cluster, cocoa, code, cognate, cohort, collagen, colon, column, commission, commodity, communicate, community, compartment, compensate, compete, complement, complex, compliance, component, composition, compound, comprehensive, comprise, compromise, compute, concentrate, concept, conclude, concurrent, conduct, conductance, confirm, confound, conjugate, consecutive, consent, consequent, considerable, consist, constant, constitute, construct, consume, contact, contaminate, context, contrast, contribute, convection, convene, convert, coordinate, cord, core, correlate, correspond, couple, covariate, create, criteria, crude, culture, cumulate, cycle, cytokine, dairy, data, database, dataset, decade, decline, deficit, define, demographic, demonstrate, denature, deplete, deposit, depress, derive, design, despite, detect, deviate, device, diagnose, diet, differential, differentiate, diffuse, digest, dilute, dimension, discard, discriminate, disorder, disperse, display, disrupt, dissolve, distillate, distinct, distribute, diverse, document, domain, dominate, dose, droplet, drug, dual, duplicate, duration, dynamic,

economy, efficacy, electron, element, elevate, elicit, eligibility, eliminate, elucidate, embryo,
emerge, emphasis, empirical, emulsify, enable, endpoint, energy, engage, enhance, enrich,
enroll, ensure, enteric, environment, equate, equip, equivalent, error, establish, estimate,
ethic, ethnic, evaluate, evaporate, evident, exceed, exclude, exert, exhibit, expand, expert,
expose, external, extract,
facilitate, factor, fat, fatigue, feasibility, feature, fermentation, fetus, fiber, filter, final fisher,
fixate, fluctuate, fluid, fluoresce, focus, formula, fort, fraction, fragment, framework, freeze,
frequency, fructose, function, furthermore,
gel, gelatin, gender, gene, generate, generation, geography, gestation, globe, glucose, gluten,
goal, grade, gradient, grape, graph, guideline, gum, gut,
hamster, healthcare, hence, hepatic, highlight, homogenize, honey, hormone, household,
humidity, hydrogen, hydrolyze, hypertension, hypothesis,
identical, identify, illustrate, image, immunity, impact, impair, implement, implicate, imply,
import, incidence, income, incorporate, increment, incubate, index, indicate, individual,
induce, infant, infect, infer, inflammation, ingredient, inhibit, initial, initiate, injected, injure,
innovate, inoculate, input, insert, insight, inspect, instance, institute, instruct, integrate,
integrity, intense, interact, intermediate, internal, interpret, interval, intervene, intestine,
inverse, investigate, involve, isolate, issue, item,
journal,
kcal, kidney, kinetic,
label, laboratory, lactate, layer, legislate, legume, lesion, lettuce, liberal, lifestyle, ligand,
lineage, linear, link, lipid, lipoprotein, liver, locate, logistic, longitudinal, lymph,
magnet, magnitude, maintain, maize, major, malt, mammary, mango, manipulate, manual,
margin, maternal, matrix, mature, maxima, maximize, mechanism, media, median, mediate,
medical, medication, medium, membrane, menstrual, mental, metabolic, methanol, method,
microbial, microscope, microwave, migrate, milk, minimal, minimize, minimum, minor,
mixed, mobile, mode, modify, modulate, moisture, molecular, monitor, mood, morbid,
morphology, mortality, motive, multivariate, muscle, mutate,
negate, network, neuron, neutral, nevertheless, newborn, nitrogen, norm, normal, novel,
nuclear, nutrient, nutrition
obesity, objective, obtain, occur, odd, offspring, onion, optimize, option, oral, organism,
outcome, output, oven, overall, overnight, oxygen,
pancreas, panel, parallel, parameter, participate, pathology, pathway, patients, peak, peanut,
peel, pellet, perceive, percent, percentile, period, peripheral, permeate, persist, perspective,
pesticide, pharmaceutical, phase, phenomenon, physical, physiology, pigment, pilot, pine,
placebo, placenta, plasma, plastic, plot, plus, policy, polymer, pomegranate, pooled, portion,
positive, potent, potential, pouch, poultry, precede, precipitate, precise, precursor, predict,
predominant, pregnant, preliminary, prescribe, presume, preterm, prevalence, previous,
primary, primer, principal, principle, prior, priority, probe, proceed, process, professional,
profile, project, proliferate, promote, proportion, prospect, protein, protocol, proximate,
psychology, publication, publish, pulse, purchase, puree,
qualitative, quantify, questionnaire,
radical, random, range, ratio, ration, react, recall, receptor, recover, recruit, reference, refine,
refrigerate, regent, region, register, regress, regulate, release, relevant, rely, remove, replicate,

require, research, reside, residue, resolve, resource, respond, restrain, restrict, retail, retain, reveal, reverse, rinse, rodent, role, routine, salad, saline, salmon, sample, saturate, scan, scavenge, scenario, schedule, score, secrete, section, secure, seek, select, sensation, sensory, sequence, serial, series, session, sex, shift, significant, similar, simulate, site, skim slaughter, slurry, snack, snap, solvent, somewhat, source, soy, specific, specify, spectrum, stable, stainless, standardize, starch, statistic, status, sterile, sterol, strain, strategy, stratify, strawberry, stress, structure, subject, subsequent, substitute, substrate, sucrose, sufficient, sugar, sulfate, sum, summary, supplement, suppress, survey, survive, susceptibility, suspend, sustain, symptom, syndrome, tablet, tannin, target, task, team, technique, technology, texture, thaw, theory, therapy, thereby, thermal, threshold, tissue, tolerate, tomato, topic, toxin, trace, tract, tradition, transcription, transfer, transform, transit, transmit, transport, trend, triglyceride, triplicate, tumor, ultimate, ultrasound, undergo, underlie, undertake, uniform, unique, urban, urine, utilize, vacuum, valid, vapor, vary, vegetable, vehicle, velocity, version, via, viability, viscera, viscosity, visual, vitamin, volatile, volume, voluntary, warrant, wavelength, wean, whereas, whey, withdraw, worldwide, yeast, yoghurt, zinc

Appendix C

Subjects completed a 2d **diet** diary (1 weekday and 1 weekend day within a 7-d **period** and within 1 month of the sensory tests), in which they recorded all foods and drinks **consumed** while **maintaining** their **normal** eating patterns. **Subjects** were asked to, where possible, weigh the foods they **consumed**, or use measuring cups, spoons or common serving sizes (e.g. one **slice** of bread), and to be **specific**, such as reporting the **brand** of food **consumed**, type of food (e.g. white or whole meal bread), whether **fat** was **added** (e.g. oil or butter) and the cooking **methods** (e.g. baking, frying and steaming). If the food **consumed** was from a recipe, the **subjects** were asked to include the recipe with the record and to state how much of it they **consumed** (e.g. whole or half). **Diet** diaries were **analyzed** using Food Works 2007. Mean energy intake (kJ) and **macronutrient distribution** (% energy from **carbohydrate**, **protein** and **fat**), and the type of **fat** (**saturated**, **monounsaturated** and **polyunsaturated**) and **alcohol** (g) were **quantified**. To **minimize confounding** from **potential** underreporting, all **diet** records were compared with recommended energy **requirements** for Australians based on age, sex, height and weight. **Subjects** reported their body weight (kg) and height (cm) on the day of testing and in their food diaries, and the BMI (weight (kg)/height (m²) was calculated. The **prevalence** of overweight and **obesity** was determined using cut-off values for BMI: overweight: 24.9 kg/m²; and **obesity** 29.9kg/m².



ESP Instruction and Evaluation: A Case of Business English for Master Programs in China

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Abstract

In this study, I looked at the Business English teaching for graduate students in a university of finance and economics in China. First, I reviewed national guidelines for the three master programs and undertook pre-course survey of the learning needs in Business English, on which we designed specific syllabi for the three Business English courses and delivered the courses. Then, I conducted post-course evaluation from students as well as teachers, which indicated that the courses have fulfilled the degree candidates' learning needs to a considerable extent, but that there were issues of concern for ESP teaching. Finally, I made suggestions in response to issues like limited supply of course types and modules, shortage of discipline-specified contents, lack of facilities for using and learning foreign languages, varied language proficiency among the students, and instructors' confusion in delivering cross-disciplinary courses of English for Specific Purposes (ESP) as well.

Keywords: Business English, graduate students, syllabus design, course evaluation

Introduction

Business English is a sub-branch of English for Specific Purposes (Dudley-Evans & St John,

1998), which was placed under the umbrella category of English for Business and Economics (Hutchinson and Waters, 1987: 17), and was viewed as learner-centered training for business professionals by focusing on learners' needs so as to garner skills and performance in business communication (Ellis & Johnson, 1994). Business English instruction in China has gone through several phases, evolving from a stand-alone course required by and integrated with foreign trade in the 1950s, then to a subject and program for vocational education, and degree programs at bachelor and master levels in the 2000s (Zhang, 2007; Zhang, 2017). Business English and business communication in English are often used interchangeably when referring to a course or module that is included in business or management programs in the context of China's tertiary education. There have been a wide range of studies on Business English or business communication regarding needs analysis from the perceptions of learners (Shi, 2018; Zagan-Zelter & Zagan-Zelter, 2010), faculty and employers (Conrad & Newberry, 2011; Grant, 2004; Maes, Weldy & Icenogle, 1997; Robles, 2012) for undergraduate students who study business programs in tertiary educational institutions; An extensive literature focused on course syllabi and program design (Leena, 1996; Serafini, Lake & Long, 2015), assessment and evaluation (Fenton-Smith, Humphreys & Walkinshaw, 2018; Tsou & Chen, 2014) involving EMI-based (English as a medium of instruction) or ESL/EFL-based (English as a second or foreign language) business programs. But designing and evaluating Business English for Chinese EFL learners of graduate students from ESP perspective have not been sufficiently addressed (Shi, 2020a).

As professional master degree programs are hosted by a rising number of universities in China, where Business English has been prescribed as a core course, Business English learners in management master programs share a growing cohort of Business English students. However, in most cases, Business English designed for EFL learners of graduate students in China is jointly delivered by graduate school and foreign language school (centers), whereby graduate school administers the course in line with top-down doctrine, and foreign language school delivers the courses by following the directives in place and utilizing teaching resources at their disposal. Inadequate collaboration from the two parties involved might mitigate academic attention that should be given to the course and learners as a result. Therefore, for the purpose of bridging the gap between administrators, learners and instructors, We intend to review the Business English courses for three cohorts of master students in a university of finance and economics in China: MBA (Master of Business Administration) MPA (Master of Public Administration) and MPAcc (Master of Public Accounting), and more specifically to address

the following research questions:

1. What are the foreign language descriptors in terms of ESP in the national curricular guidelines for the three master degree programs MBA, MPA and MPAcc?
2. What are the three cohorts of graduate students' learning needs in a university of finance and economics? and
3. How are the ESP courses focused on Business English for the three master degree programs perceived and evaluated by the degree candidates?

English Language Courses in Master Degree Programs

In China's tertiary education, EFL teaching can be divided into EFL for English majors and non-English majors at undergraduate and graduate levels, where EFL courses for English majors account for a small portion focusing on linguistics, literature and translation studies, EFL courses for non-English majors have a predominant share in the total student body. The Teaching Syllabus for Non-English Major Master Students (1993) was designed for EFL instruction in Chinese master degree programs of non-English majors, which has gone through multiple revisions regarding language skills requirements in response to learners' improved language proficiency and the expanded demands for language skills from both academia and the workplace. In addition, there have been two types of master degree programs in China's tertiary education context: professional and research (or 'academic' literally in Chinese) programs, in which professional degrees give more emphasis on professional skills and practical competence in specified disciplines or fields, whereas research programs focus on developing academic competence and research abilities. Research master programs were first introduced to the tertiary educational system in response to a shortage of research faculty in science and engineering disciplines in the 1970s. Professional programs were adopted by the tertiary education in China in the 1990s, responding to rising demands for managerial professionals with strong professional expertise combined with administrative skills (Lu, Zhou, & Zhao, 2015).

Since their inception, professional master degree programs have gained wide popularity and saw a period of fast expansion over the past three decades. The professional programs are administered and supervised by the Academic Degree Committee of the State Council and are operated in line with the guidance by supervisory committees of each degree program. Foreign

language courses have been prescribed as one of the core courses that are mandatory for master degree candidates in China, and foreign language skills for academic-focused and occupation-specific communication purposes have been regarded as important skills to be obtained by master degree candidates.

Professional Master Degree Programs in China

Professional master degree programs place importance on training professionals with adequate practical skills, rich field-work experience and a fair command of theoretical knowledge in their fields. To date a total of 40 professional master degree programs have been approved by educational authorities of China, which has covered a wide range of disciplines including business, finance, engineering, health and medicine, agriculture, social work and the like. These programs are hosted by more than 500 educational institutions in China (See <http://www.cdgdgc.edu.cn/xwyyjsjyxx/gjzl/szfa/267338.shtml>). X University of Finance and Economics (hereafter XUFE) is one prestigious university in China enjoying a well-received reputation among both the banking and public finance sectors, where a total of 11 professional master degree programs ranging from business administration, public administration, finance and accounting to social work have been introduced over the past two decades (See <http://gs.cufe.edu.cn/bmgk/yjsjygs.htm>).

Foreign language courses are mandatory and credit-bearing in all master programs. The description of these foreign language courses for different professional master programs, however, vary considerably among universities.

We will first review the national administration structure of the professional master degree programs in China, then the national curricular guidelines or basic requirements for the three master degree programs before devising school-specific Business English courses.

National Basic Requirements for Curricula of MBA Programs

The MBA program was generally considered as the first professional master degree program started in China tertiary education in 1991. *The National Basic Requirements* for curricula of MBA programs are drafted, revised and administered by the China National MBA Education Supervisory Committee, whose mission is described as follows:

- to collaborate the MBA educational activities on a nation-wide level;

- to promote and advance the MBA education in China by promoting partnerships with business at home and abroad.

In accordance with *the National Basic Requirements* (2013), the MBA degree holders are expected to have fairly good practices of both academic and business ethics, in addition to a strong sense of corporate citizenship, accountability, sustainability and humanistic, scientific and entrepreneurial pursuits.

Additionally, MBA programs in China should prepare the students with an international vision by developing inter-cultural communicative and administrative competences. *The National Basic Requirements* state that the knowledge modules consist of basic knowledge covering the fundamental principles of economics and management, and disciplinary knowledge that will be applicable to corporate management or specific departmental operations. The essential competences to be acquired by MBA degree holders are stated as:

ability to think of and analyze business management from strategic and integrated approach facilitated by a global vision;

- ability to make decisions from a scientific approach to handle complex business issues;
- ability to communicate based on teamwork and collaboration;
- ability to organize and lead teams with innovation.

The MBA program curricula in different universities are required to take into account the essential competences for MBA candidates in specific industries and sectors to fulfill the future tasks of overall management or specific departmental administration. *The National Basic Requirements* attach importance to teaching with case analysis and by field-projects in teaching methods, which can be achieved by the active engagement of industry experts with rich practical business operating experience. To translate the guideline into actual course design, we designed Business English to train the degree candidates' intercultural business communicative competence, and to prepare the MBA students for an international business arena with strong command of English language skills.

National Curricular Guideline of MPA

The MPA degree program was introduced into tertiary education in 2001. As stated in the *National Curricular Guideline of MPA* (2011), the program aims to prepare the degree candidates with competences in public administration and policy analysis, who will

- observe the codes of political, ideological loyalty and professional ethics,
- be capable of finding solutions to problems in public administration, and
- be capable of utilizing multi-disciplinary knowledge of politics, economics, law and modern technology, and using science-based research methods.

The National Curricular Guideline of MPA (2011) stipulates that foreign language is mandatory with at least two credit points in the program, and that the foreign language courses are not limited to English language with at least 32 class hours involved. Additionally, the universities who run the MPA programs are to accommodate foreign language courses on the basis of the academic expertise of both university and students' learning needs.

National Curricular Guideline of MPAcc

The MPAcc program was started in 2004 in China to prepare the degree candidates for high-level accounting professionals with strong competences for practical solutions to accounting issues. *The National Curricular Guideline of MPAcc* (2014) highlights global vision for MPAcc candidates among other essential competences and skills including strategic thinking, leadership, innovation and professional ethics.

In terms of foreign language requirements and competence to be acquired, *The National Curricular Guideline of MPAcc* (2014) states explicitly that the following course arrangement should be available to students:

- a mandatory and core course of foreign language bearing three credit points,
- a selective course of English for Accounting in Use of two credit points.
- And the students are to meet the following outcomes of learning:
- to have a strong command of integrated skills in one foreign language,

- to be able to use the language fluently for workplace communication.

School Syllabi for MBA, MPA and MPAcc in XUFE

From reviewing the national curricular guidelines of the three professional master programs and the descriptions related to foreign language courses and learning outcomes, we have figured out the answer to research question 1. First, foreign language courses were given prominence by the curricula guidelines as they were required to be placed in the core and mandatory module of the curricula. Second, the university who run these programs were required to provide their language courses based on their unique academic and disciplinary expertise to meet the expected outcomes of foreign language competences. Third, there are sharp variations in course objectives and arrangements among the guidelines of three master programs, with MPAcc guideline featuring more specific and precise wording, MBA being vague and less specific, and MPA having the least explicit description.

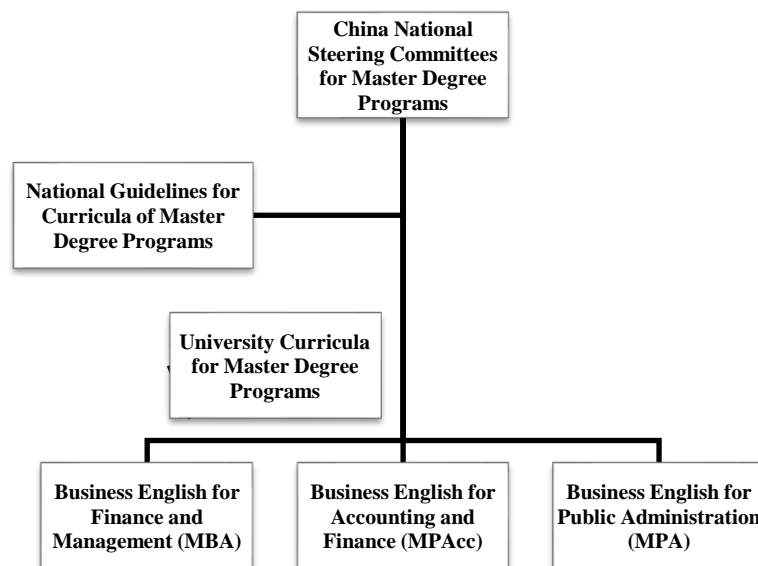


Figure 1: Business English for Three Master Degree Programs in XUFE

After needs analysis and consultation with disciplinary faculty, we devised the university-specific syllabi for the three master degree programs in XUFE. We designed a range of Business English with specified disciplinary contents by accommodating students' learning needs and faculty expertise. As **Figure 1** presents, Business English for Finance and Management was devised for MBA programs to take account of finance and management aspects; Business English for Accounting and Finance was adopted for MPAcc programs to meet their needs for English language skills in accounting and financial management; Business

English for Public Administration was arranged for MPA candidates to train them with English language skills to be employed in public administration and public policy.

MBA Business English includes modules on banking and financial system, accounting and auditing basics, marketing and leadership, global economic growth, international trade, monetary and fiscal policy and business ethics; MPA Business English includes modules on public administration and public policy, government system comparative overview, public finance and taxing systems, economic growth and development, poverty alleviation at home and abroad, regional and global organizations; MPAcc Business English consists of accounting and auditing, accounting standards and boards, banking and financing systems, corporate social responsibilities, financial regulation and financial literacy, global economic growth outlook.

The three Business English share some overlapping modules that are deemed as core elements of finance-focused graduate students, such as banking and financial systems, economic growth and development, business and professional ethics. In addition, there are some topic adaptations that vary from one program to another, MBA, for example, attaches importance to corporate management and finance, MPA highlighting public policy, equality and poverty reduction, MPAcc focusing on financial regulation and compliance.

Course Delivery of Business English for Master Students

Course administration and delivery vary between different departments or schools which operate the master degree programs, as illustrated in **Table 1**.

The MBA was administered and operated by the MBA Education Center of the university, whereby Business English was scheduled in the first academic term that was primarily given by language teachers. The course was delivered by face-to-face instruction, lasting nine weeks consecutively with four hours of instruction each week, which were evenly shared and jointly delivered by one native Chinese-speaking and one native English-speaking language teachers, with an enrollment of about 40 students for each language class.

Business English for Public Administration was arranged in one week of face-to-face instruction that were delivered by one language teacher and one subject teacher with different teaching priority. The language teacher is mainly in charge of speaking and listening-focused communication on public administration-related topics and the subject teacher is responsible for theory or framework of public administration. A total of 32 teaching hours were equally divided by two teachers with a class size of more than 60 students.

Business English for Accounting Purposes was delivered in the first academic term by language teachers and the optional course would be offered in following academic terms and delivered by faculty of accounting discipline. The mandatory course lasted nine weeks with four hours of teaching in one session per week via face-to-face lectures, which placed more emphasis on training communication skills with accounting related topics, and the optional course with the similar class hours and instruction gave more focus on technical and professional aspects of accounting.

Table 1: Course Arrangement for Three Master Degree Programs

Teaching Arrangement						
	MBA		MPA		MPAcc	
Teaching hours	36	4 hours per session	36	4 hours per session	36	4 hours per session
Class sizes	40		50-100		40-100	
Teachers	1 Chinese TEFL teacher	1 Native English teacher	1 Chinese TEFL teacher		1 Chinese TEFL teacher	1 Chinese Subject teacher
Time slots	weekday evening	weekends	weekday evening	weekends	weekday evening	weekends
Course types	required	core module	required	core module	required	core module
Credit	2 points		2 points		2 points	
Teaching modes	lectures	student presentations	lectures	no presentations	lectures	student presentations

Methods

To address the research questions, we first reviewed foreign language requirements for Chinese graduates EFL learners by contrastive literature and official documents analysis in general, and examined specific description for foreign language skills and communicative abilities involved in different master programs in particular. We then adopted questionnaires and interviews to identify the master degree candidates' learning needs and motivations for their specific jobs-related communication in English. Finally, we conducted post-course evaluations in terms of students' satisfaction and faculty's feedback to course arrangements and delivery. Pre-course and post-course surveys were administered for two consecutive years and analyzed by online SPSS (The SPSSAU project, 2020). Descriptive statistical analysis and one-way ANOVA were

run to examine the specific differentials among the three cohort of master students in course evaluation.

Participants

In pre-course surveys, we collected data from a total of 433 graduate students who responded to and completed the web-based questionnaires of learning needs in a voluntary manner and on the condition of anonymity. The respondents comprised 201 MBA candidates, 122 MPAcc candidates and 110 MPA candidates. We undertook the post-course evaluation upon course completion and sampled a total of 320 valid respondents' data, composed of 77 MBA, 106 MPA and 137 MPAcc students. We carried out semi-structured interviews with randomly sampled 15 students and 6 faculty for the purposes of qualitatively exploring the attitudes of students and faculty towards the Business English. The pre-course and post-course questionnaires were written in English and we ran pilot tests on a prior student body, which showed high reliability (Cronbach α : 0.859; 0.966) and validity (KMO:0.845; 0.878) with items in a 5-point Likert scale, as indicated in **Table 2** and **3**. We interviewed sampled faculty and students mostly in Chinese with occasional English use between interviewers and interviewees.

Table 2: Pre-and Post-Course Pilot Survey Reliability

Cronbach					
Pre-course			Post-course		
items	samples	Cronbach α	items	samples	Cronbach α
17	285	0.859	31	80	0.966

Table 3. Pre-and Post-Course Pilot Survey Validity

KMO & Bartlett Test					
Pre-course			Post course		
KMO		0.845	KMO		0.878
Bartlett's Test of Sphericity	Chi-square	3171.25	Bartlett's Test of Sphericity	Chi-square	2235.08
	Df	136		df	465
	p value	0		p value	0

Data Collection and Analysis

There was extensive literature on ESP needs analysis and evaluation frameworks (Gao, 2007; Hutchinson & Waters 1987; Leena, 1996; Tsou & Chen, 2014), and we adopted rationales (Donna, 2011; Hutchinson & Waters, 1987) of learners' needs analysis and ESP course evaluation and adapted them to this study. We divided learning needs into four sections: degree candidates' learning needs, wants and lacks in language skills, motivation in and time commitment to English language learning, expectations to teaching methods, contents and materials, as well as their perceptions of language assessment. For reliability assurance, we verified the multiple choice items in the questionnaire by response test and the results showed that the options made by students were significantly different.

Table 4: Needs and Wants of English Language Skills

Rating on self-identified language skills of being wanted and being fairly gained (N=433)				
Language skills being wanted			Language skills of being fairly gained	
Options	N	%	N	%
Listening	310	71.6	75	17.3
Speaking	357	82.4	57	13.2
Reading	140	32.3	289	66.7
Writing	230	53.1	78	18.0
Translating	164	37.9	78	18.0

Notes: students can choose more than one options.

With regard to learning needs in language skills, the three cohorts of respondents prioritize similar or identical skills as to the language skills ranked by Chinese undergraduate EFL learners (Shi, 2018): the top skill they want and lack in English is speaking skill, followed by listening, writing, translating and reading skills, as presented in **Table 4**. The wants for speaking skills were consistent with previous literature on business communication where oral communication was identified as an important component by employers, faculty and other stakeholders in the context of the U.S business education domain (Coffelt, Baker & Corey, 2016; Worthington, 2014). Meanwhile **Table 4**. shows that reading was regarded as the English language skill of strong command, with other skills being significantly weaker and speaking the weakest. We found in follow-up interview that reading and writing were the language skills that their job positions needed most, because they often read business communication

documents in English and sometimes respond with emails in English. However, given that their weakest skill is speaking for daily communication and professional communication, we considered speaking the most ‘wanted’ skill and gave top priority to enhancing workplace speaking skill throughout the teaching.

Additionally, it is interesting to note that the vast majority of the respondents claimed that they seldom used English in their workplaces, which is particularly the case for MPA candidates as they are primarily from public administrative posts in government agencies or public service enterprises where English language is less likely to be used.

Therefore, we gave more prominence to developing speaking skills in the Business English syllabi for three master degree programs, which is different from business communication teaching priority in the U.S. context, where writing-intensive instruction is given priority in communication courses for business and management purposes (Russ, 2009; Wright, 2017).

In terms of in-class teaching contents preference, the three cohorts of respondents ranked disciplinary-specific, occupation-related topics and language skill-related training as their top preferences. As presented in **Table 5**, where the preferences were contingent on averaged ranking, with smaller values indicating bigger preferences based on the algorithm applied. We found that those graduate students, as adult EFL learners, had a notable inclination to the practical function of language learning to assist their academic progress or career promotion. This can be achieved by learning English language with specified content focus.

Table 5: Teaching Contents Preferences

Ranking of expected teaching content preference in Business English by priority (N=433)						
Preferred Contents	Numbers of the respondents who rated ____ as					Averaged ranking
	1st place	2nd place	3rd place	4th place	5th place	
Exam-preparing	51	63	52	77	190	3.67
Disciplines-specific	135	109	81	72	36	2.46
Language skills-based	84	72	99	84	94	3.07
Business & occupation-related	129	104	85	78	37	2.52
Inter-cultural literacy focused	34	85	116	122	76	3.28

As for learning motivation and time commitment, we concluded from **Table 6.**, where the smaller numerical values in averaged ranking represented higher motivations, that they placed the top motivation on learning for the credits stipulated in the syllabus. The rating of credit is followed by learning for securing better jobs and knowing the culture. This sounds like a mix of motivations for learning English language, with internal motivation for learners to be linguistic and cultural enriched, and an external one from syllabus requirement to earn the credits attached to English course. In addition, time commitment was considered as a big challenge for those adult learners who were engaged with work, study and family simultaneously. The vast majority of the respondents who were registered as part-time students claimed that they almost spent no time on intentional English language learning unless they come to school for language classes once a week after they were enrolled in the master degree programs.

They expected classroom activities to focus on speaking and interactive activities so that they could have more opportunities to speak English instead of engaging in traditional lecturing or cramming by teacher, through which most of them were taught before. They preferred teaching with up-to-date cases related to their jobs and disciplines to structured textbook with outdated information, which could be assisted by teaching with technology and on-line resources like MOOCs and APPs for English language learning.

The majority of respondents have passed the College English Test Band 4 or 6 in their college days, which are essential proficiency English language tests for Chinese university students and approximately match the level descriptors in B1 or B2 in European Common Reference Framework. They have lower intentions to go after overseas study experience or change their current jobs to foreign enterprises, so they were considered less likely to take other EAP or ESP-featured language tests like IELTS, TOEFL or BEC.

Table 6: Learning Motivations

Ranking of motivations for learning English language during master degree period (N=433)							
Key Motivations	Numbers of the respondents who rated___ as						Averaged ranking
	1st place	2nd place	3rd place	4th place	5th place	6th place	
Credits	97	97	82	84	44	29	2.93
Securing better jobs	97	89	78	75	40	54	3.08

Studying abroad	64	50	57	59	79	124	3.95
Passing CET-4/6	78	52	55	85	81	82	3.66
Personal interest	39	53	43	64	121	113	4.19
Linguistic and cultural literacy	58	92	118	66	68	31	3.2

To address research question 3, we structured the post-course evaluation from the aspects of overall satisfaction (OS), language skills and vocabulary (LSV), business language ability (BLA), international business communication (IBC), teaching materials and activities (TMA), and course arrangement (CA), as were indicated in **Table 7**.

We administered post-course survey and collected data using a 5-point Likert scale, and ran descriptive statistics and one-way ANOVA to identify the differentials among the three cohorts of graduate students pertaining to learners' satisfaction.

We found from the questionnaires and interviews that the Business English for graduate students of different schools/departments met their needs for occupation-related and discipline-specific language contents to a considerable extent, which was underpinned by the overall satisfaction (OS) with the Business English instruction and teaching materials and activities (TMA) used (Mean: 4.35 and 4.434 respectively).

The respondents gave high endorsement in the interview to the mixed pattern of Chinese and foreign teachers with different teaching focus placed by individual teachers in specific modules. As the teaching activities from different teachers were more likely to sustain their participation in and concentration on class activities instead of being exhausted by one teacher who gave four hours of instruction consecutively in one session.

Table 7: Descriptive Statistics of Learners' Ratings for Six Categories

Essential Indicators of Descriptive Statistics						
items	No. □	Minimum	Maximum	Mean □	Std. Deviation	Median
OS	320	1	5	4.35	0.689	4.667
BLA	294	1	5	4.207	0.768	4.2
IBC	320	1.143	5	4.237	0.707	4.226
TMA	320	1	5	4.434	0.637	4.5

CA	320	2	5	3.981	0.664	4
LSV	320	1.667	5	4.353	0.639	4.5

The respondents were motivated by the activities of teaching through business cases, which were highly interactive, and helped them build up confidence in speaking English and would be of value for their after-class learning, using language resources and building learner autonomy. However, as **Table 7** presents, the respondents showed comparatively lowered satisfaction to course arrangements with a mean standing at 3.981, which can be partially attributed to the four-hour per session intense course arrangements, sometimes scheduled on weekend evenings.

Table 8. presents the overall statistical analysis of individual items rated by students in self-evaluation.

Table 8: Overall Descriptive Statistics of Individual Items

Descriptive Statistics of Individual Items						
Items (Category)	N	Min.	Max.	Mean	SD	Median
Did the course in help you improve listening skills? (LSV)	320	1	5	4.2	0.936	4
Did the course help you improve speaking skills? (LSV)	320	2	5	4.428	0.735	5
Did the course help you improve reading skills? (LSV)	320	1	5	4.388	0.792	5
Did the course help you improve writing skills? (LSV)	320	1	5	4.156	0.889	4
Did the course help you improve translating skills? (LSV)	320	1	5	4.372	0.801	5
Did the course help you learn vocabulary to understand lectures and intelligence in your fields? (LSV)	320	2	5	4.575	0.609	5
Was the course being taught by current teachers useful? (CA)	320	1	5	4.284	0.884	5
Was course arrangement of 4 hours per session suitable for you? (CA)	320	1	5	3.966	0.993	4
Was course arrangement of being scheduled in one term suitable for you? (CA)	320	1	5	3.978	1.015	4
Was course arrangement of weekend or evening session suitable for you? (CA)	320	1	5	3.697	1.085	4
Were the materials used in the course by the teachers useful? (TMA)	320	1	5	4.525	0.712	5
Were the textbooks used by the teachers in class useful? (TMA)	320	1	5	4.463	0.771	5
Were the classroom activities adopted teachers useful? (TMA)	320	1	5	4.391	0.772	5

Did the content of the course correspond to your expectations? (TMA)	320	1	5	4.356	0.737	4
Did the course help you learn to work in a team? (TMA)	294	1	5	4.224	0.881	4
Did the course help you understand what Intercultural Business Communication is like? (IBC)	294	1	5	4.32	0.766	4
Did the course help you understand what Global Vision is like? (IBC)	294	1	5	4.337	0.796	4
Did the course help you have a fairly good command of international business communication? (IBC)	294	1	5	4.248	0.828	4
Was the course helpful in developing yourself into an expert in your professional fields? (IBC)	298	1	5	4.034	1.034	4
Did the course help you look at public institution management or corporate governance from a global perspective? (IBC)	294	1	5	4.221	0.86	4
Did the course help you evaluate issues of economic growth, business environment or accounting practices from a global perspective? (IBC)	294	1	5	4.231	0.814	4
Did the course make you more confident in reading discipline-specific English texts? (BLA)	294	1	5	4.323	0.789	4
Did the course make you more confident in listening to discipline-specific English lectures? (BLA)	294	1	5	4.286	0.838	4
Did the course make you more confident in handling discipline-specific English conversations? (BLA)	294	1	5	4.18	0.881	4
Did the course make you more confident in handling discipline-specific English writing tasks? (BLA)	294	1	5	4.088	0.934	4
Did the course make you more confident in analyzing and evaluating business information in English? (BLA)	294	1	5	4.16	0.908	4
Did the course help you find your own methods in learning discipline specific English? (OS)	320	1	5	4.122	0.882	4
On a general level, are you glad that you took the course? (OS)	320	1	5	4.481	0.717	5
Would you recommend the course to other future students? (OS)	320	1	5	4.447	0.766	5
will you use the language leaning resources in specific disciplines advised by teachers in future? (OS)	320	1	5	4.234	0.816	4
Will you keep learning Business English on your own after the course ends? (OS)	320	1	5	4.467	0.777	5

Figure 2 illustrates the graphic presentation of these items, which show that the students rated vocabulary learning in specific fields highest (Mean: 4.58), while rated course arrangement on weekend evening sessions lowest (Mean: 3.70), with other items values being distributed between the mean range from 3.97 to 4.53.

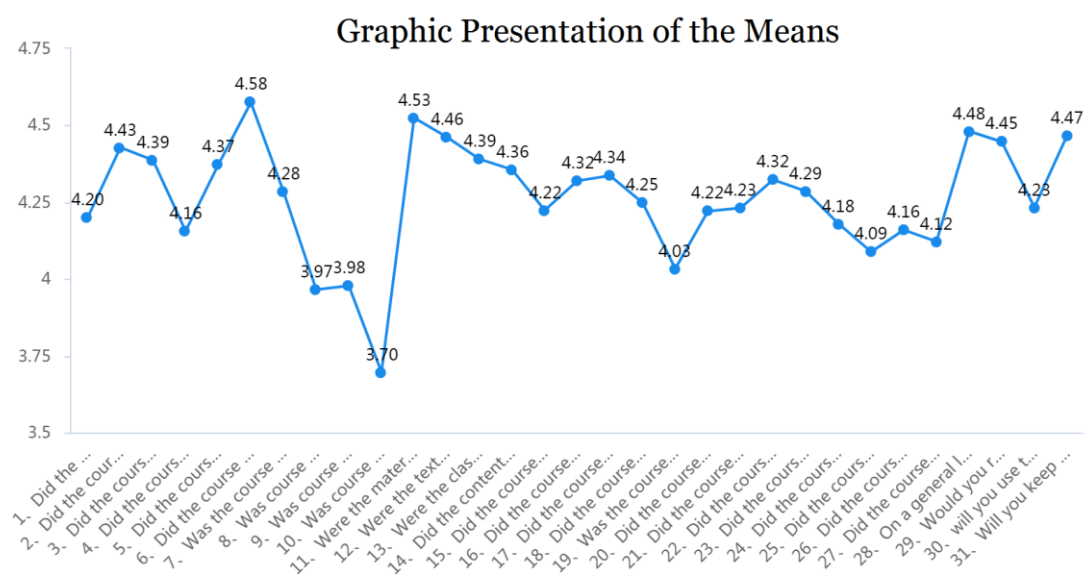


Figure 2: Graphic Presentation of Individual Items

Results and Discussion

In this section, we present findings pertaining to six categories of learning outcomes outlined above and explores reasons for, and implication of the results.

Overall Satisfaction: Effect Size Analysis

Table 9. Effect Size Differences Among Three Cohorts of Students

Items	Effect size			
	SSB	SST	Eta(Partial η^2)	Cohen's f
OS	7.338	151.467	0.048	0.226
BLA	9.728	172.744	0.056	0.244
IBC	2.488	159.282	0.016	0.126
TMA	2.216	129.276	0.017	0.132
CA	5.013	140.637	0.036	0.192
LSV	6.624	130.43	0.051	0.231

Table 9 presents the degree to which the between-group differences can be displayed by effect sizes, where Eta squared value (η^2) indicates effect sizes, and the critical benchmarks are valued at 0.01, 0.06 and 0.14, implying small, medium and large differentiation respectively (The SPSSAU project, 2020). Thus, Eta squared values of the six categories in between-group ratings were considered small. Combining the descriptive statistics and effect size analysis, we found that the ratings of six categories of Business English courses were not significantly different across the three cohorts of students involved.

Difference in the Mean Ratings for the Six Categories

By one-way ANOVA, comparing the three groups in terms of rating to the six categories of items, we identified significant differences in the mean values of the four of six categories of items: OS, BLA, CA and LSV. For the four categories that showed statistically significant between-group differences marked by double asterisk (**), we ran a post-hoc test to find where the differences could be spotted in the three groups of students for each category of items.

Table 10. One-Way ANOVA of Self-Evaluation Over Learning Outcomes

One-way ANOVA						
Items	Group	Sample	Mean	Std. D	F□	p□
OS	MBA	77	4.44	0.69	8.07	0.000**
	MPA	106	4.14	0.76		
	MPAcc	137	4.46	0.59		
	Total	320	4.35	0.69		
BLA	MBA	77	4.32	0.75	8.682	0.000**
	MPA	80	3.91	0.87		
	MPAcc	137	4.32	0.67		
	Total	294	4.21	0.77		
IBC	MBA	77	4.25	0.83	2.515	0.082
	MPA	106	4.12	0.72		
	MPAcc	137	4.32	0.61		
	Total	320	4.24	0.71		
TMA	MBA	77	4.48	0.72	2.764	0.065
	MPA	106	4.32	0.64		
	MPAcc	137	4.5	0.58		
	Total	320	4.43	0.64		
CA	MBA	77	4.19	0.69	5.859	0.003**
	MPA	106	3.86	0.6		
	MPAcc	137	3.96	0.67		
	Total	320	3.98	0.66		
LSV	MBA	77	4.44	0.73	8.48	0.000**
	MPA	106	4.15	0.63		
	MPAcc	137	4.46	0.56		

Total	320	4.35	0.64
* p<0.05 ** p<0.01			

From **Table 10**, we can find that the first significant difference turned out to be in the OS, where a review of the mean ratings shows that “MBA>MPA, MPAcc>MPA” , at level 0.01($F=8.070$, $p=0.000$); The second significant difference was observed in BLA, where mean ratings indicate significant difference at level 0.01($F=8.682$, $p=0.000$), between-group comparison of means indicate that “MBA>MPA, MPAcc>MPA” ; CA was the third category to yield statistically significant difference, where the three cohort of students indicate significant difference at level 0.01($F=5.859$, $p=0.003$), between-group comparison of means indicate that “MBA>MPA;MBA>MPAcc; Last significant difference lies in LSV, where the three cohort of students indicate significant difference at level 0.01($F=8.480$, $p=0.000$), between group comparison of means indicate that “MBA>MPA;MPAcc>MPA”.

Moreover, the three cohorts of graduate students show no significant difference in their mean rating for IBC and TMA (p value:0.082; 0.065 respectively; $p>0.05$).

In the aspect of OS, LSV and BLA, the mean ratings for these three categories rose linearly from MPA to MBA, to MPAcc, which means that the MPAcc cohort are showing higher satisfaction than their MBA and MPA peers. We learned from classroom observation that MPAcc students had higher learner autonomy and general language proficiency than the other two groups. This might partially contribute to more noticeable progress in general language skills, vocabulary and business language abilities (BLA) than their peers, leading up to higher overall satisfaction ratings as a result.

The three cohorts of students indicate significant differences in CA ratings at level 0.01($F=5.859$, $p=0.003$), between-group comparison of means indicate that MBA>MPA; MBA>MPAcc, which implies that MBA students rated significantly higher than other cohorts of peers. We found from interviews that the teachers blend involving Chinese and foreign instructors for MBA students played a part for significant higher evaluation for CA, though some informants complained about the weekend evening sessions.

Course Arrangement: Course Availability and Flexibility

Table 10 reveals that the limited availability, inflexible schedules and limited channels of learning lowered informants' rating of CA. In the interviews, the respondents suggested that Business English should be provided with more flexibility regarding class schedules and teaching modules, so that they are more likely to meet the students' needs for different time slots and a wider range of choices in teaching modules. As a result, the majority of the respondents from the master programs contended that the English language courses were insufficient for developing their language skills, which was particularly voiced by the cohort of MBA students. MPAcc and MPA candidates responding to the questionnaires echoed the proposals of adding Business English modules and class hours beside current mandatory modules, so that more course will be available to students who have higher motives in foreign language learning.

Teaching for Mixed-Level Students and Large Class Size

The fact that the master students have a wide range of English language proficiency, coupled with super large class size, would complicate the teaching material selection and content planning in class, which would consequently lower satisfaction from the students. Class size is a notable issue of concern for MPAcc students in particular given that the MPAcc and MPA students encountered the super-large class size in their business English learning experience.

For MBA students normally with a class size of around 40 students, they shared the similar concern on the grounds that the large class size will compromise the language course standards and learning effectiveness. Moshiri & Cardon (2014) surveyed the business communication courses in US universities with regard to ideal and actual class sizes and found that vast majority of the class sizes are fewer than 50 students. The class size surveyed is quite close to that of MBA Business English course, and smaller than the class sizes of MPA and MPAcc programs in XUFE.

According to previous studies (Bressoux, Kramarz, & Prost, 2009; Wright, 2017; Lee, 2009), large class sizes were likely to cause inadequate attention to individual students, insufficient classroom interaction, ineffective individual-based feedback and assessment.

As for contents, MBA students with higher expectations regarding the course contents mentioned that the contents of the modules provided by foreign teachers were not business and finance focused, mostly on general English conversation and presentations. Similarly, the

modules given by Chinese language teacher were inadequate for developing inter-cultural business communicative (IBC) abilities in a real sense for falling short of in-depth subject topics.

MBA program adopted English language placement tests and streamed teaching based on the students' performance in the tests, and this practice can be a significant step towards teaching to meet students' different proficiency standings. In addition, learning with technology and hybrid learning by combining traditional face-to-face instruction with online learning would be a possible solution to the current limited availability of courses, as has been justified by Wright (2017) in response to expanding and super-large class enrollment of business communication in the U.S. universities.

Inter-Cultural Business Communication and Business Language Ability: Language Learning Environment in the School

With regard to improvements to be made on the Business English courses and the overall master degree programs, the respondents believed that the limited exposure to using foreign language or English on campus was a factor that disabled them from using the foreign language outside the language classes. Consequently, it is less likely to learn the language in a sustained way, not to mention build up competence in intercultural business communicative (IBC).

Beside these mandatory language courses, there were some events and lectures that were delivered by foreign guest professors in English at university and departmental levels. These events have been hosted as key platforms for students to improve business language abilities (BLA) in academic settings, to broaden their academic vision and foster global mindset in their career prospects. For example, the MBA Education Center and the School of Accounting, committed to preparing students to be professionals with an international outlook by hosting an array of events. These events were regularly integrated in the programs, including foreign guest professor lectures in English, short exchange programs or visiting programs with or to foreign institutions that entail fees from participants.

Suggestions for Improving the Teaching Effectiveness

To address research question 3, we identified some problems with the current Business English course and program after having interviews with language teachers and faculty from disciplines of business and finance. First, there is an extant gap between the graduate students' actual

language proficiency and expected learning outcomes, which cannot be bridged without consistent efforts by students with assistance from teachers.

The vast majority of the master students surveyed show a strong motivation to learn the language well for the purposes of linguistic competence and cultural exchanges, however, limited commitment in time and efforts to language learning and use will lessen the likelihood of making continued progress in learning the language. Moreover, insufficient hours of exposure to language use during and after class serves no more than as a guide to language learning methods and learning resource sharing.

Second, there exists a disparity between rhetorical objectives from syllabi and actual course delivery. When the syllabi for the three master degree programs were designed in accordance with the national guidelines and school expectations, as well as on the basis of learners' needs, there were some factors of uncertainty that were not given adequate consideration. These factors might include students widely varied language proficiency, teachers' academic expertise and limited teaching resources and variable teaching arrangements. To make the syllabi more viable and feasible for course delivery, collaborative work is needed between program administrators and course teachers on syllabi design, material writing, teaching arrangements and assessments.

Third, the mismatch between inadequate teaching resource input and expected teaching outcomes prescribed in the syllabi deserves further attention. Limited resource input can be manifested through cost-effective program management, such as super large class size, limited availability of mandatory courses, the lack of optional modules of language course, and the shortage of opportunities for using the language after class as well. In this case, neither can the learning objectives of proficient language users in the workplace professional communication be achieved by MPAcc students, nor can the global vision and intercultural communicative competence be obtained by MBA students. Furthermore, educational technology was not invested in and applied to the Business English courses, and language teachers giving ESP courses need to be professionally and technically trained, which should be supported by the university in general and the specific programs they are involved in particular.

Finally, English language courses for master students in China's tertiary educational institutions have been neglected, which is particularly true for professional master degree programs. It is not surprising to find that the schools who run the specific master degree programs for professionals tend to entrust the language teaching to faculty of foreign languages.

Language teachers might design and deliver the courses with available resources at disposal, which presumably is based on their teaching experiences and consultation with subject professors. However, the syllabi for language courses were compiled as an extension of the national guidelines and in line with university-level program curricula, of which most of the descriptors for language requirements were implicit and tend to generate huge variations among different schools and language teachers. Moreover, the top-down approach of program administration and course design were believed to be cost-efficient in programs administration and course operation, but possibly taking less account of the concerns from language teachers.

Conclusion

Teaching Business English is an inter-disciplinary activity that requires engagement from ESP practitioners of linguistics in partnership with faculty of specific disciplines (Dudley-Evans & St John, 1998; Shi, 2018; Zhang, 2007). Meanwhile, Business English courses for master students in China's tertiary education have been assumed to develop students' language skills, enrich business knowledge, and foster a global outlook (Shi, 2020b). To address the objectives and approach to fulfilling the objectives, the evidence might shed some light on ESP teaching.

For research question 1, we found that the language requirements for master degree candidates vary considerably among different programs even though foreign language courses were placed in a mandatory and credit-bearing module in the program curricula. We also found that the language requirements and the descriptors for language skills from national guidelines and university curricula were vaguely defined and generally overstated. The findings are consistent with the previous studies on business communication courses for undergraduate programs hosted by top business schools in the U.S. with regard to titles and descriptions, where the titles and descriptions of the courses varied hugely from one school to another, so did the teaching contents and topics (Sharp & Brumberger, 2013).

For research question 2, we found that the students preferred subject and profession-related teaching topics, giving importance to speaking-focused activities and case analysis approach. Moreover, student expect blended teaching arrangement with diversified modules that can be accessed in mandatory and selective modules.

As for research question 3, we identified the challenging issues for the courses in the process of teaching in accordance with nation-level guidelines and school-level curricula as follows. First key factor that was unhelpful to achieving the learning objectives is the gap between limited supply of courses and the students' needs for courses of flexibility and multi-module

availability. Another hindrance to learning objectives is the uneven command of language skills and the wide range of language proficiency levels among different individual learners. Third challenge is broad variation in terms of teaching contents and topics among Business English lecturers. Final issue of concern is that inadequate resource input in the language courses hardly matches prescribed learning outcomes. The reason behind this is because business communication is a multifaceted course that engages multiple disciplinary knowledge and skills (Coffelt, Baker & Corey, 2016; Donna, 2011; Shi, 2020b), which cannot be served by one single course arranged with limited hours, such as Business English in this study to fulfill the objectives of intercultural communication for master students in China. This finding was echoed by the study of Sharp & Brumberger (2013), in which the majority of the top 50 business schools in the U.S. surveyed who offered business communication delivered the course in the form of stand-alone courses instead of sequenced multi-module courses, which were less likely to cover the wide-ranging contents prescribed in the syllabi.

For MBA and MPAcc programs who are training the degree candidates for international business outlook for their career and future business development, the Business English are in need of immediate reforms, so that they will live up to the descriptors and requirements included in the syllabi and will obtain the expected learning outcomes. For the MPA program, we noted that the candidates generally had lower demands for foreign language skills, and the national guideline and university curricula attached less significance to language courses than would be the case for MBA and MPAcc programs. Therefore, MPA candidates' learning needs and outcomes of Business English were better served by the Business English provided.

We believe that the results of the study have practical implications for ESP courses that are designed and provided for master programs enrolling Chinese EFL learners in general, and for graduate students in business and economics-focused universities in particular.

Limitations

However, there are some limitations in the study as follows.

With regard to method, the data from questionnaires were collected on the basis of voluntary participation from grouped respondents in one university, which might affect the degree of being representative of the massive business student body.

In the needs analysis part, we did not explore the detailed teaching contents for specific master students, which are to be supplemented by targeting the specified professionals who have

earned their master degrees. Therefore, the English language skill needs of different professionals need to be examined and categorized, which will provide data-evidence for designing English course syllabi, school curricula for master degree programs and national guidelines.

In the evaluation part, we adopted self-evaluation from course takers and teachers covering language skills, business communicative abilities, teaching materials and activities, course arrangement and inter-cultural business communication. However, more external evaluation tools, like language proficiency tests, learner autonomy, course retention, might be used to evaluate ESP courses in a multi-faceted approach (Donna, 2011; Fenton-Smith et al., 2018; Tsou & Chen, 2014).

We suggest future research topics as follows: 1) To have in-depth investigation into language learning needs for master programs while the language courses of specific purposes are designed and delivered; 2) To explore specific learning outcomes in terms of attitudes and behaviors, competences and knowledge that derive from language courses for master programs while evaluating the ESP-based course; and 3) To look at wider array of master degree programs in different disciplines regarding ESP-based course instruction and evaluation.

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Designing an Effective EAP Course: A PBL Approach

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Abstract

English for Academic Purposes (EAP) courses aim to equip students with the skills they need to further their academic careers in English. As such, it is important that EAP courses cultivate not only language ability, but also academic literacy. A project-based learning (PBL) approach offers many potential benefits for EAP, as it facilitates meaningful language interactions and promotes development of a range of lifelong skills, but few studies investigating the effectiveness of PBL in Japanese EAP programs have been published, and there is a lack of suitable commercially-available materials to support PBL-type courses in this context. The aim of this study was to describe the development of a PBL-based EAP program, and evaluate the efficacy of the course and materials from a student perspective. We employed an experiential action-research approach to develop a four-part EAP program and in-house teaching materials. Post-program student questionnaire data (n=88) was collected and analyzed to examine the efficacy of the program. Students reported skill improvement in all targeted learning areas and found the PBL approach and accompanying materials effective in facilitating both linguistic and academic skills. However, concerns were raised regarding individual imbalances in project effort and workload, and students were dissatisfied with the organization and difficulty level of some parts of the textbooks. In this paper we discuss the results of our study and consider possible improvements to the course and materials. We endorse the experiential approach as a systematic yet realistic method for education practitioners to develop and refine courses and in-house materials.

Keywords: EAP, Japan, course design, materials development, PBL, experiential approach

Introduction

Courses in English for Academic Purposes (EAP) aim to equip learners with skills and knowledge that will facilitate their future academic endeavors in English. As such, EAP programs prepare students with more than just linguistic proficiency; they also aim to equip students with academic skills necessary to succeed in tertiary-level studies in English (e.g., critical thinking, information literacy and academic writing). Many researchers have

highlighted the vital role that textbooks play in EAP courses (e.g., Haycroft, 1998; Hutchinson & Torres, 1994; O'Neill, 1982; Razmjoo & Raissi, 2010) and the importance of adequately addressing the specific needs of students in course development and implementation (e.g., Alavi & Dashteshtani, 2015; Maswana & Tajino, 2020).

In Japan, EAP education is an emerging phenomenon and studies related to pedagogy and materials for EAP are scarce (Takahashi, Kanamaru & Iijima, 2020). There is a lack of appropriate commercial EAP textbooks and researchers have recommended in-house development of materials (e.g., Iijima, Takahashi, Watanabe & Hironori, 2020; Ruegg, Williams & Araki, 2018). Yet in-house textbook production comes with its own pitfalls, as educators are extremely busy and often have little or no experience with textbook development (Pilbeam, 1987).

This paper outlines an experiential approach to the development, implementation and refinement of an EAP program and in-house textbooks. We created a new university EAP program for first-grade students that comprised four courses. The courses were based on a project-based learning (PBL) pedagogy to cultivate the development of linguistic proficiency as well as academic skills. While the specific courses and materials developed through this project are necessarily context-specific and cannot be directly transferred to other teaching contexts, we suggest that the experiential approach used in this study offers a realistic way for educational practitioners to undertake course and materials development. The process and results of the experiential approach employed will be explicated in detail to facilitate replication of the method by educators seeking to create or reform their own EAP programs.

Purpose of the Study

We were tasked with designing and implementing a new language program for first-year students in the Department of British and American Studies at a private university in Japan. Introduction of the new program was timed to coincide with the university's move to an academic quarter system. Appreciating the gap between commercially available textbooks and the needs of the Department's students, we decided to base the new courses: Academic English A (AEA) 1, 2, 3, and 4, on materials designed in-house. Seeking to balance the need for a systematic approach to course development with the short timeframe and busy schedules of all involved, we elected to adopt an experiential action research approach to facilitate course development, evaluation and improvement.

Research Questions

Through this study we sought to answer the following three questions:

1. Did learners feel that they were able to achieve the AEA course goals?
2. Was a PBL approach an effective means to promote learner development?
3. How could the textbooks be refined and improved?

Literature Review

EAP in Japan

The number of universities offering content courses taught entirely in English is rapidly increasing in Japan and EAP courses are becoming increasingly important to prepare students for English-medium studies (Brown & Adamson, 2012; Ruegg & Williams, 2018). Where English education in Japan has traditionally focused on acquiring language for access to literature (Iijima et al., 2020) and, more recently, for communication, the growing popularity of English medium instruction is shifting the focus towards academic literacy: “EAP isn’t only about the E anymore. The A is emerging as an important factor. It isn’t about English for Academic Purposes; it is more about academic purposes in English” (Brown & Adamson, 2012, p. 16). EAP education in Japan is in its early stages and there is little published research into effective pedagogy and materials in the Japanese context (Takahashi et al., 2020). Student-centred approaches that incorporate longer-term projects and focus on depth rather than breadth of coverage have been recommended (Brown & Adamson, 2012), and interest is gathering in the potential of PBL for EAP teaching in Japan (Yamada & Maswana, 2020).

Project-Based Learning

PBL is a “comprehensive deep learning” (Nurhajati, 2018, p. 8) pedagogy that engages students in sustained, challenging, and authentic projects, with opportunities for both collaboration and autonomy (Larmer, Mergendoller & Boss, 2015). It has been shown to be an effective way to integrate learning of skills and content (Stoller, 2006). In a review of 16 published studies, Stoller (2006) identified eight commonly cited benefits of PBL in foreign language settings: 1) authenticity of experience and language; 2) intensity of motivation, engagement, enjoyment, and creativity; 3) augmented language skills; 4) improved social, cooperative, and collaborative

skills; 5) deeper content knowledge; 6) heightened confidence; 7) increased autonomy; and 8) enhanced critical-thinking and problem-solving skills. Nunn, Brandt and Deveci (2016) argue that PBL offers many benefits in EAP contexts, as a holistic approach that facilitates development of “the broad range of skills and knowledge that contribute towards academic competence” (p. 10), and Grant (2017) explains that PBL facilitates meaningful language interactions as well as promoting development of a range of lifelong skills.

PBL involves students in project-work that requires them to work together to make decisions about what needs to be done, how and by when. Larmer et al. (2015) suggest seven elements in effective project design (see Figure 2).



Figure 2: Essential Project Design Elements for Gold Standard PBL

Figure 2: Adapted from *Setting the standard for project based learning*, by J. Larmer, J. Mergendoller & S. Boss, 2015, Alexandria, VA: Buck Institute for Education. Copyright 2015 by Buck Institute for Education.

We chose a PBL approach as an appropriate foundation upon which to build the Academic English A courses. The newness and scarcity of PBL-based EAP programs in Japan mean that there is a lack of appropriate commercially available materials (Takahashi et al., 2020; Yamada

& Maswana, 2020), and given the many benefits that in-house materials offer (see below), we chose to develop our own teaching materials.

EAP Teaching Materials

Materials are a central part of any EAP program (Shahidipour & Tahririan, 2017) and textbooks continue to be the most commonly used materials in ELT (and especially EAP) programs worldwide (Hutchinson & Torres, 1994; Shahidipour & Tahririan, 2017). In fact, textbooks have been referred to as “an almost universal element of ELT teaching” (Hutchinson and Torres, 1994, p. 315), crucial in saving time and money (O’Neill, 1982), ensuring a degree of quality control (Sheldon, 1988) and providing students with a way to measure their own progress and achievement (Haycroft, 1998).

In developing new academic programs, foreign language educators can build courses around commercially available textbooks, create their own materials, or use a combination of these two approaches. Published language textbooks need to cater to a wide range of users in order to be marketable. This inevitably results in a one-size-fits-all product unable to accommodate the individual needs, interests and learning styles of a specific student group (Ansari & Babayi, 2002; Hutchinson & Torres, 1994; Jolly & Bolitho, 2011). Materials developed for one educational context are unlikely to be transferrable to another context (Tribble, 2009) and using commercial textbooks will always involve a compromise (Pilbeam, 1987). This is especially true of needs-driven EAP courses, which usually operate under more limited constraints than general English courses (de Chazal, 2014; Pilbeam, 1987).

In Japan, the textbook problem is compounded by the fact that Japanese students often lack the background knowledge necessary to effectively use internationally-marketed textbooks, while those produced for the domestic Japanese market tend to cater to fluency levels below those of university-level EAP programs (Ruegg, Williams & Araki, 2018). In our case, a further problem lay in the relative newness, and scarcity, of PBL-based EAP programs in Japan, which meant there were few relevant materials and virtually none that had been crafted and tested using empirical means.

In-house development of learning materials allows educators to tailor courses and materials to meet the needs of specific contexts and learner populations. Tomlinson and Masuhara (2010), reflecting on studies in language-learning materials development, found that in-house creation of learning materials was preferable in all situations where it was practicable. In the Japanese

EAP context, given the lack of appropriate EAP teaching materials, there are strong arguments in favour of creating and publishing materials in-house (Iijima et al., 2020). Teachers are often in the best position to develop effective materials (Edwards & Burns, 2016), but the time, effort and skill required for materials development is substantial (Harwood, 2014; McGrath, 2016). Furthermore, teachers are usually not expert textbook-writers, and are often working under time constraints that make rigorous field testing and editing unrealistic (Pilbeam, 1987). Given the “vital and indispensable role” (Darici, 2016, p. 34) of materials in language learning, it is important that materials-development is approached in a principled and systematic way, but this needs to be balanced with the realities of the environment in which course-development is taking place.

Tomlinson and Masuhara (2010a) propose that experiential approaches offer a realistic and practical way for educators to develop, evaluate and refine their own EAP courses and textbooks. Course development is an ongoing, dynamic process in which evaluation plays an important role and Tomlinson and Masuhara explain that experiential approaches allow the researcher/practitioner to develop materials, use them, evaluate them, revise them, and use them again. They hold that “materials can always benefit from revision which is based on observation of the materials in use” (p. 251). Most studies investigating textbook efficacy focus on teachers, “with little or no attention paid to the use of materials by learners” (Harwood, 2014, p. 17), but students’ views on textbooks are a key factor in determining the success or otherwise of materials and need to be taken seriously (Harwood, 2014; McGrath, 2016). In this study, we adopted an experiential approach with a focus on learner perspectives. Experiential approaches to course design and evaluation are a type of action research and will be explicated in the methodology that follows.

Methodology

Action Research

Materials-evaluation projects are rare in EAP literature (Blaj-Ward, 2014), partly due to the methodological complexity involved in isolating the effect of a particular textbook from other variables such as teaching, rapport and learner motivation (Tomlinson and Masuhara, 2010b). As McGrath (2016) points out: “classrooms are not laboratories and learners are not mice” (p. 209). Given the difficulty of undertaking a complex quantitative study in a local EAP context, Blaj-Ward (2014) advocates qualitative methodologies that “offer a rounded perspective on

learner development” and “do not attempt to identify a straightforward cause-effect relationship between materials and learning” (p. 74).

Action research has been described as "taking a self-reflective, critical and systematic approach to exploring your own teaching contexts" (Burns, 2010, p. 2). It is both practical and research-oriented, seeking to better understand and to improve an aspect of teaching (Edwards & Burns, 2016). Action research provides a suitable framework within which to operationalize an experiential approach to course and material design, involving as it does a cycle of development, implementation, and revision (Tomlinson & Masuhara, 2010a). In this study, we adopted a cyclical conceptualization of action research where one cycle involves the four steps of planning, action, observation, and reflection; and one cycle feeds into another (Edwards & Burns, 2016). This paper presents a reflection on the first action research cycle (see Figure 1).

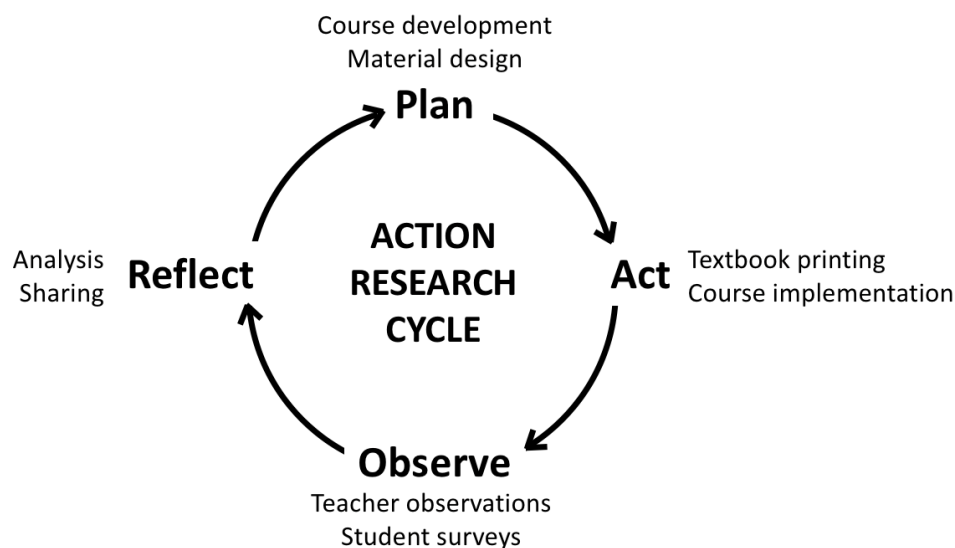


Figure 1: The Action Research Cycle.

We planned and developed a four-part AEA program and materials, then implemented them over the course of a year. Upon completion of the four AEA courses, we obtained feedback from students via a post-program questionnaire. The structure and content of the AEA program and the accompanying textbooks are outlined below, followed by a detailed description of the participants and methods of data collection and analysis.

Procedure

Course Structure and Flow.

Each AEA course comprised fifteen 90-minute classes taught over an eight-week academic quarter. Through the courses, we aimed to prepare students for overseas study programs, content courses taught in English and writing their graduation theses (in English). Specifically, the program goals were to develop students' critical thinking, autonomy, language competency, communication skills, presentation skills, digital literacy, and intercultural competence. The courses were also intended to provide students with an introduction to the research interests and specializations of the Department faculty members. Each AEA course focused on two topics, beginning with conceptually and linguistically easier themes and becoming more complex as the year progressed (see Table 1).

Table 1: Design Framework for Academic English A

Course	Quarter	Unit 1 (classes 1-7)	Unit 2 (classes 8-15)
AEA I	1	Language	Communication
AEA II	2	Culture	Education
AEA III	3	Literature	Sociology
AEA IV	4	History	Politics

Students completed one project for each thematic unit of study. We designed the projects based on the seven Essential Project Design Elements for Gold Standard PBL (Larmer et al., 2015). Each project incorporated both written and spoken components, as well as independent and collaborative work. In the opening unit, for example, students worked together in pairs to prepare and deliver poster presentations, then each student worked individually to compose a written summary of a classmate's presentation.

Within each unit, the first two or three classes were devoted to familiarizing students with the topic and associated language, and introducing them to the main project. Once project-work was underway, the focus of class time shifted to equipping students with the specific skills needed for the project at hand. For example, when students were working on the poster presentation project, in-class skills workshops covered computer software (i.e., Microsoft PowerPoint and Word), academic poster design, American Psychological Association 6 (APA6) document formatting, and simple summary writing. Class time was also set aside for

peer and instructor feedback to help students to improve the quality of their work. Each unit culminated in a presentation and submission of a written task.

Textbooks

We developed and printed one textbook covering AEA1 and AEA2 before the start of the academic year, and completed a second textbook for AEA3 and AEA4 in time for the third quarter. This allowed us to consider informal feedback and reflections on the first textbook when composing the second. Each textbook comprised four thematic units; two for each of the courses it covered (see Table 1 above). The units contained a range of resources and activities (e.g., reading passages, discussion questions, writing tasks, images and infographics, online videos, vocabulary items, and brainstorming activities). We provided QR codes and URLs for online resources to facilitate easy access from computers or mobile devices. The material contained within each unit was not designed to be employed sequentially or completely, but rather individual teachers were free to choose the activities and resources that best fit our respective learners and individual teaching styles.

We included detailed descriptions of the written and spoken components of the core projects after the thematic units. These were explicit, and, unlike the unit contents, were intended to be implemented without significant deviation across all classes. This was to facilitate consistency in the skills-development and assessment of the students. In the second textbook, we also included grading rubrics to improve grading consistency. In both textbooks, each project description was accompanied by a Presentation Skills and Writing Skills section to familiarize students with the skills needed to complete the project. Finally, we printed two syllabi (one for each course) in the inside cover to facilitate navigation of the textbook content.

Assessment

We calculated course-end grades based on assessment of written (40%) and spoken (40%) components of the two core projects, and on student homework completion and class participation (20%). For collaborative work, students were assigned a shared grade for team results and an individual grade for independent tasks. For example, the spoken component of the poster presentation project required students to work in teams to research a topic and create an academic poster, but each student was responsible for his or her own 3-minute poster presentation based on the co-created materials. Students received the same score for the poster, and individual scores for content and delivery. The two scores were summed for their total task

score. Depending on the nature of the task, some projects resulted only in a shared team score for either the written or spoken component.

Participants

Eighty-eight students participated in the study. They were recruited from four AEA4 classes that comprised 20-30 students each. Two of the classes were taught by Fern and the other two by Sean. AEA4 was the final course in the four-part AEA program. Participants were from 18 to 23 years old. The majority (86 students) were first-year students in the Department of British and American Studies who took all four of the quarterly AEA courses. These students completed a placement test at the start of the academic year and were allocated a class based on their test scores: one class was for advanced students, one was for lower-level students, and the remaining two classes were intermediate. All classes, however, used the same materials and completed the same assignments. One fourth-year student in the Department and one student from a different department also participated in the study. These students both joined AEA3 and AEA4 only, and were automatically placed in the smallest section, which was the low-level group. Of the 88 participants, 76% (n=67) were female and 24% (n=21) were male. One student identified as Korean, and one as Chinese. The remaining 86 students all described their nationality as Japanese. All students were fluent in written and spoken Japanese.

Data Collection

Data was collected via a questionnaire distributed and completed in the final class of the academic year. We chose a questionnaire as the primary research instrument because it facilitated collection of data from a large number of students with minimal investment of time or money. The questionnaire itself was based on a mixed-methods methodology, and included both open and closed items. This allowed us to obtain specific data related to items of interest (e.g., how successful the course was in relation to each of the learning objectives), while also facilitating the discovery and deeper exploration of student ideas.

The questionnaire was paper-based, anonymous, and written in Japanese to allow students to express their opinions without being constrained by their English proficiency. It comprised three parts (see Appendix for the translated questionnaire). Part One included six multiple-choice items to collect demographic information. Part Two contained eight statements related to the course objectives of language competency (reading, speaking, discussion, writing), presentation skills, communication skills, digital literacy, and critical thinking ability. Students

were not asked to comment on their own intercultural competence or autonomy as these were judged to be abstract concepts on which it may be difficult to comment. Respondents answered using a six-point Likert scale, by circling the number that reflected the extent to which each statement was true for them. Japanese participants have been reported as more likely to select middle items and to suppress positive affect expressions, especially when those pertain to their own abilities or achievements (e.g., Iwata, Saito & Roberts, 1994; Onodera, 2014; Wang, Hempton, Dugan & Komives, 2008). An even number of options was thus used to disallow a neutral response and force learners to express an opinion one way or the other. The third part of the questionnaire comprised five open-ended questions that asked learners to comment on the textbook, the course projects, the online resources, possible course improvements, and any other aspect of the course they wished.

Data Analysis

Likert-scale responses were tallied and used to formulate simple summaries describing student perceptions of their own development in the targeted areas. We translated open-ended responses ourselves and the translations were then checked by a native Japanese speaker familiar with the course and with qualitative data collection methods. The resulting translated responses were then organized and categorized using grounded theory-based content-analysis. A round of Initial Coding (Saldana, 2015) was first used to allow categories to emerge from the data. Participant responses were then subject to two further rounds of coding. We used Atlas.ti qualitative data analysis software (version 8.2.4) to facilitate data management and analysis.

Results

Achievement of Course Goals

We asked students to indicate the extent to which they agreed with developmental statements related to reading skills, content knowledge and critical thinking, expressing opinions in English, active discussion participation, presentation skills, academic writing, digital literacy, and communication skills. Overall, 94% of student responses indicated some degree of improvement in all of the areas. The extent to which students felt they had improved declined with English proficiency level: 99% of the advanced class thought they had improved in all areas, which fell to 96% of the intermediate students, and 87% of the lower-level students. An examination of the specific skill areas revealed that most students perceived the greatest degree

of improvement to be in their reading skills and were less confident of their ability to actively participate in discussions.

Pedagogical Approach

The questionnaire asked participants to reflect on the collaborative projects they had completed throughout the course series, and to comment on the advantages and disadvantages of this kind of project work. In this section we will use student comments (English translations are our own) to illustrate types of responses made.

Advantages

The benefits that students identified fell into four categories (with overlap between them): (1) deeper understanding, (2) positive learning environment, (3) quality end-product, and (4) linguistic and academic skills.

(1) Deeper Understanding

The most common advantage identified by learners was a deeper and wider understanding of the topics involved, as they were exposed to other perspectives and approaches, and were able to learn from each other. One student made the following comment: *"My classmates pointed out things that I hadn't thought of and I realized some other ways of looking at things and was able to make some new discoveries."*

(2) Positive Learning Environment

Students commented that working in teams facilitated a supportive environment where they could help each other. For example, one student wrote, *"we could cooperate with the group and complete tasks involving difficult content and processes that we wouldn't be able to do alone."* Students also felt that they were given a lot of autonomy, which encouraged them to take responsibility both as a team and as individuals: *"We could divide up the work so each person's burden was lightened and at the same time I felt responsible for my own part so I didn't try to get out of doing it."* Other comments said that working in a group was enjoyable, rewarding, and motivating, for example: *"It was more fun than working alone."*

(3) Quality End-Product

As a result of the team learning environment, students said that they were able to achieve a higher quality end-product than they would have been able to accomplish working alone, which fed back into task enjoyment, motivation and sense-of-accomplishment. One student explained it thus: *"I could create better end products which was motivating."*

(4) Linguistic and Academic Skills

Students identified a number of linguistic and academic skills that they were able to acquire through project work. These included communication, teamwork, critical thinking, digital literacy, writing, discussion, speaking and presentation skills. Two examples of student comments are provided below:

"I was able to improve various skills. We taught each other... so I could learn things I didn't know before."

"I could communicate in English and my teamwork got stronger."

Disadvantages

The disadvantages of collaborative project work tended to relate to issues of (1) fairness, (2) communication, and (3) convenience.

(1) Fairness

The biggest negative point for students arose when workload was not distributed evenly between team members. Many students commented that there were individuals in the class who simply did not put in as much effort as others, and being in a team with those students caused negativity and increased workload. One student explained that *"occasionally there were people who didn't do anything and I hated that the workload was uneven"* and another wrote: *"There were times when my partner was not cooperative and I did all of the [work]. When this happened there was no cooperation and it was disappointing."* These imbalances caused dissatisfaction with the grading system, wherein part or all of a student's grade for a written or spoken project element could be assigned based on the work of the team rather than the individual. Most comments related to grading were written by students who perceived themselves as the hard-working party:

“There are people who will cooperate and who won't so giving both partners the same score is not so good.”

“There were inequalities in role division. And because we were graded as a group, even if I worked hard I wasn't rewarded for that.”

A small number, however, expressed concern that their actions inconvenienced their classmates, for example one student commented thus: *“There is a chance of causing problems for other people.”*

(2) Communication

Communication problems were raised by students as a disadvantage of project work in a number of ways: difficulty in communicating outside of class, miscommunications between group members that led to internal product inconsistency, and the fact that some students did not want to have to compromise their ideas or approaches. One student commented that *“there were times when it was difficult to meet up as a whole group, progress was slow, or you had to just go along with someone else's way”* and another that *“it was difficult to divide up the work. Even if we discussed it beforehand, each person's image was different and it resulted in writing that was not cohesive.”* In some instances, communication difficulties were a cause of workload imbalance, as groups struggled to get in touch with each other or to effectively apportion tasks at the start of the project. For example: *“There were difficulties getting in touch with others, and sometimes one person ended up doing most of the work alone.”*

(3) Convenience

Convenience-related disadvantages focused on difficulty balancing individual commitments with team responsibilities, and the time and effort that teamwork involved. One student explained it thus: *“When these projects coincided with busy times with other assignments, I had to prioritize the project in order to not inconvenience my classmates, even when there were other things I needed to be doing.”*

Textbooks

Students were asked to identify the strengths and weaknesses of the AEA textbooks, and to comment on the inclusion of online materials. Responses clustered around three themes: physical properties of the textbooks, their contents, and the educational value of the materials.

Physical properties

Positive comments related to the physical aspects of the textbooks focused on the QR codes (which provided easy access to online materials), and the images (which made the topics more approachable, and enhanced understanding). One student commented on the convenience of QR codes thus: *“Because I could watch the videos on my phone, I was able to work on tasks on the train and when I had just a little time.”*

Their flimsiness was the single most uniformly commented upon negative aspect of the textbooks. Almost every student made reference to the fact that pages fell out of the book, or that it tore easily and was difficult to keep in pristine condition. Other weaknesses related to the physical properties of the textbook included the lack of color, the size (A4: too big), and the layout, which some students thought was good, but a larger number thought was counterintuitive, and required too much page-turning, as seen in one student's comment that

“occasionally you have to flip back and forward between pages” and another's that *“[the] order was disjointed and difficult to understand.”*

Content

The students were generally very positive about the content of the textbooks. The most frequently mentioned strengths related to the inclusion of digital material. Students especially enjoyed watching online videos. They also generally felt that the instructions and examples (especially for projects/assignments) were easy to understand and that the variety of material types was beneficial. Examples of comments from four students are provided below:

“Explanations for writing and presentation assignments were detailed.”

“There was a range of passages and questions related to each topic so I was able to deepen my understanding.”

“I could think about various topics from a range of angles.”

“There were lots of topics and we could experience many genres.”

Students commented positively on the types of activities incorporated into the book, indicating appreciation of the variety and usefulness of the tasks. For example, one student said: *“there*

were lots of questions and I was able to deepen my understanding” and another said: “there were activities for listening, reading and writing, and I was able to develop all skills.”

Responses related to the difficulty level of the materials were divided. Some students felt that the materials were too difficult, but others positioned the difficulty level as a positive aspect of the materials. Negative comments tended to come from students in the lower-level class and included opinions on thematic difficulty (e.g., *“The themes were very difficult so I couldn't speak out very proactively and I had no motivation to study”*) as well as linguistic difficulty (e.g., *“Some things were difficult to listen to and understand and some content was too difficult so I couldn't understand it”*). Positive comments tended to explain that the materials were challenging, but that the student’s understanding and language proficiency had improved as a result. For example: *“The content is rich and fulfilling. There are lots of online resources included. The level of difficulty was appropriate (a little difficult).”*

Educational Value

Despite some negative responses regarding the difficulty level of materials, all students commented positively when asked about their educational value. Many students felt that the materials facilitated linguistic improvement and deeper understanding of the content. Presentation skills were also explicitly identified as having improved as a direct result of the textbook materials. Some students found the materials motivating, and thought that they had contributed to increased autonomy. Examples of two student comments are provided below:

“I thought [the online videos] were really good. Sometimes I ended up using subtitles, but I could still experience the native speaking speed and pronunciation and I think my listening skills improved.”

“[The online] resources will be a great reference for me when I want to study independently in the future.”

Discussion

In this study, we sought to examine students’ perceptions regarding: (a) their own development through the AEA program; (b) the efficacy of a project-based approach; and (c) the usefulness of the in-house textbooks. Each of these research goals will be discussed separately.

Achievement of Course Goals

The students felt that the AEA courses had helped them to develop their language competency, presentation skills, digital literacy, communication skills, and critical thinking ability. Overall, the students showed a tendency to regard their reading skill development as the most significant, and were less confident of their ability to participate in discussions. This was surprising, as both the projects and the unit tasks had a strong discussion focus, and learners spent the majority of class time involved in English discussions. Indeed, we observed considerable improvement in students' willingness to participate in discussions and in their conversational fluency. It may be that the wording of the questionnaire statement influenced participant responses. Students were asked to show their degree of agreement with the statement "I was able to participate actively in discussions." This suggests a completely acquired ability, while other statements that used expressions such as "I improved" or "I acquired skills" may have sounded less absolute and thus been easier to agree with. In addition, the word "active" may have impacted student willingness to agree. The Japanese translation (*akuteibu*) is suggestive of a more aggressive communication style often associated with American culture, and the respondents may have felt that their own discussion involvement did not qualify as "active."

Students who began the course series with higher-level English language skills tended to display greater agreement with the learning objective statements than lower-level learners. This could be partially attributable to the confidence that those learners likely brought with them as a result of their language proficiency. It also suggests that the course content and materials were better suited to the learning needs of the more linguistically proficient students and that there is a need to adapt the materials for optimal learning among lower-level students.

Pedagogical Approach

We sought to investigate whether a PBL approach was effective in helping learners to develop academic and linguistic skills. Participant responses suggest that the projects used in this course series were indeed effective. The collaborative projects appear to have facilitated a supportive and challenging learning environment that encouraged students to be more autonomous and to engage deeply with the content. Questionnaire responses specifically referred to the benefits of working collaboratively in terms of deeper understanding (through discussion, exposure to multiple perspectives, and peer-learning) as well as academic skills. Working in teams allowed students to share their technological knowledge, critique each other's language, and develop

communication skills. Ultimately, pooling their knowledge and abilities and working together enabled students to produce a higher-quality end-product than would have been possible working alone.

Overall then, the PBL approach adopted in this course series appears to have been very effective in facilitating learner growth. Indeed, student comments support all eight of Stoller's (2006) commonly cited benefits of PBL. There were, however, significant problems. The most worrying of these for students was the individual imbalances that arose from teamwork. Students found it difficult to achieve parity in the workload and effort of team members. This was due to management issues such as conflicting schedules and communication problems, differences in ability, and unwillingness by some members to contribute. Students also commented that working in teams was more bothersome than working alone.

Though the students complained about these challenges, working through communication difficulties and finding ways to manage workload within the team may actually be very beneficial learning experiences. Similarly, dealing with the personal inconvenience of having to cooperate with classmates rather than working alone may be appropriate preparation for the "real world" that students will encounter after graduation. Dealing with uncooperative team members, however, is problematic.

Working in a pair or team with an uncooperative classmate impacted negatively on motivation for some students, and in some instances may also have affected the quality of the team product and the resulting grade. Some students pointed out that being awarded a team grade meant they were not properly recompensed for their hard work, while others said that it was unfair that students who contributed little benefitted from the hard work of their teammates and received a good score for the task. There are certainly real-world lessons to be learned in working through difficulties in collaborative projects, but in an academic setting students need to be allocated grades that reflect their ability and effort. It is also important that negative experiences do not threaten the supportive atmosphere that collaborative tasks facilitate. We need to take measures to improve the grading system and support for students during project work. These could include ensuring that every project contains at least one individually-assessed component, and incorporating student-evaluation into the grading system. Asking students to complete self-evaluations that include a group-effort question may facilitate more nuanced individual grading. This is an area that warrants closer investigation and careful consideration.

Textbooks

We created in-house textbooks to facilitate our PBL courses and to provide ourselves and our students with easy access to materials, activities, assignment details, rubrics, and supplementary resources. The students were generally positive in their responses to the contents of the textbooks but displayed mixed feelings about accessibility. Many students appreciated the variety of resources and activity types included in the textbooks and felt that the instructions provided in the books were easy to follow. Remarks related to the use of online materials and QR codes were similarly positive, with QR codes being particularly well-received. The abundance and organization of the material, however, was confusing and counterintuitive to many students. While the profusion of materials allowed us to pick and choose activities depending on the needs of our learners, the resulting page-flipping disrupted the flow of lessons and made it difficult for students to see where they were going. In developing future textbooks, we must find a way to reconcile the desirability of plentiful resources with the need to streamline and simplify the layout of the textbook. An online bank of supplementary resources is one possible way to prevent information overload caused by resource-heavy textbooks.

It may be that the confusing layout of the book also impacted the ability of learners to prepare adequately for lessons. Comments related to the difficulty level of materials were both positive and negative, with some saying textbook contents were appropriately challenging and allowed them to extend themselves and develop linguistic and critical thinking skills, while others found the linguistic hurdles in the video and reading texts prevented them from engaging with the content. In actual fact, video resources were often equipped with tools to help learners overcome linguistic difficulties (e.g., Japanese or English subtitles and transcripts). It is possible that learners who found the materials too difficult to understand simply did not capitalize on the assistance that such tools could provide. In some instances, particularly where reading or watching texts was assigned as homework before a class, it may also be that laziness or failure to allocate sufficient preparation time was to blame. It is important to recognize, though, that if textbook progress were easier to predict, students may be more likely to read-ahead and prepare.

Some students specifically requested language support in the form of vocabulary lists, but this type of assistance is contentious. One goal of the AEA program was increased autonomy, and we hoped to encourage students to take responsibility for monitoring and addressing their

individual learning needs themselves. Vocabulary lists were deemed counterproductive, as spoon-feeding the students in this way would encourage greater dependence on the teacher and materials. It may be beneficial to incorporate explicit metacognitive instruction to help students recognize and address their own learning needs.

The most often cited problem with the textbooks was their physical durability. To keep printing costs at a minimum, we printed the textbooks in black and white, and simply stapled them together. The result was cheap but not very durable, and students expressed a strong desire for more lasting materials, even, as one student stated, if that meant paying (the textbooks were distributed free of charge). Self-publishing may be one way to achieve more robust and attractive textbooks.

Conclusion

EAP in Japan is in its infancy and there is a corresponding paucity of appropriate teaching materials. We applied an experiential action research approach to the process of course and materials development, evaluation and refinement. We created an EAP program based on a PBL foundation and evaluated the program and textbooks by examining students' responses. From the student perspective, the PBL approach, though not without problems, was an effective means by which to develop both linguistic and academic skills. Working on collaborative projects enabled students to learn from and support each other and facilitated development of important academic skills like critical thinking and communication. Further investigation is needed to explore ways to mitigate problems related to assessment and workload balance when using collaborative projects. The textbooks that we created and used in implementation of the courses were largely successful, but students suggested there were problems with the difficulty, layout and durability of the textbooks and further investigation and improvement is warranted. We will apply the results of this action research cycle to continue the ongoing process of refinement, implementation and evaluation in a second (and subsequent) cycles.

In-house creation of course-appropriate teaching materials has many benefits, especially in EAP, where student-needs should be pivotal in course development. However, teachers are busy people who are often required to develop courses within limited timeframes. In this study, we have presented an experiential action research approach that facilitates the ongoing development and refinement of materials. While the specific program and textbooks developed through this study may not be directly transferable to other contexts, we propose a PBL

pedagogy and experiential approach to EAP practitioners as effective ways to tackle the process of course and materials development, evaluation and refinement.

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Appendix

Questionnaire (translated from Japanese)

Improving the AEA Course & Textbook

Part 1. Demographic Information

Please provide some basic details about yourself by marking the applicable check box or writing the correct information.

- ① Gender ☐ male ☐ female
- ② Age ☐ 19 years ☐ 20 years ☐ 21 years ☐ other (please specify)
- ③ Nationality ☐ Japanese ☐ other ☐ please specify
- ④ Year ☐ 1st year ☐ 2nd year ☐ 3rd year ☐ 4th year and above
- ⑤ Courses taken this year (mark all that apply)
☐ AEA1 ☐ AEA2 ☐ AEA3 ☐ AEA4
- ⑥ Academic English instructor ☐ Sean Toland ☐ Fern Sakamoto

Part 2. Multiple Choice Questions

To what extent do you agree with each of the statements below? Circle the number that best corresponds to your experience in the AEA course.

1	2	3	4	5	6
strongly agree	agree	somewhat agree	somewhat disagree	disagree	strongly disagree

- ⑦ I read different types of English texts and was able to understand the basic meaning.
- 1 2 3 4 5 6
- ⑧ I deepened my understanding and improved my ability to think critically about issues related to the course themes (politics, sociology etc.).
- 1 2 3 4 5 6
- ⑨ I expressed my opinions in English.
- 1 2 3 4 5 6
- ⑩ I participated actively in discussions.
- 1 2 3 4 5 6
- ⑪ I improved my presentation skills.
- 1 2 3 4 5 6

⑫ I acquired academic writing skills.

1 2 3 4 5 6

⑬ I acquired IT skills (e.g. writing reports on computers and creating presentation slides).

1 2 3 4 5 6

⑭ I improved my communication skills.

1 2 3 4 5 6

.....

Part 3 Open-ended Questions

Please answer the questions below by writing your own opinion in as much detail as possible.

⑮ What were the strengths and weaknesses of the Academic English A textbooks?

⑯ In this course there were a number projects that you worked on with your classmates. What were the advantages and disadvantages of the projects you participated in?

⑰ The Academic English A textbooks incorporated various web-based resources (YouTube videos, TED Talks, newspaper articles etc.). What do you think about the use of these kinds of resources?

⑱ How could the Academic English A textbooks be improved?

⑲ If you have any other comments, please write them here.



EFL-Taxi Drivers' Interaction: Boosting Listening Comprehension and Oral Communication in the Tourist Field Using TBL and ESP

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Abstract

Universities strive for academic, research, and societal engagement; when these three work synergistically, it is possible to propose solutions to the problems of their communities. Hence, the research problem addresses the struggle taxi drivers face when trying to communicate with English speaking tourists. This problem is evidenced in listening and speaking skills. This research aimed to implement task-based learning using English for specific purposes to boost listening comprehension and oral communication in EFL-taxi drivers to enable them to interact with English speaking visitors. The research was pre-experimental type and longitudinal. The sample population was made up of 18 taxi-drivers who voluntarily registered to participate in this project sponsored by the Universidad Nacional of Chimborazo Riobamba – Ecuador. The instruments to collect data were pre-test/post-test and an open interview. The pedagogical intervention took 18 weeks; having two modes of study, with both on campus and online activities. This implementation process was conducted with a TBL and ESP based program as the independent variable. The dependent variable listening comprehension and oral communication had the components of (communication, grammar, vocabulary, fluency, and conversation strategies). The instructors designed the course. The research questions probed the participants' background, the effects of the intervention, and the main difficulties of learners. The statistical treatment was carried out by applying the statistical package SPSS version 24 IBM, using the Shapiro-Wilk test to determine the normality of data. This determined the use of the Wilcoxon test for unrelated samples. The results showed a significant

difference between the pre and post-tests. Through the results, the study presented both the benefits and the drawbacks of the research. The principles in this research are useful in this context and applicable in some ways outside this context.

Keywords: TBL, ESP, Listening, Oral Communication, Taxi-drivers.

Introduction

English is the lingua franca of a globalized world, that is, an international language of communication for technology, business, media, education, occupational areas, among others. Therefore, the need for teaching English with a specific objective is a reality, especially in sectors where English is learned as a foreign language, and used in a practical sense. (Saliu & Hajrullai, 2016), (Tzoannopoulou, 2015), (Williams, 2014).

The Association of American Colleges and Universities claims that higher education ought to focus on activities that contribute to the public purpose, which is to build up a civic-minded education (Zecher, 2016). Within this context, the Ecuadorian Higher Education Council states that higher education needs to promote actions in three areas: curriculum, research, and community outreach. Hence, academia needs to contribute to solving social problems in order to develop strengths and reach better conditions for the community as a whole (SENESCYT, 2019).

As a result of this global requirement, the National University of Chimborazo urges community outreach projects in which the results can be applied to the local community and generalized to broader populations in different world settings. Therefore, this research work is intended to propose solutions to the difficulty that taxi drivers face when trying to communicate with English speaking tourists. Because taxi drivers are a worldwide community who struggles with the need to communicate with English tourists, we argue that certain principles behind the study will be suitable not only to Ecuador in South America but also to any intercontinental background.

This problem was evidenced especially in the two skills that involve effective communication: listening and speaking skills. For taxi drivers, this was a limitation for their daily work activities, even though some of them are familiar with some English expressions. As stated in the study *Taxi Drivers' Cross-Cultural Communication Problems and Challenges in Bangkok, Thailand*; few taxi drivers can give an effective response to non-native visitors, and they

assume it is because of their poor speaking skills (Thadphoothon, 2017). Other previous research in Thailand identifies some limiting factors for enhancing English proficiency among Thai taxi drivers such as educational background, few English language training opportunities, learning motivation, attitudes toward foreign passengers, self-learning English behavior, long working hours, hard time to relax, and low job security and safety. Those negative factors interfere significantly with cross-cultural knowledge and awareness and customer service satisfaction. Under the mentioned circumstances, Thailand's image as a prominent tourist destination is declining over the world, and it is moving toward decreasing income too (Thadphoothon, 2018).

In the Ecuadorian context, the Ministry of Tourism (Ministerio de Turismo del Ecuador, n/d) pointed out that the percentage of foreigners visiting Ecuador increased significantly in 2018; it represented an 11% higher than 2017. Around 2.4 million of visitors from different parts of the world stayed in the country. The United States of America accounted for 44%, and then Canada with 21%, Belgium with 17%, Italy with 15%, the Netherlands with 13%, Germany with 6%, among others. This is a similar situation all over the world, where international tourists' arrivals have increased to 1.4 billion per year as reported by the United Nations World Tourism Organization (UNWTO) (Roser, 2020). According to this quantitative information, the taxi drivers' need concerning oral English communication ability is evident in order to improve service quality for a demographic that is highly dependent on taxis.

In spite of this growing necessity of speaking English Ecuador still struggles to achieve adequate language fluency in all educational levels, especially in young adults. In fact, a company for teaching languages, Education First (2018) cited in (Extra.ec 2018), tested and ranked Ecuador 65th all over the world with a score of 48.52 out of 100. The Ecuadorian position is lower than Bolivia, and slightly above Honduras among all countries in South America. To redress the problem about learning English as a foreign language, the Ministry of Education planned a mandatory study of English at all levels, including the improvement of English teachers' credentials; nonetheless, English teaching staff is not enough in number to fulfill the schooling demand throughout the Ecuadorian territory, at least at the primary and secondary levels anyway (El País, 2016).

This paper analyzes the importance of English for taxi drivers who are exposed daily to interactions with English speaking visitors coming to the city of Riobamba, with the purpose to visit the majestic Chimborazo Mountain, the different historic landmarks such as medieval

local temples, Spanish colonial infrastructures, some even to carry out Andean medicine studies, to visit community tourism centers, to appreciate natural wonders, and natural reserves in the province, as well as to work with native communities in the area. Particularly, year after year, there is an increase in the number of mountaineering experts and foreign visitors to the Chimborazo Mountain, which is the top highest mountain from the center of the world. The percentage of foreign visitors registered in the Pulinguí community, which is the entrance to the natural reserve Chimborazo Mountain, accounts for 20% out of 93,811 visitors yearly (El Comercio, 2016).

With this backdrop, the general objective was to apply task-based learning in English for specific purposes to boost listening comprehension and oral communication in EFL-taxi drivers to enable them to interact with English speaking visitors. As a result, they would be able to comment on a specific tourist place, how to get there, what characteristics they have, and so forth as a plus for the service they provide.

Literature Review

English for Specific Purposes for Taxi Drivers

English for specific purposes (ESP) is a learner-centered approach that is essential for English language teaching (ELT), which is focused on the precise and explicit learning needs of the language learner. Thus, ESP refers to the learning process of English that focuses on the use of English in a certain academic, professional or occupational fields (Plesca, 2018), (Saliu & Hajrullai, 2016), (Williams, 2014). ESP is also known as a kind of English language teaching Goal-oriented language learning, that is the learner has an explicit real-world objective to accomplish. Lynch and Maclean (1994), cited by Saliu and Tang, emphasized the great contribution of TBL in ESP. (Saliu & Hajrullai, 2016) (Tang, Chiou, & Jarsaillon, 2015). In regard to students' motivation, English for academic purposes (EAP) courses are intended to gear students' needs, boost their motivation and interest. For doing so, students' attitudes and perceptions must be examined carefully to achieve successful studies (Eslami, 2010). For these reasons, ESP became an essential tool for taxi drivers since they need to address a specific audience in that particular context.

The purpose of these programs is to provide courses more closely geared to the learners' needs in special fields of study, and in so doing, to enhance the students' level of motivation and interest. ESP intends to be designed for adult learners, those who have an explicit orientation

towards a specific major or occupation, (Saliu & Hajrullai, 2016) (Tzoannopoulou, 2015) and its syllabi are built around specific contexts and target discourse communities. It goes without saying that ESP courses might be much more productive if learners have some basic knowledge of the language; however, it can be used with beginners, as it was the case of this study.

The main component to feature ESP is lexis, i.e., individual words or sets of words, vocabulary items, which have a specific meaning (Spratt, Pulverness, & Williams, 2008, p. 10). Further to this, Chovancová (2014), tells us that ESP students must be exposed to carefully chosen and relevant topics, texts, genres, discourses, and communicative situations in their specific professional fields in order to develop some of their communicative skills through typical professional scenarios. In addition, specific terminology, set expressions, and slang are used in ESP. In this particular occupational field, we set out to examine the real interaction with taxi drivers communicating in the setting of tourism.

ESP requires the use of real-world target language which instructors ought to have in mind when they design their courses because it is necessary to use specific lexis, expressions, and realistic situations that are relevant to learner's needs and where the teaching setting becomes learner-centered. Consequently, it requires the use of authentic materials/texts and situations in order to generate tasks developed in that real world. By the same token, Chovancová (2014) highlights the importance of gradually building ESP course content based on the learner's linguistic competencies and skills progress for their future expected performance. For these reasons, ESP materials are limited. In fact, the identification of communicative situations is not an easy task since the specific communication situations are complex and diverse, as well as often unfamiliar for the ESP /ELP practitioners. The cited researcher considered that the ESP courses could be based on the teacher's intuition approach as well. ESP teachers should design their own material to avoid becoming so dependent on the few published textbooks available, so much so that, English for general purposes become unsuitable (Saliu & Hajrullai, 2016) (Plesca, 2018). By way of example, Kamaruddin, Farhana Izehari, & Syaqira Sukimin (2017) propose four reasons to communicate in English between taxi drivers and passengers: (a) replying to passengers' text messages, (b) sparking general conversation with passengers, (c) communicating with foreign passengers, (d) conveying precise information to passengers. Also, the researchers suggest that taxi drivers should be trained to hold general conversations (greetings, destinations, clarifications, requests, traffic conditions,

fares, farewell, wishes, small talks, and possible replies from customers), including dialects in order to strategize communication between the two parties.

Task-Based Learning (TBL)

Task-based learning asserts that the most effective way to teach a language is to involve students in the actual use of the language in the class. This is done through the design of tasks, discussions, problems, games, etc., i.e., the tasks should be the central aspect of teaching (Willis & Willis, 2015, p. 1). Tasks are activities where the target language is used by the learner for a communicative purpose in order to achieve an outcome (Willis & Willis, 2015, p. 12). In TBL as Nunan (1989) cited by Ruso suggests that learners use the language communicatively focusing on meaning rather than form or linguistic structure (Ruso, 1999).

TBL encompasses the following principles:

- Using language for a communicative purpose to achieve a learning outcome.
- Primary focus on meaning rather than form.
- Interaction with the language within a real-life context.

In language learning, Krashen emphasizes the importance of input; other linguists emphasize output. Nonetheless, TBL provides many opportunities for both input and output requirements, which are believed to be key processes in language learning. (Richards & Rodger, 2008)

Linguists like Long, Krashen, Ellis emphasize that to make learning effective, it is necessary to develop the learner's capacity for language utilization. (Tang, Chiou, & Jarsaillon, 2015) and this is encouraged by techniques developed in TBL.

TBL suggests that effective learning is promoted by setting up classroom tasks that replicate real-world tasks performed in everyday learner's lives. Researchers claim that TBL has great assistance in the design and implementation of ESP courses (Tang et al., 2015).

Oral Communication

Oral communication is a productive, interactive process that consists of using speech to express meaning to different audiences. (Spratt, Pulverness, & Williams, 2008, p. 34). It is one of the most useful macro skills; it is considered a general measurement of target language; in addition,

language learners are called language speakers. Speaking involves that learners interact not only with some language components such as grammar, pronunciation, or vocabulary (linguistic competence or accuracy of the language), but also, learners need to know when, why, what, and to whom to communicate (sociolinguistic competence), (Murad & Smadi, 2009), (Larsen & Anderson 2011, p. 115).

Concerning oral communication, the Common European Framework of Reference for Languages, claims that speaking includes two categories: oral production and oral interaction. In oral production, learners produce oral messages directed to an audience and in interactive activities, the speaker acts alternately with one or more speakers through negotiation and follow-up of meaning, using both the cooperative principle and the conversational discourse principle (Council of Europe, 2001). Some authors include accuracy (grammar and vocabulary), which consists of avoiding grammatical or structural errors (Fuertes & Escudero, 2018), lexis which does not involve learning new concepts, but new forms and Phonology which involves pronunciation. Consequently, and for research purposes, the components to be evaluated in this study were: communication, grammar, fluency, vocabulary, and conversation strategies; all of them in the context of taxi driver and tourist interactions.

Listening Comprehension for Taxi Drivers

The first component in an interactive conversation is listening because a person first listens and then emits a response. Taxi drivers, in cities with tourist demands, require at least a basic level of conversational English to improve their opportunities of assisting foreigners and in doing so, increase their profits. English will help them to hold more effective communication with foreign-taxi users since their conversation is sometimes based merely on what they understand, which is not a lot. They are able to recognize only a few content words, basically nouns, such as park, hotel, money, and so on. They even use non-verbal communication to understand the requests of the users who expect to get the right kind of information, in the right form, and at the right time. Sometimes, this leads to high levels of anxiety in the effort to communicate correctly (Omotayo, 2018). This reality uncovered the need to use real scenarios that taxi drivers are likely to face every day and the importance of focusing more deeply on listening and speaking skills.

Listening has been reported by foreign language learners and teachers as one of the most difficult skills to manage (Walker, 2014) (Chen, 2013), and that is because listening has been

wrongly considered as a passive skill but in fact, it is an active skill requiring a training process. from our own teaching experience, some of the problems encountered by learners and reported by teachers are: (a) the input used in most material is prepared for pedagogical use; which means it is focused on the grammar and vocabulary used in the units; however, they are presented with native-like pronunciation. In addition, they do not have the characteristics that normally occur when giving and receiving directions in such cases as a passenger enquiring about supplementary fees when waiting for someone to return to a vehicle, being able to give directions to places, as well as knowing the names of important landmarks and various places of interest that tourists may wish to be taken to. (b) Another fact, is that listening exercises are carried out in the class with only one audio system, and more advanced students say the answer and the others only copy or write them down when the teacher reviews the answers. (c) Finally, book exercises are based on filling in gaps that are sometimes predictable even without listening to the audio. Regardless, this is not a relevant task since they just have to hear the word and write it down, preventing them from being active listeners.

Listening has not always been considered a skill that needed attention in English language learning since it has been thought that it was developed at the same time with the other skills. Adelman cited, both, Roland Barthes and Gema, who, respectively, suggested that there is no acknowledged discipline of listening and that the past “faced a system of knowledge that tends to ignore listening processes” (Adelmann, 2014).

Methodology

Hypothesis and Research Questions

The background of this study was the research project Learning English through Listening and Speaking Strategies to Prevent Burn out in Taxi Drivers in the City of Riobamba-Ecuador presented to the ICIT Institute of Sciences and Technology at the Universidad Nacional of Chimborazo UNACH. A rigorous evaluation process was carried out through internal and external peer review, and after accomplishing the required scoring it was accepted for its implementation.

This study was pre-experimental with no randomization in subject’s selection; the hypothesis for this study stated: English for Specific Purposes (ESP) and Task Based Learning (TBL) strategies affect the process of listening comprehension and oral communication of taxi drivers

as EFL learners. Hence, ESP and TBL strategies made up the independent variable and listening comprehension and oral communication the dependent variable.

The research questions the study intended to explore were the following:

Research Question 1: What is the level of learners' listening comprehension and oral communication before the intervention?

Research Question 2: How do TBL and ESP affect listening comprehension and oral communication?

Research Questions 3: What are the learners' common problems during listening comprehension and oral communication?

Universe and Sample

The total universe was constituted by 112 taxi drivers who are members of 4 associations that make up the Union of Taxi Drivers of Chimborazo. The sample corresponded to 18 drivers who responded to the open call to participate in the background of the project Learning English through Listening and Speaking Strategies to Prevent Burn Out in Taxi Drivers in the City of Riobamba with the purpose of increasing their quality of work as tourism service providers. This project was sponsored by the National University of Chimborazo Riobamba – Ecuador.

Participants did not have a strong or continuous academic background. Additionally, it is known that learning other languages can be somehow stressful if it is not managed in a proper way so it was necessary to start this skill-building process by using games, songs, and relaxation techniques derived from Task-based learning (Richards & Rodgers, 2008) to create a motivational and a stress-free environment.

In the same way, taking into account the target language that taxi drivers needed to learn was ESP to achieve the daily communication they need when interacting with foreign clients, the intervention ought to be very objective and precise. Thus, only listening comprehension and oral communication skills were worked on to ensure their confidence to be actively involved in their learning process by means of oral interaction and promote the communicative abilities in a real-life context (Willis & Willis, 2015) to aid efficient and effective communication.

The sample came from a wide variety of social, academic, and demographic backgrounds; no exclusion criteria or restriction was used so that all taxi drivers who decided to register in the course were accepted. They ranged between 29 and 58 years old; males accounted for 72.2% and females 27.8%. They all were considered in the level A1, even though their English language skills were heterogeneous, this was determined by the pretest taken at the beginning of the course. Other features are presented in table one.

Table 1: Taxi Drivers' Characteristics

Variable	N	Mínimum	Maximum	Mean	Standard Deviation
Age		29	58	43.56	±8.31
Years of experience		1	20	11.39	±5.37
Years of affiliation	18	2	18	7.89	±4.63
Work days in the week		2	7	5.61	±1.30
Daily work hours		5	14	9.11	±1.21
Sex	18	Male		Female	
		13	72.2%	5	27.8
Level of studies	18	High school		University	
		9	50%	9	50%
Ethnicity	18	Mestizo			
		18		100%	
Civil Status	18	Singles		Married	
		2	11.20%	16	88.80%
Origin	18	Riobamba		Others	
		11	61.2%	7	48.8%
Residence	18	Riobamba		Others	
		16	88.9%	2	9.1%
Profession	18	Drivers		Others	
		9	50%	9	50%
Vehicle ownership	18	Own		Not own	
		15	83.3%	3	16.7%

Note: They were high school graduates with a traditional educational background and some basic English knowledge which they had been using together with gestures to communicate with tourists and other clients. Many of them were acquainted or worked at the same or close taxi stands; hence, they developed an adequate level of rapport.

On the other hand, instructors were experienced English teachers of the UNACH who ranged from B2-C1 level of English proficiency from APTIS Certificates, and who developed a wide range of research, discussion, and creativity to design the instructional materials like the syllabus, content, and the procedure to implement the project. Source: Project Participants Demographic Information (2019)

Techniques and Instruments for Data Collection

The instruments to collect data were a pre-test as a base-line and a post-test to probe the hypothesis. The listening comprehension pre/post-test consisted of listening to three different conversations to answer a series of different comprehension questions. These conversations were selected for its ESP content regarding the context of tourism, which was taken from the textbook Top Notch 1 (Saslow & Ascher, 2015). This material was chosen because of the need to expose listeners to English speakers from different language backgrounds.

Participants listened to the conversations three times, depending on their requirements. The language level ranged from A1 to A2 in complexity. The oral communication test included 20 questions; the components to evaluate were: communication, grammar, fluency, vocabulary, and conversation strategies. These components were taken from Touchstone 1 (McCarthy, McCarten, & Sandiford 2012) using the corresponding rubrics.

Table 2: Rubric for Oral Communication

Components	Poor	Fair	Good	Excellent	TOTAL
Communication	6	7	8-9	10	
Grammar	6	7	8-9	10	
Vocabulary	6	7	8-9	10	
Fluency	6	7	8-9	10	
Conversation Strategy	6	7	8-9	10	

Source: (McCarthy, J., & H., 2012)

In addition, a non-structured survey containing two open and explorative questions was conducted to know the learners' perceptions regarding the major problems they dealt with concerning listening comprehension and oral communication. This was held at the end of the second week of the implementation process.

Methodological Description of the Pedagogical Intervention

Taxi drivers have restricted free time to spend on learning the language because of their work hours. Henceforth, the intervention was aimed entirely to ESP or more exactly EOP English for Occupational Purposes. Thus, the target language covered participants' immediate needs of precise and very focused language. Specifically, the course dealt with useful expressions, polite expressions, special instructions/requests, destinations, tourist places, fares and fees, and

traffic conditions to help participants cope with real-life-like situations from the workplace to communicate with foreign visitors more effectively (Plesca, 2018).

The pedagogical intervention took 18 weeks. Lessons were held once a week for two hours on campus and two hour online activities through WhatsApp, totaling 4 hours a week. It took place in the language laboratory at UNACH; each participant had internet access. This was kind of motivating for taxi drivers because they felt like real university students. The implementation process was based on the principles and techniques of ESP and TBL. Since there are not many materials on ESP for taxi drivers, the course was designed by the instructors. The language used was goal-oriented for adult learners in the contexts of taxi drivers' needs; therefore, it was focused on their real-world (Saliu & Hajrullai, 2016), (Plesca, 2018).

Instructors used the Internet as an integral part of this multimodal approach where mobiles, YouTube videos, WhatsApp, realia, songs, games, and free materials were powerful resources to activate language learning, contributing not only to the content and syllabus but to the whole learning process. (Williams, 2014). A study carried out by Eslami (2010) concluded that the use of technology and student-centered approaches became considerable issues to be taken into account when designing EAP courses.

The syllabus was based on specific and practical language (descriptions of landmarks, providing information about fares, local tourist places, offering assistance). Grammar explanations were very brief, and only when learners asked for or presented a difficulty.

Regarding listening comprehension, participants were exposed to different types of auditory material like dialogues, expressions, songs, and descriptions of tourist places.

During the on-campus classes, every lesson developed a learning outcome regarding real-life interactions. The lesson had a task sequence: a pre-task (game, vocabulary or introduction activity), task (model, practice the dialogue), and post-task (role play your own dialogue).

In addition, one of the general objectives of the stem project was to prevent participants' burn out; that is why every lesson involved a game, or classroom dynamic to create a motivating learning environment; these activities were conducted by the psychologist with the support of the English instructor. In general, the lessons focused on the process, not on the product. Moreover, the activities were purposeful, emphasizing oral communication, and understanding

the meaning of the language intending to meet learners' immediate needs (Murad & Smadi, 2009).

Table 3: Sequence of a Lesson

Task Sequence		General Strategies
Pre-Task	The game, classroom dynamic, ESP vocabulary, mind maps, matching, guessing, miming, predicting, looking for connections.	Listening comprehension strategies Predicting content Listening for main ideas Intonation Listening to activate vocabulary Listen to confirm Listening for specific information Following instructions Note-taking Listening for meaning Listening for details Oral communication strategies: Conversation strategies Asking and giving information Describing Recommending Giving opinions Role-playing Sketches
Task	(Input): Listening to dialogues, expressions, and descriptions, recording texts by instructors.	
Post-Task	Output: Reacting to input, adapting, personalizing, roleplaying, creating a dialogue, asking and answering about, making choices, describing.	

Source: Researchers (2019)

For the online activities, instructors recorded the vocabulary, reading texts, conversations, and shared them in the WhatsApp group. Likewise, participants had a series of weekly audible and oral activities to work through.

Results and Discussion

The purpose of this study was to apply task-based learning using English for specific purposes to boost listening comprehension and oral communication in EFL-taxi drivers to enable them to interact with their foreign clients when required. For this purpose, we applied two instruments: a pre/post-test and an open interview. Between tests, a pedagogical intervention was carried out with a TBL using ESP based program.

The statistical treatment of the data in the different stages of the proposed research was carried out by applying the statistical package SPSS version 24 IBM. We conducted a

descriptive analysis of the quantitative variables (mean values and their respective standard deviations) that characterized the study sample, as well as quantitative results of the applied tests, and an analysis of frequencies and percentages was carried out. For the general verification of significance between the pre and post-test results, the Shapiro-Wilk normality test was applied because it had a sample smaller than 30 data.

Table 4: Data Normality Test

Variables	Shapiro-Wilk		
	Statistical	gl	Sig.
Listening Pre-test	0.861	18	0.013*
Listening Post-test	0.912	18	0.094**
Oral Communication Pre-test	0.775	18	0.001*
Oral Communication Post-test	0.844	18	0.007*
Component 2 Grammar Pre-test	0.739	18	0.000*
Component 2 Grammar Post-test	0.815	18	0.002*
Component 3 Vocabulary Pre-test	0.662	18	0.000*
Component 3 Vocabulary Post-test	0.815	18	0.002*
Component 4 Fluency Pre-test	0.520	18	0.000*
Component 4 Fluency Post-test	0.844	18	0.007*
Component 5 Conversation strategies Pre-test	0.373	18	0.000*
Component 5 Conversation strategies Post-test	0.776	18	0.001*

*($P \leq 0,05$); **($P \geq 0,05$)

Note: The results determined that 11 out of the 12 analyzed variables were found with a P significance of $P \leq 0,05$, which defined the application of non-parametric tests for independent samples. Thus, the Wilcoxon test was the most indicated for the analysis and acceptance of a criterion to verify the research hypothesis. The discussion of the results is presented according to the research questions of the study. Source: Pre/Post-Test (2019)

Findings Research Question 1: What is the level of learners' listening comprehension and oral communication before the pedagogical intervention?

Table 5: Listening and Oral Communication (Pre-Test)

Variables	n	Mean	Standard Deviation
Listening	18	2.11	±1.78
Oral Communication (OC)	18	1.56	±0.71
Oral Communication components (1-5)			
1. Communication	18	1.83	±1.04
2. Grammar	18	1.56	±0.71
3. Vocabulary	18	1.44	±0.71
4. Fluency	18	1.22	±0.43
5. Conversation Strategies	18	1.11	±0.32

Note: Results from the pre-test showed that learners scored higher in listening M (2.11) than oral communication (1.56). Regarding the components of oral communication, the highest scores were in communication M (1.83) and grammar (1.56); meanwhile, the use of conversation strategies scored the lowest result (1.11). Source: Pre/Post-Test (2019)

Findings Research Question 2: How do TBL and ESP affect listening comprehension and oral communication?

Table 6: Listening Comprehension Pre-Test vs. Post-Test

Variables	n	Mean	Standard deviation	P (Wilconxon test)
Listening pre-test	18	2.11	±1.78	0.00*
Listening post-test		6.56	±2.25	

*P≤0,05

Source: Pre/post-Test (2019)

Note: Listening Comprehension results showed a significant increase in its post-intervention result, finding a difference of means between periods of 4.45 ± 2.96 . Statistically analyzing, there are significant differences in a level of $P \leq 0.05$. Therefore, the applied pedagogical intervention showed a positive result. Source: Pre/post-test (2019)

Effects of Task Based Learning + English for Specific Purposes on Listening

When comparing the results of this study with the findings of the research work Teaching Listening as a Communicative Skill in Military English (Manjola Likaj, 2015), we found three reasons to make an association of the results: first, because both of them addressed the population who used English in the actual field of work; second, because the purpose of teaching listening is communicative English, and finally because it worked with ESP vocabulary. Both studies showed that ESP is an effective strategy for learning occupational English in any context since learners felt more motivated when they started using it in their everyday activities and it was rewarding to see the results of their efforts.

Both groups presented a significant increase in the components of Speaking. All components showed a steep increase of almost 6 points. One of the most notorious is lexis, where the Mean result was accounted for 6% points of increase, which affected their level of listening comprehension once they were being practiced. Another study that helped consolidate the results of this study was a Task-based Language Teaching Approach to Developing Metacognitive Strategies for Listening Comprehension presented by Mu-Hsuan Chou where the population of the study was subjected to a series of tasks intended to develop listening strategies.

The results showed an increase of the Mean between pre-test and post-test of 5 points, similar to the results achieved in this study Mean (4.45), confirming that Task Based Language Teaching listening promoted a more significant development of a metacognitive strategy (Chou, 2017). However, the participants were somewhat different, although both of them were Asian with a background of better English which generalizes the finding that TBL is effective to boost listening comprehension at any level of language proficiency or cultural background (western or eastern cultures) since listening comprehension was seen to be a significant component during an interaction.

Table 7: Oral Communication Pre-Test vs. Post-Test

Variables	N	Mean	Standard deviation	P (Wilconxon test)
Oral Communication Pre-test	1	1.56	±0.71	0.00*
Oral Communication Post-test	8	7.50	±0.86	

*P≤0,05

Note: Oral Communication results showed that the entire Post-test, not by components, accounted for a significant increase. They evidenced a Mean difference of 5.94 ± 0.99 , a result that is higher than listening comprehension. The evidence concludes, in the first instance, that the pedagogical intervention helped improve the oral communication in a more significant proportion than the listening comprehension, since it showed a difference of Mean of 1.53 ± 0.76 higher. The analysis determined the existence of significant differences at a level of $P \leq 0.05$, evidencing the validity of the proposal. Source: Pre/post-test (2019)

A Chinese case study's results of the proficiency exam showed that students reached a higher score in reading and a lower score in listening after TBL. This result agreed with the findings of the study with taxi drivers. Therefore, these results suggest that TBL benefits other skills like reading or oral communication better than Listening (Tang et al., 2015). The results brought to light the fact that TBLT and ESP instruction emphasized the use of real life-like context to achieve tasks within the taxi drivers' context where communication is more important than language form.

Table 7: Components of Oral Communication: Pre-Test vs. Post-Test

Variables	n	Mean	Standard deviation	P (Wilconxon test)
1.Communication				
Pre-test	18	1.83	± 1.04	0.00*
Post-test		7.56	± 0.85	
2 Grammar				
Pre-test	18	1.56	± 0.71	0.00*
Pos-ttest		7.50	± 0.86	
3 Vocabulary				
Pre-test	18	1.44	± 0.71	0.00*
Post-test		7.50	± 0.86	
4 Fluency				
Pre-test	18	1.22	± 0.43	0.00*
Post-test		7.56	± 0.86	
5 Conversation strategies				
Pre-test	18	1.11	± 0.32	0.00*
Post-test		7.44	± 0.86	

* $P \leq 0,05$

Note: By addressing the results of the components of oral communication, results showed a significant increase in all five components. Analyzing the communication component, a mean

difference between scores of 5.7 ± 1.32 is determined with a statistically significant difference in a level of $P \leq 0.05$. In the grammar component, the difference is 5.9 ± 0.87 ($P \leq 0.05$); in vocabulary use, 6.1 ± 0.80 ($P \leq 0.05$); in fluency 6.3 ± 0.77 . ($P \leq 0.05$). Furthermore, in the conversation strategies, the difference is 6.3 ± 0.77 , and statistically, there is a significant difference in a level of $P \leq 0.05$. Observing these results, it is evident that the components of fluency, conversation strategies, and vocabulary showed a significant increase after the pedagogical intervention. The components of vocabulary and grammar also improved, though on a lower scale. Source: Pre/post-test (2019).

The findings stated above highly agree with the ones shown in the “Case Study Efficacy of Task-Based Learning” where results exposed that TBL was effective in fluency, lexical, syntactic complexity, but not effective for accuracy. Though, in the self-assessment of the effects of TBL, students confirmed the progress in vocabulary and pronunciation (Tang, Chiou, & Jarsaillon, 2015). In the same way, when talking informally with participants after the first eight weeks (total 18 weeks) of work, taxi drivers expressed satisfaction and enthusiasm about their progress when they were able to communicate in a real-life-like task taxi driver presentation. Consequently, the study suggested that communication was positively affected. From this particular observation, it can be inferred that TBL and ESP enhances motivation for communication and this finding can be applied to formal and informal learning settings in any geographical or cultural background.

Findings Research Question 3: What are the learners’ common problems during listening comprehension and oral communication?

Interpretation of the results concerning this research question describes the findings of the open interview, conducted with the subjects of the study, with the purpose to know the perceptions on what the factors are that probably affect English learner’s listening comprehension and oral communication. Learner’s perceptions were reported and then compared with the standards described in the literature of other studies.

The first question of the interview was, “Why do you think that you do not understand spoken English?”; learners’ remarks were summarized in the following statements.

1. *“I just feel that I do not know English well enough to understand completely. I mean, I do not know the grammar or the vocabulary”.*

In the study presented by Chen 2013, this was the first reason why learners did not understand oral utterances. This factor accounted for 37%. The study mentioned that this was caused because listeners wanted to process word by word, and if they missed one, they missed the whole sentences (Chen, 2013). Another study reported that learners thought that listening depended 100% on vocabulary (Turel, 2014). One solution is to help students focus on words that are familiar to them and infer the rest. In addition, the Instructor should focus the listener's attention to specific information and not to the whole text. Thadphoothon (2018) reported that Thai taxi drivers prefer studying English for communicational purposes on their job rather than for examination.

2. *"I understand the teacher, but I do not understand the recorded audio or the foreigners very well, especially when they speak with other accents."*

Students usually tend to have problems related to understand the audio with different native pronunciations compared to listening to a teacher. This is because the teacher's rate and pronunciation are usually slower and clearer and even over-pronounced, accommodating words for making it easier for students. However, when they manage audios with pedagogical use; they are unable to cope with the rhythm, intonation, and linked sounds; and this gets worse when they face real situations. Underwood, cited by Asriati, mentions that this problem occurs because the listener cannot control the speed of delivery (Asriati, 2016). The same happens with different styles or different accents, the student may know the word, but the way in which it is pronounced in the audio differs, and the learners complain about not understanding.

3. *"I do not understand the first time, but when it is repeated, I understand it better."*

The study of the Factors Affecting the Listening Comprehension Ability of Japanese Learners of English indicated that repeatability is one of the actors that determine listening comprehension ability (Takeno & Takatsuka, 2007). A student feels that the more the audio is repeated, the better he/she understands it because he/she becomes familiar with sounds. Conversely, it would not be necessary to repeat if the student learned every aspect of a word (meaning, spelling, and usage). However, some teachers still use conventional instructional methodologies where students are asked to memorize words by writing them. Then students struggle at the time to associate words and sounds and rates of authentic speech (Chen, 2013). One solution to this problem may be shadowing, which helps students work on extensive

listening and focusing at the same time on the written and the phonological aspect of the words. This case may account for future research.

The second question of the interview was “why do you think Speaking is difficult for you? Learners’ remarks were summarized:

1. *“When I am speaking, I want to say something, but I do not know how to say it.”*

The taxi driver learners said that they had very limited vocabulary because they have not had a permanent and continuous period of time studying English, and there is so much vocabulary they needed to learn to be able to interact effectively with their clients. They said, when trying to speak, it took too long trying to remember the new words they had learned.

What became even more difficult was to express ideas using correct grammar. This hindered them from communicating effectively. In the study *Understanding English Speaking Difficulties: An Investigation of Two Chinese Populations*, the results showed that the linguistic obstacles accounted for the highest score in the components of grammar or vocabulary (Gan, 2013). This problem may be solved as they get further in their knowledge of English. Their proficiency level is still too low to be able to hold a complete conversation.

2. *“The pronunciation is still too difficult for me, I feel they do not understand what I say, or they correct me with the right pronunciation”.*

In the same way, they said that pronunciation was very difficult for them because the sounds in English are different from their native language. They felt frustrated when trying to reproduce the exact sounds of English, and they had noticed sometimes there was a misunderstanding from their audience. At that point, their communication was slow and difficult, especially at the first stage of conducting the interview because they spoke with a lot of grammar mistakes, pauses, and hesitation. These comments agreed with the difficulties handled in the Case Study: *Efficacy of Task-based Learning in a Chinese EFL Classroom* where learners had struggled at using a variety of even basic vocabulary. This delayed them from expressing their thoughts, especially in the first weeks of the pedagogical treatment (Tang et al., 2015). As they got familiar with the sounds of English, and they had more opportunities to be exposed to the language they acquired a better pronunciation.

3. *"I get nervous and I'm not self-confident when speaking."*

All the problems mentioned above provoked nervousness and lack of confidence when they tried to speak in English because, besides the classroom, they did not have anyone to practice with and felt worried that a tourist could not understand them. Only three of them commented on having had the opportunity to practice with foreigners, but they agreed on facing difficulties. However, when weeks passed, and taxi driver learners were exposed to multiple opportunities to practice authentic interaction between taxi drivers and clients in a meaningful and familiar context for them, learners became confident. This process helped them move from accuracy to fluency, which is one of the premises of TBL. In TBL lessons, the environment is comfortable, supportive, and non-threatening. Subsequently, less confident learners who customarily refuse to speak in public wanted to participate because they were focused on the task (learning outcome), and all the pressure, anxiety, and distress were minimized (Murad & Smadi, 2009).

These basic findings gathered from the interview were consistent in all the participants, either in the local and global contexts, who presented similar difficulties not only while understanding but also during speech delivery; therefore, the suggested solutions might be generalized to nonnative subjects in foreign language learning settings.

Drawbacks of the Project

Drawbacks concerning the participants

The academic background and age range of participants were heterogeneous, which somehow limited the achievement of the communicative goals. They often even missed the scheduled lessons, since this was not a mandatory course.

Drawbacks concerning methodology

One aspect that hinders the methodology of the study was the instructional material due to the fact that ESP for taxi drivers is limited, and instructors had to design them with the implications of trying a new and not tested material. They presented some gaps during implementation, requiring instructors to adapt them to the ongoing process.

Conclusions and Directions for Further Research

Our results underlined the fact that TBL instructions using ESP emphasized the simulation of real-life contexts to achieve a task within the taxi drivers' setting. Studies suggest that this type of instruction benefits the oral communication more, which is a productive skill rather than listening comprehension, which is a receptive skill because the spectrum of the output was emphasized more than the input by the TBL and ESP based instruction. Since results in this study are similar to the ones in outsider contexts, parallel assumptions might be applicable to other intercontinental locations.

The findings revealed that TBL was effective in fluency, lexical and syntactic complexity, and less effective for accuracy since its main focus is on meaning rather than form.

Listening comprehension showed to be an important component to be developed during the interaction. Learners felt that when they listen and understand well, they could give a better oral response and, as such, better assistance to their clients.

Even though listening comprehension was not measured by components, the increase in the results showed that meaningful tasks helped learners with concentration and planning responses, and decision-making which led them to solve problems of communication more rapidly.

Concerning the learners' difficulties in listening comprehension the most common limitations are related to the delivery speech rate, lack of vocabulary and different accents; solutions should focus in two directions, one leading to instructor's methodology and the other to learners' practices. Both must focus on discriminating information, shadowing, and increasing exposure to the listening of world's English i.e. speakers from different language backgrounds. Boundaries and suggestions need to be examined; however, these conclusions are the foreground for further research.

Finally, the results projected a greater scope of sustainability by giving opportunities for further research. This is because participants need to continue with their process of learning a foreign language in order to be more effective when communicating with English speaking tourists during their occupational activities, and have the feeling of personal achievement as a reward.

It is important to state the generalizability or globally practical potential of these findings both in and beyond our context. Even though this study is based in Ecuador, certain principles behind this research work could be applicable and useful in other international contexts.

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Discussing Findings in Applied Linguistics and Mechanical Engineering Research Papers: A Data-Driven Analysis of Linguistic Characterisations

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Abstract

Genre analysis, proposed most notably by Swales (1990), has been widely used to explicate structural and linguistic properties of texts. The research article has been extensively investigated in various aspects including rhetorical structures (realised in *moves* and *steps*)

and/or linguistic features, variation across (sub)genres, and genre variation in different cultural contexts. Research looking at these types of variation has examined differences in terms of either move structure or language use. There is a growing body of research exploring linguistic features associated with a particular move/step, but little is known about this connection in research articles in the hard sciences like mechanical engineering. To extend this line of research, this paper identifies one important move Comment on results and its constituent steps, and adopts the data-driven approach (Rayson, 2008) to examine linguistic features associated with the rhetorical function based on a well-balanced corpus of 32 journal articles in two different fields: applied linguistics and mechanical engineering. The findings highlight the similarities as well as variability with regard to linguistic choices, which can be explained by communicative functions and disciplinary conventions. The findings can be used as a useful resource for academic writing instruction.

Keywords: Move structure; Mechanical engineering research articles; Applied linguistics research articles; Data-driven analysis; Linguistic features; Inter-disciplinary variation

Introduction

In the field of English for Specific Purposes, genre analysis was instigated most notably by Swales (1990) in his influential work in the Introduction, Methods, Results, and Discussion (IMRD) structure of research articles (RAs), in which the organisational pattern is described as a series of moves and their constituent steps that are defined as discursual units performing the communicative functions in the section. The research article genre has attracted enormous attention within the field of genre analysis since it is considered to be the main channel of disseminating new knowledge within an academic context (Basturkmen, 2012; Lim, 2010; Peacock, 2002; Pho, 2008; Yang & Allison, 2003). Various aspects of RAs have been explored, including (1) move structure and/or linguistic features (e.g. Amirian, Kassaian, & Tavakoli, 2008; Basturkmen, 2009, 2012; Brett, 1994; Cortes, 2013; Dahl, 2009; Dueñas & Pilar, 2015; Kanoksilapatham, 2011; Le & Harrington, 2015; Lim, 2006, 2012), (2) variation across different (sub)genres (Hsiao, 2019; Kanoksilapatham, 2003; Salager-Meyer, 1994; Yang & Allison, 2003), and (3) genre variation according to cultural contexts such as languages (Moyetta, 2016; Sheldon, 2009, 2011), academic journals (Pho, 2008), research traditions (Lim, 2010), and disciplinary communities (Dahl, 2008; Hyland, 1998; Khansari, 2018; Peacock, 2002, 2011; Samraj, 2002).

Many studies (e.g. Cortes, 2013; Le & Harrington, 2015; Lim, 2006, 2012) have established links between linguistic features and rhetorical functions in academic articles in single fields or across disciplines. Cortes (2013) identified lexical bundles in the article introductions of various disciplines. She further analysed these lexical bundles structurally and functionally to link them to the steps outlined in Swales's (1990, 2004) rhetorical framework of the Introduction. For instance, Move 3 Step 1 Announcing present research descriptively and/or purposefully, which describes the research generally and/or introduces the purpose of the research, was realised by such lexical bundles as *the purpose of the present study was to, the aim of this paper is to, the objective of this study were*. Focussing on one particular move Establish the niche, Lim (2012) investigated this gap-identification function and its linguistic mechanism in the Introduction section of 30 management RAs. He found that niche establishments are characterised by concessive conjunctions such as contrastive adverbs (e.g. *nevertheless, nonetheless*) and adversative prepositional phrases (*despite this research, despite its consistent effect*), showing that writers acknowledge important contributions of prior studies, and simultaneously highlight limitations in certain aspects in these studies to emphasise the need for further research.

There is a growing body of research examining variation in genre practices of journal articles. Most of them have explored differences with regard to either move structure (e.g. Martín & León Pérez, 2014; Peacock, 2002; Samraj, 2002; Yang & Allison, 2003), or linguistic use (Dahl, 2008; Hyland, 1998; Salager-Meyer, 1994). Several studies (e.g. Kanoksilapatham, 2003; Pho, 2013) have probed variation in terms of language use that is associated with a particular rhetorical move/step. Pho (2013) analysed the organisational patterns of 20 applied linguistics and 20 educational technology RAs, and then explored variation in stance features across the moves. Her findings revealed that the moves used to comment on findings often contain modal verbs, and each move has its own preference for the type of modal. More specifically, all types of modal verbs are significantly used in Move 21 Deductions from the research, while possibility/ability modal verbs (e.g. *can, could, may, might*) are common in Move 13 Commenting on specific results and Move 18 Discussing the findings of the study in the RAs in both disciplines.

Many of the aforementioned studies looking at linguistic use in RAs have taken a corpus-based approach in which a particular linguistic feature or a set of features are predetermined for analysis. In an attempt to complement findings highlighted in this strand of research, the

present study adopts the “data-driven method” (Rayson, 2008), in which linguistic features to be studied are selected on the basis of the information generated from the data itself. Furthermore, the approach may bring to light salient linguistic features emerging from the data that can provide important insights into the texts. Using this method, we look at linguistic realisations of moves/steps in RAs in applied linguistics and mechanical engineering, two disciplines that represent the soft-hard distinction. An additional reason for focussing on mechanical engineering is scant attention that this discipline has received in genre analysis research. Comparisons and contrast will provide better understandings of linguistic choices and influencing factors in individual disciplines. In this way, our study adds to extant research on inter-disciplinary variation, and makes a contribution to the limited amount of research that links linguistic features to move structures. It will be among the first to explore the linguistic characterisation of move structure of mechanical engineering RAs, which is relatively understudied in genre analysis.

A particular focus is on the Comment on results move, in which researchers discuss new findings and make new knowledge claims by offering their subjective comments that go beyond a factual reporting of the data. This communicative function has been identified in a number of previous studies (e.g. Basturkmen, 2009, 2012; Lim, 2010; Pho, 2013; Yang & Allison, 2003) as being crucial in an academic paper: Altogether, our study presents a data-driven analysis of the similarities and differences in linguistic choices in relation to the commentary function and disciplinary conventions by examining two research questions.

1. How is the function of commenting on results realised linguistically in RAs in the two selected disciplines?
2. Are there any differences in the linguistic characterisation of the commentary function between RAs in applied linguistics and those in mechanical engineering? If so, how can the differences be explained?

Methodology

1.1. The Corpus

1.1.1. Selection of Articles

The present study draws on a corpus consisting of 32 original RAs, equally distributed between two disciplines: applied linguistics (AL) and mechanical engineering (ME). Several criteria were applied during the selection of articles. First, the RAs should be written by different

authors to avoid any idiosyncrasies. Second, as the Comment on results move occurs mainly in the Results and closing sections of RAs, we took into account the overall structure of these sections. AL articles should have a standalone Results section, followed by an integrated Discussion-Conclusion section or independent Discussion section and Conclusion section. ME articles should have a combined Results-Discussion section, followed by a Conclusion section. The decision was made based on the most common macro-structures surveyed and identified for RAs in applied linguistics and mechanical engineering (see Lin & Evans, 2012). We asked two lecturers in applied linguistics and one lecturer in mechanical engineering at a university in New Zealand to suggest high-quality journals in their fields, from which we selected articles for the corpus.

1.1.2. Corpus Components

A list of the RAs included in the corpus, along with the journals from which they were selected, is provided in the appendix. We saved all the files as plain text, and manually edited them by deleting such components as acknowledgements, page headers and footers, figures, tables, diagrams and accompanying texts, and reference lists. We replaced mathematical formulae and many symbols that are unreadable in text files of the mechanical engineering RAs with respective tags: <formula>, <equation>, and <symbol>. The constituents of the corpus are outlined in Table 1.

Table 1: Components of the Corpus

Disciplines	No. of RAs	Sections	No. of tokens
Applied linguistics (AL)	16	Results (R)	26,531
		Discussion-Conclusion (DC)	33,781
Mechanical engineering (ME)	16	Results-Discussion (RD)	33,120
		Conclusion (C)	5153

1.2. Methods of Analysis

1.2.1. Method of Move Analysis

The first stage of analysis involved the identification of text segments commenting on results based on Yang and Allison's (2003) analytical model of Comment on results move, as summarised in Table 2. First, we imported to the qualitative analysis software *Nvivo* all the article text files and the analytical scheme. We read the text carefully and broke the sections

into meaningful functional-semantic units, based on the content of the text as well as linguistic elements, as these two features played crucial roles in pragmatic interpretations. These discursal units can be realised in any grammatical form including a sentence, a clause, a group, or even a word. However, the basic unit of analysis was the sentence. This means that if the sentence expressed one overall communicative function, one tag was assigned for the whole sentence. If the sentence conveyed one overall communicative function and other specific functions, one tag was assigned for the whole sentence and additional tags were used for other elements of the sentence realising the specific functions. The segmentation scheme is illustrated in Table 3 with some examples taken from the corpus.

Table 2: Analytical Scheme

Commentary steps		Detailed explanations of the functions
Step 1	Interpret results	The researcher establishes the meaning of the results, and/or makes claims or generalisations based on the results of the study.
Step 2	Compare results	The researcher compares the results of the study with previous findings, existing literature, or the study's hypotheses.
Step 3	Account for results	The researcher provides explanations for a particular finding in the study; or for differences in findings between their study and other studies.
Step 4	Evaluate results	The researcher evaluates individual results, by offering comments on the strength, limitations or generalisability of the results.

Table 3: Segmentation Scheme

Basic unit of analysis	Segmentation rules	Examples from the corpus
The sentence with one overall communicative function and without other specific functions	One tag for the whole sentence	<Compare results> <i>The null findings just reported mirror those of Iwashita et al. (2001) and Wigglesworth (2000).</i> </Compare results>
The sentence with one overall communicative function and with other specific functions	One tag for the whole sentence Additional tags for other elements of the sentence	<Account for results> < Report results> <i>The high-temperature zone exhibited near the fuel and oxygen inlets</i> </ Report results> <i>is due to the exothermic coal combustion.</i> </Account for results>

The first author coded AL articles, while coding ME articles required more efforts, involving collaboration between the first author and the second one, who has knowledge domain in the mechanical engineering discipline. In the first stage of ME article-coding, the first author read

three ME texts, did the initial coding, and noted any caveats in segmenting the texts. Following the initial coding, we together coded the ME articles, which helped familiarise the first author with mechanical engineering discourse. In the second stage, the first author coded the rest of the mechanical engineering corpus, but in close consultation with the second author, when having difficulty understanding the content of ME texts. Move identification often involves a degree of subjectivity, thus challenging the validity of results (Crookes, 1986; Holmes, 1997). To ensure the reliability of coding, we worked collaboratively on the annotation of the ME articles, and the first author coded the whole corpus twice within an interval of one month, a method that has been adopted in a number of studies (e.g. Basturkmen, 2009, 2012; Kanoksilapatham, 2003; Pho, 2008). High kappa coefficients were achieved for individual sections in each discipline (0.97 and 0.96 for AL, and 0.99 and 0.98 for ME), indicating very close agreement between the two rounds of coding.

1.2.2. Method of Linguistic Analysis

The next stage involved the identification of salient linguistic features associated with the Comment on results move and its constituent steps using the data-driven approach. We exported into text files all the text segments coded at the steps. We then cleaned the text files and annotated them with part-of-speech (POS) tags using the CLAWS tagger. Keyness comparisons at the POS level between the step corpora were produced from the frequency lists generated by the web-based tool *Wmatrix*. Keyness of a POS tag indicates that the grammatical feature is either overused (+) or underused (-) in one move/step corpus compared to another, with the overuse indicating that the feature is characteristic of the former corpus. We considered only overused categories with a log likelihood value of 6.63 or over, since this is the cut-off point for 99% confidence of significance. It is important to note that we identified key linguistic features characteristic of the steps in each discipline separately, and then compared their profiles on the step basis. Direct comparison between the two disciplines was not possible in the study as AL and ME articles have distinct macro-structures. Furthermore, direct POS comparison will lead to over- or under-representation of linguistic features associated with one discipline, thus perhaps overlooking features that are shared by the two disciplines. Finally, we examined concordances of the significant POS domains and their collocates thoroughly using the software *AntConc* (Anthony, 2018) to further explore underlying meanings and functions behind the linguistic mechanism, and characterise collocational behaviour.

Range and Length of the Commentary Steps

In this section, the range (how many texts feature a move/step) and the length (how much space a move/step takes up in the text) of the commentary steps are summarised as these are important indicators of their importance. It should be stressed here that the quantitative information provided is not used to compare and contrast the presentation of the commentary steps in the two disciplines, due to the variation in the macrostructure of the RAs in applied linguistics and mechanical engineering. Rather, the information justifies subsequent linguistic analyses on the commentary steps.

As can be seen from Figures 1-2, the commentary move occurs in all the RD/DC sections of ME and AL articles (MErd and ALdc), and takes up a large amount of space in these sections. Among the four steps, the Interpret results, Compare results, and Account for results occurs in a larger number of texts than the Evaluate results in MErd and ALdc sub-corpora, which is consistent with findings of past research (e.g. Pho, 2013; Yang & Allison, 2003). In the Results section of AL articles (ALr), the commentary move, although present in the majority of the texts, is given very little space. This may be because discussing findings is not the main function of the Results section, which is often devoted to the reporting of results (Yang & Allison, 2003). The commentary move is almost absent in the Conclusion section of ME articles (MEc), where principle findings that have been reported in the Results-Discussion section are summarised.

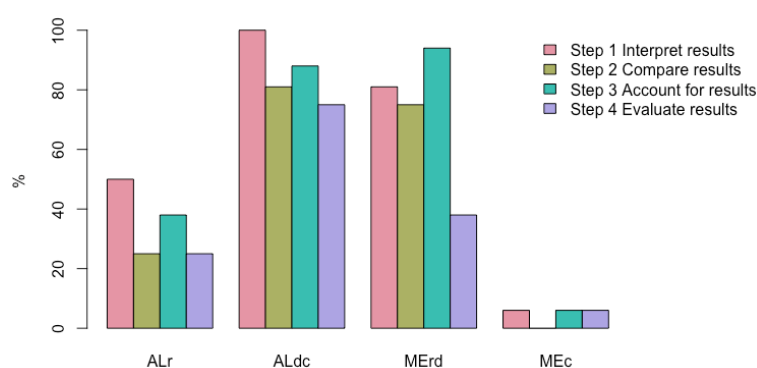


Figure 1: The Range of the Commentary Steps

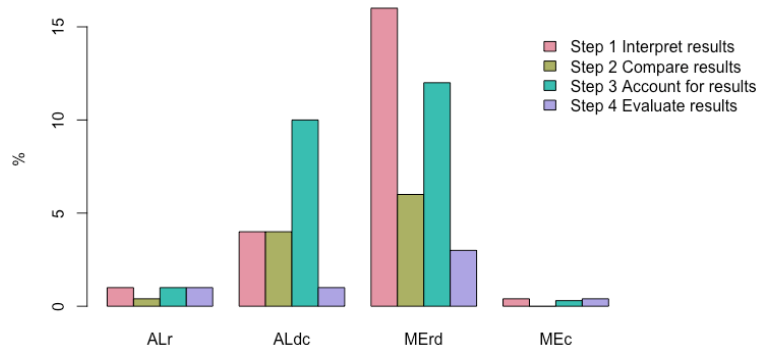


Figure 2: The Length of the Commentary Steps

Linguistic Realisations of the Commentary Steps

This section presents and compares the linguistic realisations of the most extensive commentary steps identified in Section 3: Interpret results, Compare results, and Account for results in the RD/DC section of ME and AL articles. Patterns are presented as they can be useful for pedagogical purposes. Conventions for pattern representation are as follows. The element (a salient feature) in bold is considered the node, functioning as the centre of the pattern and forming the basis for identifying co-occurring elements. Words in capital letters signify the semantic field of the group while those in capital and italic forms are lemma.

The features are related to one another in many different ways, especially through patterns of co-selection and similar rhetorical intents, and some POS tags are rather self-explanatory and not rhetorically significant under contextual examination (e.g. preposition tags like *IW* for *with/without*). Therefore, not all grammatical categories will be examined. To facilitate comprehension, POS tags characteristic of the functions examined are summarised in Table 4, followed by their meanings and examples.

Table 4: POS Tags Characteristic of the Functions Examined in the Corpus

POS tags	Meaning
VM	Modal verb (<i>may</i>)
VVI	Infinitive
VHI	Infinitive <i>have</i>
VBI	Infinitive <i>be</i>
VVZ	-s form of lexical verb (<i>indicates</i>)
VDZ	<i>does</i>
VHZ	<i>has</i>
VBZ	<i>is</i>
VVD	Past tense of lexical verb (<i>indicated</i>)
VCN	<i>been</i>
JJ	General adjective
JJR	General comparative adjective (<i>higher</i>)
JJT	General superlative adjective (<i>highest</i>)
CST	<i>that</i> (as conjunction)
PPH1	3 rd person singular neuter personal pronoun (<i>it</i>)
DD1	Singular determiner (e.g. <i>this</i>)
DDQ	<i>wh</i> -determiner (e.g. <i>which</i>)
NP1	Singular proper noun (e.g. <i>Nanaoka</i>)
NN1	Singular common noun
II21	Preposition in the first position of a sequence of 2 elements (<i>due to</i>)
IW	Preposition <i>with/without</i>
APPGE	Pre-nominal possessive pronoun (<i>our</i>)
CSA	<i>as</i> (as conjunction)
RA21	Adverb, after nominal head in the first position of a sequence of 2 members (<i>et al.</i>)
RA22	Adverb, after nominal head in the second position of a sequence of 2 members (<i>et al.</i>)
XX	<i>not</i>
GE	Germanic genitive marker (<i>Wagner's study</i>)
FO	Formula (<i>2006b</i>)
MC	Cardinal number (<i>1998</i>)
ZZ1	Singular letter of the alphabet (<i>A, b</i>)
FW	Foreign word

1.3. Linguistic Characterisation of the Interpret Results Step

Salient grammatical categories of the Interpret results step of the Discussion-Conclusion section of AL articles are demonstrated in Table 5, while those for the Results-Discussion section of ME articles are illustrated in Table 6.

Table 5: Salient Grammatical Features of the Interpret Results Step of the Discussion-Conclusion Section of AL Articles

POS tag	<u>ALdc-Step 1 Interpret results</u>		<u>ALdc-Other moves/steps</u>		%DIFF
	Freq.	Rel. Freq.	Freq.	Rel. Freq.	
VM	105	1.98	253	1.24	60.14
CST	110	2.08	276	1.35	53.79
VVI	153	2.89	421	2.06	40.23
VDZ	8	0.15	4	0.02	671.74
PPH1	44	0.83	93	0.46	82.56
APPGE	70	1.32	177	0.87	52.6

Table 6: Salient Grammatical Features in the Interpret Results step of the Results-Discussion Section of ME Articles

POS tag	<u>MErd-Step 1 Interpret results</u>		<u>MErd-Other moves/steps</u>		%DIFF
	Freq.	Rel. Freq.	Freq.	Rel. Freq.	
VHZ	6	0.43	21	0.08	464.97
XX	13	0.93	75	0.27	242.75
CST	31	2.23	180	0.65	240.55
VM	27	1.94	178	0.65	199.94
VBI	18	1.29	135	0.49	163.65
DDQ	11	0.79	86	0.31	152.92
VVI	23	1.65	210	0.76	116.57
VVZ	39	2.8	449	1.63	71.76
JJ	171	12.28	2395	8.69	41.18

The linguistic realisations of the Interpret results step in AL and ME articles share some features but also differ in many respects. Modal verbs (tag VM) are a salient feature, with *may* and *can* occurring the most frequently in both sub-corpora (AL: 36 and 14; ME: 11 and 14). AL articles contain a wider range of modal types than their counterparts, also including *might* (21 occurrences), *would* (13), *could* (9), *should* (6), *will* (3) and *must* (2). The modal verbs co-

occur with other salient features including the bare infinitive of *be* and lexical verbs (tag VVI), highlighting the caution that researchers exercise in establishing the meanings of reported results. Numerous instances of hedged interpretations can be found in the two sub-corpora.

(1) *Providing opportunities for planning may engender greater confidence in*

(AL1dc)

(2) *Therefore, the cross-shaped twisted insert can enhance the convective heat transfer.* (ME9rd)

An important feature that can be observed in both AL and ME sub-corpora is that there is a co-selection of any of these categories: the modal verbs, the infinitives, especially stance verbs (e.g. *seem, suggest*), and the *that*-complement clause (tag CST), leading to the formation of various patterns for making interpretations. The presence of these features further shows that the researchers show their caution in making claims and interpretations to pre-empt any criticism that may be evoked by readers. This is in line with findings from many previous studies examining language use in RAs in other disciplines (e.g. Hyland, 2008; Le & Harrington, 2015; Pho, 2013; Saber, 2012). Salient from these patterns is their preference for inanimate subjects including pronouns (*it, this*), research nouns (*findings, results, data*), or specific nouns related to the research (*the absence, the comparison*). This language choice shows that the researchers withdraw their personal intrusive presence, allowing them to present their own interpretations in an objective way (Pho, 2013) and also to protect themselves from “possible false interpretations” (Hyland, 2008, p. 18).

(3) *This would seem to present evidence* (AL7dc)

(4) *Crystallization ... may indicate that the solution for* (ME13rd)

(5) *The data also suggest the existence of* (AL12dc)

Despite these similarities, this function in the two sub-corpora is realised by different linguistic features. The 3rd person singular personal pronoun *it* (tag PPH1) is a major feature in the Interpret results step of AL articles. A close examination of concordance lines of *it* shows that most instances of this word co-occur with an extraposed clause, and collocate with many different types of word such as stance verb, epistemic adjective, and modal verb (see Table 7). The constellation of these linguistic features further shows that AL writers try to provide their

own interpretations impersonally and show uncertainty by providing hedged interpretations and explanations based on results of their study.

Table 7: The Most Frequent Collocates to the Right of *it*

Node	Collocates	Freq.	MI score
extraposed <i>it</i>	<i>argued</i>	4	6.82
	<i>seems</i>	4	5.12
	<i>seem</i>	4	5.36
	<i>possible</i>	3	5.82
	<i>is</i>	14	5.11
	<i>be</i>	12	4.65
	<i>would</i>	7	5.92
	<i>may</i>	4	3.61
	<i>might</i>	4	4.42
	<i>can</i>	4	5.01
	<i>that</i> -complement clause	25	4.75
	<i>to</i>	11	3.48

(6) ..., *it is also unclear* whether written direct CF promotes understanding.

(AL16dc)

(7) ..., *it may be that* there is a mismatch between (AL1dc)

(8) ... *it would appear that* these differences were not sufficiently influential ...

(AL16dc)

(9) *It can be argued that* this type of CF can promote understanding (AL16dc)

(10) *It seems that* test-takers regard written items(AL3dc)

The linguistic profile of the interpreting function in the ME sub-corpus differs from that in the AL sub-corpus in the category of present lexical verbs in the 3rd singular form (tag VVZ). These verbs are a key feature in the former sub-corpus, and can be categorised, based Pho's (2013) classification of verb types, as positive strong (10 cases), positive weak (5), ambiguous weak (2), and nonemotive (2). Patterns associated with these singular present verbs are as follows.

[Subject	+ Singular present lexical verb	+ that-clause / noun group]
Pronoun: <i>it, this</i>	Positive strong: <i>signifies</i> (3), <i>proves</i> (2), <i>demonstrates</i> (2), <i>shows</i> (2), <i>confirms</i> (1)	
<i>which</i> as a connector		
RESEARCH noun	Positive weak: <i>indicates</i> (5)	
group: <i>the comparison</i>		
Other nouns: <i>this fact</i> ,	Nonemotive: <i>means</i> (2)	
<i>this phenomenon</i>	Ambiguous weak: <i>seems</i> (1), <i>implies</i> (1)	

(11) *This indicates that the flat unit design better induces convection in the melted PCM.* (ME13rd)

(12) *This fact confirms that the transverse responses are mainly driven by*
(ME7rd)

Although the present simple verbs are also present in the AL sub-corpus (51 instances), the category of present verbs in the two sub-corpora selects different elements. While salient verbs in the AL sub-corpus are positive or ambiguous weak (e.g. *suggests* – 10 cases, *seems* – 13, *appears* – 5), most of the key verbs in the ME sub-corpus are positive strong. The prominent presence of present positive strong controlling verbs in ME articles shows that mechanical engineering authors tend to be assertive in the claims they make based on their findings. Mechanical engineering researchers most of the time provide extensive background information on the methodological approach to show that their results are obtained through a systematic manner and a credible method. Furthermore, they usually predicate their interpretations on logical relationships between different variables, making them quite straightforward. Therefore, mechanical engineering researchers are often confident in establishing the meanings of the results, which explains the salience of present simple positive strong verbs in this sub-corpus. In contrast, the less clearly-defined area of knowledge with diverse research variables in the social sciences and humanities like the applied linguistics discipline allows for various interpretations not general understandings. This substantiates the need for applied linguistics writers to use weaker verbs to caution their presentation of claims and anticipate possible convictions and objections from their audience.

1.4. Linguistic Characterisation of the Compare Results Step

Salient grammatical features of the Compare results steps of the Discussion-Conclusion section of AL articles and those of the Results-Discussion section of ME articles are presented in Table 8 and Table 9, respectively.

The first group of features realising this rhetorical function in AL and ME articles include singular proper nouns referring to names of researchers (tag NP1), and cardinal numbers (MC) and formula (FO) (e.g. *2007a*) denoting years in which researchers conducted their studies. The second prominent feature is the past tense of lexical verbs (tag VVD) and *be* (*was*). Most instances of these verbs report processes and behaviour observed in previous studies. When comparing results with the literature, researchers in the two disciplines report results from previous studies, which explains the prevalence of named researchers and verbs used to make reports.

(13) *Similarly to the present study, he used picture narration tasks* (AL14dc)

(14) *... in the study of Du et al. [25]; where it was pointed out that the mixing of coal particles and oxidant played a crucial role* (ME1rd)

Table 8: Grammatical Features Characteristic of the Compare Results Step of the Discussion-Conclusion of AL Articles

POS tag	<u>ALdc-Step 2 Compare results</u>		<u>ALdc-Other moves/steps</u>		%DIFF
	Freq.	Rel. Freq.	Freq.	Rel. Freq.	
ZZ1	4	0.2	1	0.01	1956.23
RA22	5	0.25	4	0.04	542.57
RA21	5	0.25	4	0.04	542.57
NP1	141	7.05	152	1.48	376.86
MC	113	5.65	143	1.39	306.21
GE	28	1.4	54	0.53	166.55
FO	30	1.5	64	0.62	140.96
VVD	32	1.6	85	0.83	93.53

Table 9: Grammatical Features Characteristic of the Compare Results Step of the Results-Discussion Section of ME Articles

POS tag	<u>MErd-Step 2 Compare results</u>		<u>MErd-Other moves/steps</u>		%DIFF
	Freq.	Rel. Freq.	Freq.	Rel. Freq.	
RA22	7	0.64	9	0.03	1858.31
RA21	7	0.64	9	0.03	1858.31
CSA	13	1.19	117	0.42	179.76
VVD	15	1.37	138	0.5	173.68
NP1	49	4.48	469	1.7	163.06
IW	24	2.19	293	1.06	106.24
AT1	25	2.29	335	1.22	87.9

Of particular interest is the presence of reporting verbs in the past tense and past participle form, including *found* (AL: 3, ME: 1), *showed* (1, 3), *reported* (1, 1), *claimed* (2, 0), *considered* (0, 1), *confirmed* (1, 0), *indicated* (0, 1). Concordance analyses of the reporting verbs reveal various patterns of citation, some of which are shared in AL and ME articles, while some are very distinctive of each discipline. Typical in both AL and ME sub-corpora are two citation patterns: integral citation with a human subject and integral citation with a non-human subject, both occurring with the past tense of reporting verbs to refer to what specific studies did and what results were achieved. The simple past *found* is the most frequently used reporting verb occurring in integral citation with a human subject. This pattern has also been reported in previous studies in academic genres (e.g. Charles, 2006; Le & Harrington, 2015).

Integral citation with a human subject:

[Human subject + **Past reporting verb** + *that*-clause / RESULT noun group]

(15) *Leeman (2003) claimed that ...* (AL16dc)

(16) *Xie et al. (2006) reported that* (ME4rd)

Integral citation with a non-human subject:

[Non-human subject + **Past reporting verb** + *that*-clause]

(17) *... given the results of Sheen (2007a, 2007b), which showed that* AL16dc)

(18) *This behaviour confirms the results of ... reported by Zhao et al. (2014) and Goncalves et al. (2015b). These experimental investigations indicated that*
 (ME7rd)

Specific to the AL sub-corpus is the non-integral citation pattern with a non-human subject. This pattern selects a RESEARCH noun group as a subject and the present perfect tense of reporting verbs (*FIND*, *INDICATE*) and ends with sources or agents in brackets. The main function of this pattern is to make general reference to the literature.

Non-integral citation with a non-human subject:

[Non-human subject + Present perfect **reporting verb** + *that*-clause / RESULT noun group]

(19) *In contrast, discourse analyses of L2 learners' oral interactions ... have indicated that negotiation of meaning ... important role in SLA (Garcia Mayo& Pica, 2000; Pica, 1988; Shehadeh, 2002; Van den Branden, 1997).* (AL13dc)

The current finding that different citation patterns select different verb forms to fulfil different communicative purposes is in line with Malcolm's (1987) general observation of the correlation between tense usage and rhetorical functions in her sample of paediatrics RAs.

What is prominent in the ME sub-corpus is the passivized forms of all the patterns found salient in the AL texts.

Passivized integral citation with a human subject:

[RESULT noun group + Passive **reporting verb** + Specific agent / source]

(20) *The possibility of galloping behaviour ... was reported by [researcher, year].* (ME7rd)

Reduced passivized integral citation with a human subject:

[RESULT noun group / pronoun + Past participle **reporting verb** + Specific agent / source]

(21) *... which are similar as those in 2D street canyons described by [researcher, year].* (ME4rd)

Passivized integral citation with a non-human subject:

[RESEARCH noun group + *where/in which* + Non-human subject + Passive **reporting verb** + (*that*-clause)]

(22) *These values are in agreement with results from studies for ... in which the larger drag ... was found (see e.g., [researcher, year]).* (ME7rd)

Passivized non-integral citation with a non-human subject:

[Non-human subject + Passive **reporting verb**]

(23) *The same trend has been reported in many previous studies [17], [31], and [39].* (ME12rd)

Further detailed examinations of these passivized patterns show that they are embedded in comparison constructions providing insights into the ways results are compared in mechanical engineering. As the comparison pattern mostly involves reported and/or obtained results, the citation pattern following is unsurprisingly passivized. In the case, however, where the comparison pattern is followed with reported studies, and the citation pattern can therefore be in the active or passive form, the choice of the passive voice is preferred in ME texts (see Example 22), showing that ME articles place a greater emphasis on phenomena than on the reported source or agent. This reflects the inquiry norms in mechanical engineering that objectivity and evidence is given priority over the authority. **Comparison constructions:**

Pattern 1

COMPARISON adjective + Research noun / research-related noun group

similar

results

same

behaviour

Pattern 2

OBTAINED RESULTS	+	COMPARISON	+	REPORTED RESULTS/STUDY
noun group / pronoun		predicate		noun group
Research noun group: <i>these results</i>		<i>is/are similar to</i>		<i>the results from the study</i>
		<i>is/are the same as</i>		<i>those</i>
Research-related noun group: <i>these values</i>		<i>is/are different from</i>		<i>the study of</i>
		<i>is/are consistent with</i>		
Pronoun: <i>this, which</i>		<i>confirms</i>		
		<i>is/are in agreement with</i>		

1.5. Linguistic Characterisation of the Account for Results Step

The function of accounting for results in AL and ME articles shares some salient linguistic categories (see Tables 10 and 11), most notably modal verbs (tag VM) and clusters used for providing explanations such as *due to* and *because of* (tag II21). Detailed concordance analyses reveal various patterns formed by the co-selection of these features. These patterns chain many other salient features found in the AL and ME sub-corpora, including *be* (tag VBI), *have* (VHI), *been* (VBN), and *it* (PPH1). Some of these patterns are found in both sub-corpora, while some are characteristic of the disciplines.

Table 10: Salient Grammatical Features in the Account for Results Step of the Discussion-Conclusion Section of AL Articles

POS tag	<u>ALdc-Step 3 Account for results</u>		<u>ALdc-Other moves/steps</u>		%DIFF
	Freq.	Rel. Freq.	Freq.	Rel. Freq.	
FW	4	0.1	0	0	1.00025E+17
VBN	18	0.45	33	0.16	178.63
II21	28	0.7	53	0.26	169.87
VHI	23	0.58	58	0.28	102.57
VM	91	2.28	253	1.24	83.74
PPH1	33	0.83	93	0.46	81.26
VBI	49	1.23	139	0.68	80.08
APPGE	55	1.38	177	0.87	58.73

Table 11: Salient Grammatical Features in the Account for Results Step of the Results-Discussion Section of ME Articles

POS tag	<u>MErd-Step 3 Account for results</u>		<u>MErd-Other moves/steps</u>		%DIFF
	Freq.	Rel. Freq.	Freq.	Rel. Freq.	
II21	50	1.65	84	0.3	439.69
DDQ	25	0.82	86	0.31	163.57
DD1	49	1.61	213	0.77	108.58
VM	40	1.32	178	0.65	103.75
JJR	56	1.84	258	0.94	96.8
VBI	29	0.95	135	0.49	94.77
VBZ	75	2.47	452	1.64	50.45
NN1	751	24.72	6071	22.04	12.16

The AL and ME sub-corpora share three patterns for accounting for results: [Research result + Passive modal verb + Explanation] (Examples 24, 25), [Research result + Active modal verb + Explanation] (Examples 26, 27), and [Explanation + Active modal verb + Research result] (Examples 28, 29). Researchers in both disciplines restate specific results when providing explanations. A disciplinary difference emerging from these shared constructions is that the category of modal verb in the AL and ME sub-corpora favours different types of modal. While *may* is the most frequent in the former (*may*: 37, *might*: 21, *can*: 13, *could*: 7, *will*: 5, *would*: 5, *must*: 2, *should*: 1), *can* is the most common in the latter (*can*: 19, *may*: 12, *could*: 5, *might*: 3, *will*: 1), once again suggesting that ME researchers tend to be rather confident in the explanations they provide for their results, while their counterparts are more likely to show caution.

Shared Patterns

[Research result + Passive **modal verb** + Explanation]

(24) *The lower accuracy in ... can be understood as a result of* (AL15dc)

(25) *The high frequency ... could be attributed to numerical dispersion* (ME5rd)

[Research result + Active **modal verb** + Explanation]

(26) *Some of the variance ... may be because of essay sampling* (AL4dc)

(27) *The above difference may be due to ...* (ME5rd)

[Explanation + Active **modal verb** + Research result]

(28) *Other within-rater and essay factors ... might account for the remaining within-rater variance.* (AL4dc)

(29) *This statement may account for excitation forces.* (ME7rd)

Each sub-corpus has its own patterns for accounting for results, pointing to differences in the way explanations are put forward in the two disciplines.

Salient Only in AL Sub-Corpus

[Modalised: Research result + Explanation]

(30) *A possible explanation for the apparent emergence of these features may lie in the limitations of note-taking.* (AL12dc)

(31) *It is possible that lower ability listeners are compelled to view the video text ... due to their inadequate linguistic competence.* (AL7dc)

(32) *The experiences raters assigned ... lower holistic scores than did the novices, perhaps because of differences in terms of ...* (AL4dc)

[Modalised: Explanation]

(33) *Another possible explanation is that rating and teaching experience might give rater the confidence.* (AL4dc)

(34) *We would speculate that it must have been this writing practice that helped*
(AL10dc)

Salient Only in ME Sub-Corpus

[Research result + Active verb + (degree) Explanation]

(35) *This is mainly due to the assumption of* (ME10rd)

(36) *A second temperature stabilisation ... appears for the experimental curves ..., which is due to the solid-solid transition* (ME8rd)

[Research result + (degree) Explanation]

(37) *The high viscosity of fluid restricts the fluid to flow ... because of the attractive forces* (ME14rd)

The EXPLAIN patterns characteristic of the AL sub-corpus are modalised in many various ways, while this is not the case for the patterns in the ME sub-corpus, most of which contain either present simple active verbs (*is* – tag VBZ), past simple active verb (*was*), or the attribute hedge *mainly*. The difference in the structures associated with these clusters can be related to the knowledge-making practices characteristic of each discipline. In mechanical engineering, results are accounted for based mainly on the relationships between variables in mathematical formulae, the properties of the system being used in the study, or the research conditions. Therefore, researchers in this field are quite certain about the explanations provided, which accounts for the presence of the present simple tense and the use of modal verb *can* in this function. They are also inclined to elucidate the explanations to help readers decipher what leads to the results, which is the main reason for the salience of comparative adjectives (tag JJR) associated with this function (see Example 38). In some cases, however, mechanical engineering researchers show their awareness of the limit in the explanations they offer, through the use of the attribute hedge *mainly*. In contrast, researchers in applied linguistics explain results in their study by suggesting their own speculations or drawing on existing theories and explanations provided in the literature. For this reason, they tend to hedge their explanations to anticipate different explanations and invite further discussion.

(38) ... *that is mainly due to the fact that Generally, larger droplets are detached from the liquid sheet directly, the contact time with air is shorter and the air resistance is lower; the smaller ones are mainly produced by the breakup of ligaments and the interaction of the larger ones. Furthermore, the gravity of larger droplets is higher.* (ME3rd)

Unity and Variability in Linguistic Choices

The linguistic descriptions of the commentary steps in AL and ME articles point to the unity and diversity in the way that researchers in the two disciplines use linguistic features to fulfil a particular rhetorical function as well as project their stance (see Table 12). The first thing to note is that the linguistic realisations of commenting on results are quite similar in the two disciplines. When making interpretations in the RD/DC section, for example, researchers in

both disciplines use modal verbs to extend their caution in establishing the meanings of reported results, and inanimate lexical items to present their own interpretations in an objective and safe way. They also make use of integral citation with a human/non-human subject when comparing their findings with those reported in the literature to enhance their credibility. The shared features have been reported in the literature (e.g. Charles, 2006; Le & Harrington, 2015; Pho, 2013), and this suggests that the rhetorical conventions in the two disciplines follow certain standardised practices adopted in the wider academic field.

There are differences in the linguistic characterisation of the rhetorical functions in the two disciplines, which, as discussed, reflect the nature of inquiry norms inherent in each field. The interaction among these three elements is depicted in Figure 3 outlining an overview diagram obtained from a correspondence analysis based on the normalised frequency of 10 POS tags. The graph captures most of the variation in the relation between linguistic features and the commentary steps in the two disciplines. We see, for instance, that Account for results in the RD section of ME articles (Account_MErd) is in a different quadrant from this function in the DC section of AL articles (Account_ALdc). The graph also indicates the strength of the connection between POS tags and moves. The tag VVZ (present simple verbs) is positioned close to ‘Interpret_MErd’, indicating that this grammatical feature is distinctive of the Interpret results step in the RD section of ME articles.

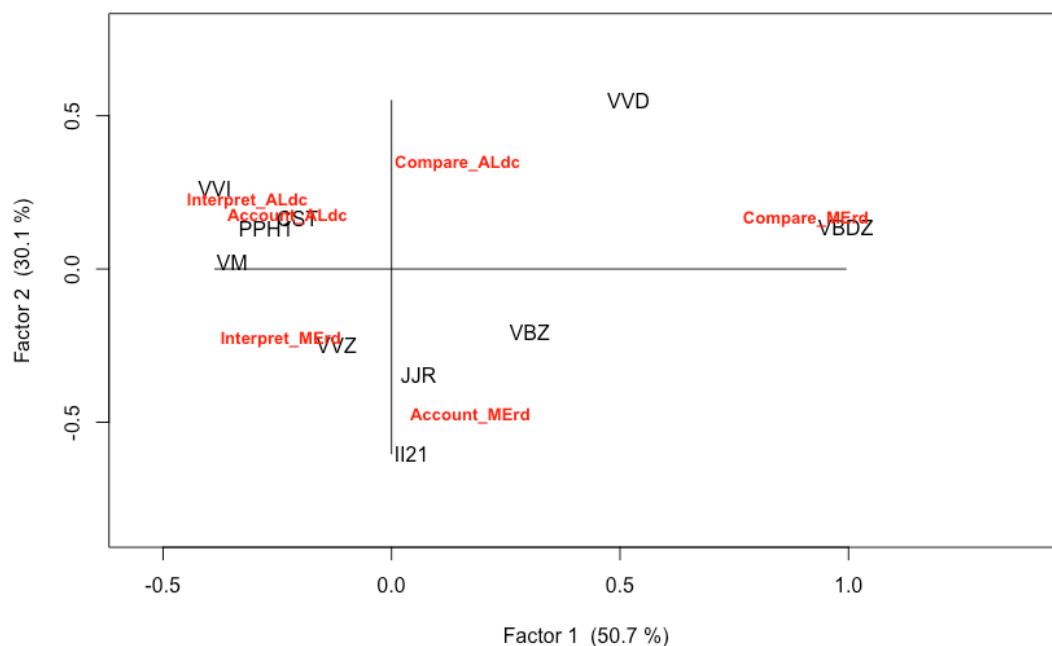


Figure 3: The Interaction Among the Linguistic Choices, Rhetorical Functions, and Disciplinary Communities

More specifically, when providing explanations for results of their study, AL researchers typically hedge their explanations for results using modalised patterns, while ME authors tend to be more confident in the explanations they offer with the use of non-modalised patterns, either with or without the degree adverb *mainly*, and the modal verb *can*. Furthermore, although the two sub-corpora share many citation patterns, ME articles prominently employ passivized constructions for making reports. Another point of interest is that the linguistic preference in a particular grammatical category can vary according to disciplinary conventions, even when this category is salient in both disciplines to realise the same function. One of the most discernible differences was observed in the modal types used to make interpretations and provide explanations in the RD/DC section. While *may* is the most frequent modal verb in the Discussion-Conclusion section of AL articles, *can* is more representative of the ME sub-corpus.

Table 12: The Similarities and Differences in the Linguistic Choices Associated with Specific Rhetorical Strategies

Commentary strategies	The tendency for the linguistic choices to be made in AL articles	The tendency for the linguistic choices to be made in ME articles
Interpret results	<p>Modal verbs (<i>may, can</i>)</p> <p>Inhuman subjects (<i>results, research, it</i>)</p> <p>The simple present of positive weak controlling verbs (<i>suggest</i>)</p> <p>Other hedging expressions: <i>it</i>-extraposition, epistemic adjectives and adverbs, stance verbs</p>	<p>The simple present of positive strong controlling verbs (<i>signifies, proves, demonstrates, confirms, shows</i>)</p>
Compare results	<p>Citation patterns:</p> <p>Integral citation with a human subject (past reporting verb: <i>found</i>)</p> <p>Integral citation with a non-human subject</p> <p>Non-integral citation with a non-human subject (present perfect reporting verbs: <i>have found/have indicated</i>)</p>	<p>Passivized citation patterns</p>
Account for results	<p>EXPLAIN clusters: <i>due to, because of</i></p> <p>EXPLAIN patterns:</p> <p>[Research result + Passive modal verb + Explanation]</p> <p>[Research result + Active modal verb + Explanation]</p> <p>[Explanation + Active modal verb + Research result]</p> <p>Modal verb <i>may</i> being the most frequent</p> <p>Modalised EXPLAIN patterns</p>	<p>Modal verb <i>can</i> being the most frequent</p> <p>EXPLAIN patterns in the present or past active verb</p> <p>EXPLAIN patterns with attribute hedge <i>mainly</i></p>

Conclusions

Our study has shown that the practice of commenting on results mainly occurs in the Discussion-Conclusion section of AL articles and the Results-Discussion section of ME articles. This function is realised primarily by three rhetorical strategies, including interpreting, comparing, and accounting for results. The data-driven analysis of salient grammatical features associated with each step and further detailed contextual examination of these features point to the universalities and differences with regard to the way that authors in the two disciplines realise a specific rhetorical function linguistically to construct new knowledge and express their authorial stance. Differential preferences for language use can be explained by rhetorical purposes and epistemological characteristics of each discourse community. The present study examines linguistic realisations of only one critical move. Future interdisciplinary research in linguistic descriptions of other rhetorical functions in research papers would be needed to provide a fuller picture of language use specific to communicative functions and discourse communities. Despite its small scope, the current research has some important pedagogical implications.

The comparison and contrast made in our study has yielded valuable insights into the rhetorical practices of results commentary in the two disciplines studied: applied linguistics and mechanical engineering. This is of great pedagogical value because such knowledge of not only rhetorical choices distinctive of each discipline but also the extent to which they are similar to or deviant from those made in a different field is necessary for learners' awareness and proper understandings of the socio-epistemological characteristics of their own discipline and the corresponding structural and linguistic features. The findings can be used as a useful materials resource for the teaching and learning of genre practices to enable learners to gain a command of rhetorical conventions that are generally accepted in their field of study and research. For instance, the patterns can be used to guide learners in the formulation of structures appropriate for different moves and steps. In addition, the information provided in our study can be incorporated into existing textbooks on academic writing that often offer overly general advice on linguistic use; for example, use the simple past tense in the Results section and the present simple tense in the Discussion section. As we have shown, linguistic choices are determined by rhetorical functions as well as disciplinary conventions. The Results section is made up of a range of different rhetorical

functions, each of which is realised by distinct linguistic features, and thus advice such as using the past tense in the Results section may be very misleading.

Findings from genre analysis studies are derived from a certain type of corpus representative of a particular discourse community which, according to Hyland (2004), is far from monolithic. In pedagogical practices, it is thus crucial not to separate generalisations made based on genre analysis findings from the nature of the corpus from which they are obtained, not to remove rhetorical conventions from contextual factors, and not to impose a rigid template of writing conventions. This approach helps promote learners' understandings of contextualised practices that will enable them to make flexible and creative use of suggested/provided sets of rhetorical choices. So, while the regularities in the rhetorical conventions made in the two disciplines that we have pointed out can have the pedagogical effect of providing novice writers with a starter package containing structural and linguistic options characteristic of their field and informing the design and development of materials, they should not be seen as a fixed model of organisational patterns and language use that learners need to conform to.

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Appendix

List of the Applied Linguistics Articles.

AL1: Wigglesworth, G., & Elder, C. (2010). An investigation of the effectiveness and validity of planning time in speaking test tasks.

AL2: East, M. (2015). Coming to terms with innovative high-stakes assessment practice: Teachers' viewpoints on assessment reform.

AL3: Chang, A. C. S., & Read, J. (2013). Investigating the effects of multiple-choice listening test items in the oral versus written mode on L2 listeners' performance and perceptions.

AL4: Barkaoui, K. (2010). Do ESL essay raters' evaluation criteria change with experience? A mixed-methods, cross-sectional study.

AL5: Huang, J., & Foote, C. J. (2010). Grading between the lines: What really impacts professors' holistic evaluation of ESL graduate student writing?

AL6: Thanyapa, I., & Currie, M. (2014). The number of options in multiple choice items in language tests: Does it make any difference? Evidence from Thailand.

AL7: Wagner, E. (2010). Test-takers' interaction with an L2 video listening test.

AL8: Cheng, L., Klinger, D., Fox, J., Doe, C., Jin, Y., & Wu, J. (2014). Motivation and test anxiety in test performance across three testing contexts: The CAEL, CET, and GEPT.

AL9: Chan, A. Y. W. (2012). The use of a monolingual dictionary for meaning determination by advanced Cantonese ESL learners in Hong Kong.

AL10: Manchon, R. M., & de Larios, J. R. (2007). On the temporal nature of planning in L1 and L2 composing.

AL11: Loewen, S., Li, S., Fei, F., Thompson, A., Nakatsukasa, K., Ahn, S., & Chen, X. (2009). Second language learners' beliefs about grammar instruction and error correction.

AL12: Coyle, Y., & Roca de Larios, J. (2014). Exploring the role played by error correction and models on children's reported noticing and output production in a L2 writing task.

AL13: Suzuki, M. (2008). Japanese learners' self revisions and peer revisions of their written compositions in English.

AL14: Trebits, A. (2016). Sources of individual differences in L2 narrative production: The contribution of input, processing, and output anxiety.

AL15: Hanson, A. E. S., & Carlson, M. T. (2014). The roles of first language and proficiency in L2 processing of Spanish clitics: Global effects.

AL16: Sheen, Y. (2010). Differential effects of oral and written corrective feedback in the ESL classroom.

List of the Mechanical Engineering Articles

ME1: Chen, C.-J., Hung, C.-I., & Chen, W.-H. (2012). Numerical investigation on performance of coal gasification under various injection patterns in an entrained flow gasifier.

ME2: Zhao, G.-y., Li, Y.-h., Liang, H., Han, M.-h., & Hua, W.-z. (2015). Control of vortex on a non-slender delta wing by a nanosecond pulse surface dielectric barrier discharge.

ME3: Ma, Y.-c., Bai, F.-q., Chang, Q., Yi, J.-m., Jiao, K., & Du, Q. (2015). An experimental study on the atomization characteristics of impinging jets of power law fluid.

ME4: Hang, J., Li, Y., & Sandberg, M. (2011). Experimental and numerical studies of flows through and within high-rise building arrays and their link to ventilation strategy.

ME5: de Oliveira, G. M., Rocha, L. L. V. d., Franco, A. T., & Negrão, C. O. R. (2010). Numerical simulation of the start-up of Bingham fluid flows in pipelines.

ME6: Karim, M. M., Prasad, B., & Rahman, N. (2014). Numerical simulation of free surface water wave for the flow around NACA 0015 hydrofoil using the volume of fluid (VOF) method.

- ME7: Liu, M., Xiao, L., Lu, H., & Shi, J. (2016). Experimental investigation into the influences of pontoon and column configuration on vortex-induced motions of deep-draft semi-submersibles.
- ME8: Longeon, M., Soupart, A., Fourmigué, J.-F., Bruch, A., & Marty, P. (2013). Experimental and numerical study of annular PCM storage in the presence of natural convection.
- ME9: Deng, Z., Hui, K., Zhang, Y., & Cao, Y. (2016). Numerical simulation analysis of the flow field and convective heat transfer in new super open rack vaporizer.
- ME10: Xiao, X., Zhang, P., Shao, D. D., & Li, M. (2014). Experimental and numerical heat transfer analysis of a V-cavity absorber for linear parabolic trough solar collector.
- ME11: Mehta, B., & Khandekar, S. (2012). Infra-red thermography of laminar heat transfer during early thermal development inside a square mini-channel.
- ME12: Deng, D., Wan, W., Tang, Y., Shao, H., & Huang, Y. (2015). Experimental and numerical study of thermal enhancement in reentrant copper microchannels.
- ME13: Dannemand, M., Johansen, J. B., Kong, W., & Furbo, S. (2016). Experimental investigations on cylindrical latent heat storage units with sodium acetate trihydrate composites utilizing supercooling.
- ME14: Ahmed, H. E., Ahmed, M. I., & Yusoff, M. Z. (2015). Heat transfer enhancement in a triangular duct using compound nanofluids and turbulators.
- ME15: Okello, D., Foong, C. W., Nydal, O. J., & Banda, E. J. K. (2014). An experimental investigation on the combined use of phase change material and rock particles for high temperature (~ 350 °C) heat storage.
- ME16: Wang, H., Luo, Y., Gu, H., Li, H., Chen, T., Chen, J., & Wu, H. (2012). Experimental investigation on heat transfer and pressure drop of kerosene at supercritical pressure in square and circular tube with artificial roughness.



Towards a Balanced Curriculum: A Needs Analysis of Content Topics and Field Trips for English for Tourism

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Biodata

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Abstract

This study identifies domains of content topics and field trips to be included in an English for tourism (ET) course at a major public university in Thailand. Following Brown's (2016) democratic view of classroom-learning analyses (CLA), this mixed-methods study challenges the unbalanced content of the existing English for tour guides curriculum. Survey responses from university students ($N = 196$) and tour guides ($N = 70$) were triangulated with semi-structured interviews with a subsample of the two groups and a university teacher ($N = 5$). The findings showed some mismatch between the needs expressed by the two stakeholder groups, and the content topics in the tour guide local textbooks and field trips. Among the content topics, natural attractions, cautions when visiting attractions, and cultural indiscretions were the most needed or preferred although they were less emphasized in the textbooks. The findings of this study also suggest that field trips to natural attractions and local communities—not only historical places related to Buddhism as currently practiced—be added to the ET course. This study calls for

reconsideration of the content topics and field trips in the English for tour guides curriculum in Thailand.

Keywords: English for specific purposes, English for tourism, English for tour guides, needs analysis, curriculum design, Thailand

Introduction

One widely acknowledged challenge for designing an English for specific purposes (ESP) course is the lack of content expertise among the course developers and teachers (Jiang, Zhang, May, & Qin, 2018). ESP teachers who also frequently take the role of course developers may find themselves unfamiliar with the content areas of the course (Wu & Badger, 2009). They may even find it intimidating to teach some technical courses such as English for Chemical Engineering (Belcher, 2006). In reaction, they might simply teach selectively on content topics that they are familiar and comfortable with. This might present a mismatch, and a problem in terms of construct representation in ESP courses. In the interest of both ESP curriculum and materials development, it is crucial to identify the appropriate range of content topics in order to maximize the potential of ESP courses, so that these courses meet the specific needs of the students.

ESP includes English for academic purposes (EAP) and English for occupational purposes (EOP). The general aim of EAP is to assist learner's study or research in English (Hyland, 2006). Text and literacy in EAP have been the dominant subject of ESP research (Belcher, 2006). Though EOP spans a plethora of domains, the knowledge construction of EOP has much less evidence than EAP. When it does, only lucrative professions such as medicine, business and law have been the focus (Belcher, 2006). Tourism and education have not received adequate attention (Gallego-Balsa & Cots, 2016) though students may learn the language well from hands-on experience while traveling. Simion (2012) suggested that among vocational areas, English for Tourism (ET) is one of the most attractive areas of EOP because all of the learners and teachers are tourists on countless occasions. However, ET is an underrepresented area of EOP on which more research is needed.

With the importance of ESP content needs analysis and the underrepresentation of research on EOP, a needs analysis study on content topics of English for tourism seems to be a crucial jigsaw piece missing from the ESP literature. My study investigated the needs of content topics and field

trips for a new ET course at a large public university in Bangkok, Thailand. The results of the study may also shed light on the calibration of the current English for tour guides curricula and their textbooks implemented nationwide.

Literature Review

Focuses of Needs Analysis Studies

A needs analysis study may focus on one or multiple specific aspects. Among these aspects, real workplace tasks are the most commonplace unit of analysis.

Task-Based Needs Analysis

The task-based approach to needs analysis (Long & Crookes, 1992; Long, 2005; Long, 2013; and Serafini, Lake & Long, 2015) sees tasks in the workplace as comparable to pedagogic tasks (e.g. Jasso-Aguilar, 1999; Gilabert, 2005; Huh, 2006; Van Avermaet & Gysen, 2006; and Lambert, 2010), which can provide necessary input of a corresponding ESP course. Long and Crookes (1992) contended that the majority of learners do not learn a language in isolated parts of words, structures or other form-focused features, but rather from form-function associations mediated through authentic pedagogic tasks. In the context of ESP, the workplace tasks are ideal candidates to be turned into pedagogic tasks in the classroom. Task-based needs analysis studies have been conducted in a myriad of industries and professions such as hospitality (Malicka, Guerrero & Norris, 2017 and Poghosyan, 2018), engineering (Kim, 2013) and even cultural interpretation services (Boonteerarak & Wongnang, 2017). It is important for task-based needs analysis to examine the complexity of the tasks and factors influencing task complexity, so that teachers can control and sequence those tasks in a more logical and learnable way (Gilabert, 2005). For example, Malicka et al., (2017) conducted a task-based needs analysis study on hotel receptionists. They found that while receptionists deal with both overbooking and check-in/check-out frequently, the two tasks entail different complexity levels.

Needs Analysis on Language Subskills

Another goal of needs analysis in ESP research is the identification of target language subskills. Depending on the specific purposes and the context of language use, the target subskills in ESL

courses can differ. In the EAP context of Taiwanese universities, Liu, Chang, Yang and Sun (2011) surveyed close to a thousand non-English major students and found that reading was the most desirable EAP skill, while writing was the least sufficiently-developed skill. Al-Khatib (2005) studied the language needs of tourism and banking personnel in Jordan. He found that in general the personnel in the banking industry used English less often than those in the tourism industry. However, the expressed needs of the two industries converged in that speaking and writing were the most often used skills at work, but employees desired to further sharpen their listening and speaking skills. The importance of speaking skills in the tourism industry has been underpinned by Prachanant (2012) and Ghany and Latif (2012) in the contexts of Thailand and Egypt. In contrast to the tourism industry, Spence and Li u (2013) found that engineers in Taiwan's high-tech sector wrote and read English for their work more often while speaking was rated the most difficult subskill. However, looking into only the needs of the four core English subskills in an ESP course for a whole industry can be problematic. Different job positions in an industry may not have the same level of needs in the core language subskills. In the tourism industry, for example, tour guides rated speaking skill the most important (Wozniak, 2010) while travel agency workers saw writing as the most crucial skill (Afzali & Fakharzadeh, 2009). Thus, the functions or communicative events of each language skill are usually reported in needs analysis studies for a more accurate picture of the needs in each skill (Liu et al., 2011; Prachanant, 2012; Spence and Liu, 2013; and Friedman, 2018). Though in general, speaking may be the skill used most at work for tourism employees, Prachanant (2012) found that general conversations were the least frequent language function the employees performed in English. Giving information in speaking and possibly in writing was the most frequent language function.

Needs Analysis on Linguistic Features

A number of needs analysis studies focus on fine-grained linguistic features associated with specific communicative functions instead of holistic language subskills. Through discourse analysis, Staples (2015) compared lexico-grammatical features in nurse-patient spoken interactions between American nurses and internationally educated nurses. Her findings highlighted an important role of rapport building with patients and patient-centered interactions that the second group needed to develop during training. A discourse analysis of written samples of Hong Kong merchandisers in the textile industry in So-mui and Mead (2000) works as input for

ESP course designers to develop materials that correspond to the real use of the language. Afzali and Rezapoorian (2014) analyzed EFL learner's pragmatic performance and five English for tourism course books. The student participants' test mean score of expressive act was the lowest among all five speech acts. In addition, expressive act was found the least in the analyzed tourism books. The authors called for teachers and English for tourism materials writers to supplement expressive speech act in their course and materials. Andi and Arafah (2017) and Ampa and Quraisy (2018) investigated fine-grained features of English skills in general English courses in the Indonesian university contexts. With input from 137 professors, students and graduates, Andi and Arafah (2017) found that the three participant groups unanimously rated vocabulary knowledge very important in developing speaking skill while grammar was rated important, but lower than vocabulary and pronunciation. In contrast to speaking skill, grammar was found more crucial in Ampa and Quraisy (2018) for a writing class. Students desired to develop sentence structure and vocabulary the most, followed by content and organization. Mechanics was rated the lowest in the writing class by the students.

English for Tour Guides

Along the continuum of specificity, Basturkmen (2010) and Lesiak-Bielawska (2015) argued that ESP courses may range from English for general academic purposes to the most focused ESP course for a homogenous group of learners who have a particular type of academic and/or work environment in mind. At one end of the continuum is a wide-angled course, and a narrow-angled course is on the other end. Studies on English for tour guides have narrow-angled courses/training as a focus.

The Components of a Tour Guide Training Curriculum

A tour guide training curriculum generally incorporates three basic components: (1) The knowledge expansion of the products (e.g. history, culture, geology, flora, fauna and site knowledge); (2) interpretive guiding skills for delivering quality commentaries and creating superior tourist experiences; and (3) language training where required (Weiler & Ham, 2002). For example, in Lo and Sheu (2008), an English tour guide training project in a culture-tourism context of Kaohsiung, Taiwan comprised three courses on (1) which were Kaohsiung's major festival, the local culture and the infrastructure of the city. The project also featured a course on principles and

basic techniques for escort interpreting and a tour guiding practicum, which is considered as (2). However, there was no explicit language training in (3). In order to deliver quality commentaries in (2) and make use of their knowledge repertoire of the products in (1), language proficiency of tour guide trainees is needed.

The Needs for English for Tour Guides Training

In a number of EFL countries, such as Taiwan, France and Austria, foreign language examinations are required for tour guide certification (Chowdhary & Prakash, 2009; Wozniak, 2010). However, language training seems to be the most overlooked component in the tour guide training curricula in these contexts. Chowdhary and Prakash (2009) compared six tour guide training curricula in five ESL and EFL countries and found that only one curriculum explicitly focused on English language skills. In Jacobson and Robles (1992) and Weiler and Ham (2002), the tour guide trainees were found to lack English-language skills which, in turn, affected their chance of getting a tour guide job. In the context of Thailand, tour guides in Bennui (2017) saw English classes in their formal education neither sufficient nor effective in preparing them for the career. Wichaidit (2014) reported the lack of sufficient language proficiency among tour guides from the foreign tourists' perspective. She found that Thai tour guides' English oral communication showed problems with technical terms, grammar, and cross-cultural knowledge. From tour guides' own perspective, Ratminingsih, Suardana, Martin (2018) resonated the voice of in-service local tour guides in Indonesia. Only 5% of the participants believed that they could speak English fluently to their clients. The participants reported that they did not have a specific English training for tour guides but only ineffective general English training.

The Missing Needs Analysis on English for Tour Guides

As compared to the language proficiency requirement of tour guides, the knowledge of needed content topics is also of importance for ESP course developers and teachers. However, content topic needs analysis studies are relatively underrepresented in the research literature—let alone such studies in English for tour guides. A balanced representation of content topics is essential to ESP courses, the lack of which can lead to an underrepresentation of course constructs, negatively impacting the preparation of candidates for the target occupation. This issue can be exacerbated when course developers avoid certain content topics due to the lack of confidence or comfort in

delivering knowledge in the content domains. My study is a non-task-based needs analysis study that has a specific focus on content topics and types of field trips in English for tourism. The rationale of the study can be further justified by the current situation of English for tour guides in Thailand.

Context of the Study

Tour Guide Training in Thailand

With a total of 38.3 million foreign visitors (Ministry of Tourism and Sports, 2019a), Thailand ranked fourth in the world in 2017, generating a revenue of 57.5 billion dollars (World Tourism Organization, 2018). This large volume of international tourism leads to a great demand for qualified tour guides in the country.

The Unbalanced Content in the Field Trips

To work as a tour guide, the Department of Tourism created a core curriculum that comprises three components: academic knowledge about different aspects of the country and the professions, field trips, and English for tour guides (Department of Tourism, 2008). This is comparable to Weiler and Ham's (2002) three basic components of a tour guide training curriculum. In Thailand, the medium of instruction of the last two components are in both Thai and English. The eight mandatory field trips in the General Guide Training Course at a public university I enrolled in were all visits to temples and palaces in different historical periods (see Appendix 1). The majority of the teachers in the Course represented the Department of Art History, the Faculty of Archaeology, where the Course was housed.

The Unbalanced Content in the Textbooks

History and Buddhist temples are the predominant themes of not only the field trips, but also the textbooks used in the English for tour guides curriculum. For example, Parasakul (2012) is one of the most popular English for tour guides textbooks in Thailand. Twelve out of the 15 units of the book focus on history and Buddhism (see Appendix 2), with little represented in other aspects of Thai tourism such as natural attractions. A similar unbalanced content is found in other local

textbooks, including Suansap (2002), Continuing Education Center & Translation Center (2002) and Intarakumnerd & Praraththajariya (2011).

The Curriculum Not Reflecting the Reality

The predominant themes of history and Buddhist temples in the field trips and textbooks seem to disproportionately reflect the country's tourism. According to the domestic tourism statistics, four of the five provinces in Thailand that received the highest number of foreign tourists in 2018 were known for beaches, mountains and local communities—not history and religions. In contrast, the two former capitals, known for history and Buddhism ranked 9th and 20th (Ministry of Tourism and Sports, 2019b). The mismatch between the content topics of the textbooks as well as the types of field trips in the tour guide training courses and the country's tourism has contributed to the struggle of Thai tour guides. Tuankam, a tour guide who took the training course at a private university, stressed her desire for a more variety in the field trips of the course (personal communication, August 24, 2018). In addition to Buddhist temples and palaces, she currently takes her clients to local communities. She only learned about these local communities while doing her job. The inadequate preparation in the tour guide curriculum for certain important domains of topics and places may, in turn, affect the quality of their work.

The Present Study

I am a faculty member at a large national public university, who is tasked to develop an elective ET course to prepare undergraduate students for receiving visitors and exchange students. The structure of the ET course is modeled based on the English for tour guide courses although the ET course is considerably shorter. Students of the ET courses are students of the university, who do not take this course to get certification for tour guides. However, the content coverage and activities of the two courses are comparable, and the potential issues related to unbalanced content coverage for English for tour guide courses also apply when developing the ET course. Thus, a needs analysis is necessary. The tentative ET course objective is: Students are able to engage in conversation in English about different aspects of Thailand necessary for hosting foreign visitors and exchange students.

The Needs Analysis Approach

Considering the nature of my study, I see Brown's (2016) classroom-learning analyses (CLA) through the democratic view as a suitable needs analysis approach defined as follows:

Classroom-learning analyses investigate what the classroom learning situation is or should be. This means examining issues like the selection and ordering of the course content, the teaching methods that will be employed, the types of activities students will engage in, and the materials that will be employed. (p. 24)

As the genesis of the course building, my study concerns the selection of the ET course content and the field trips' places and activities. CLA are chosen as the framework for this study because of a plethora of possible content topics to be included in the ET course. Providing that a visitor host needs to be well-rounded especially on topics about their own country, the knowledge of what topics the host should be equipped with is crucial. The approach can also shed light on field trips which is considered an indispensable part of an ET course (Xie, 2004). The suitable number of trips, activities during the trips, time and destinations are investigated. The democratic view includes the course content and field trips that stakeholder groups desire or expect to be included in the course. The main stakeholders are the students and tour guides. Input from the teachers is also used to compromise the needs of the two main groups. This needs analysis study does not adopt the predominant task-based approach because tasks for visitors' hosts are relatively evident unlike English for law, aviation English and other technical EOP.

Research Questions

1. Following Brown's (2016) democratic view of CLA, what are the perceived needs for the elective ET course content at the university among tour guides and the students?
2. What are the perceived field trips for the elective ET course among tour guides and the students?

Methods

Research Design

This mixed-methods study was divided into two phases: the quantitative phase and the qualitative phase (see Table 1). In Phase 1, two questionnaires were utilized to elicit the participants' preference or perceived importance of different content topics (Questionnaire 1) and types of field trips (Questionnaire 2). In Phase 2, semi-structured interviews were conducted to a subsample of the participants to complement results on the preliminary questionnaire.

Participants

Participants were 196 students, 70 tour guides and a teacher. One hundred and thirteen students of on-campus sessions completed Questionnaire 1. A separate group of 83 students who joined field trips to historical places completed Questionnaire 2. They were undergraduate students from different faculties and departments except for two graduate students.

All 70 tour guide participants were certified guides who passed a minimum of 218 hours of the General Guide Training Course for Thai and Foreign Tourists (Department of Tourism, 2008). They had the license to lead any type of tours in any region of Thailand. About 57% of the respondents (N = 40) were English-speaking tour guides. The rest were tour guides using other languages, transfer representatives, tour operators, etc. They completed Questionnaire 1.

Two students, two tour guides and a pilot-study teacher voluntarily gave semi-structured interviews for further insights. The interviewee demographics are presented in Table 1.

Table 1: Demographics of Interview Participants

Pseudonym	Status	Sex	Details
Sira	student	male	Fourth-year Thai undergraduate student who joined a pilot field trip
Ngar	student	female	Doctoral exchange student from Vietnam who joined a pilot field trip
Preena	tour guide	female	Two years of experience receiving customers around the world
Arak	tour guide	male	Two years of experience receiving customers around the world
Metta	teacher	female	Ten years of experience in teaching and organizing excursions for students

Instruments

Questionnaires

In developing Questionnaire 1, I listed possible content topics of the prospective ET course. Then three teachers of the pilot sessions were consulted for feedback. A total of 29 content topics were included in the final version. It was proofread by two experienced teachers for clarity and unbiased language. Questionnaire 1 comprised two parts: 1.) participants' demographics, and 2.) Likert-scale items eliciting opinions on the 29 content topics. An electronic version of Questionnaire 1 was created for tour guide participants via Google Forms. Questionnaire 2 on field trips was the standard evaluation form that the institution used for extracurricular activities. It was composed of nine Likert-scale items and comment boxes. The two questionnaires were in the participants' native language, Thai, to ensure their understanding.

Semi-Structured Interviews

All the interviews were semi-structured with common topics and specific topics to learn from the interviewees. The common topics were their feedback on the preliminary results of the survey and their perspectives on desirable content topics and field trips for the ET course. Considering the wide range of expertise and experience related to Thai tourism among the three groups of participants, the interviews had different focuses. The tour guide interviews emphasized their tour guide experience and knowledge of customers' preferences. The teacher interview focused on appropriate activities for the new ET course. The students were asked specifically about the pilot field trips they joined. During all the interviews, probing questions were asked based on individual participants' responses, to seek either clarification or elaboration on their responses (Roulston, 2010; and Rubin & Rubin, 2012).

Procedure

Quantitative Phase: The Pilot Study

I developed a series of sessions to give students a sense of the ET course and receive feedback from them (see Table 2). Data were collected from four two-hour sessions and three one-day trips. Introduction to English for Tourism was taught by me as a venue to introduce the research study

to interested students. The subsequent on-campus sessions were Thai Food, Thai Culture, and Natural Attractions in Thailand. The three sessions were proposed and run by five different teachers who employed their own materials and classroom activities which ranged from trivia quizzes on tourism in Thailand, group presentations on a Thai dish, creating an itinerary to natural attractions, role plays on receiving foreign friends to fill-in-the-blank exercises. Questionnaire 1 was given to the student participants at the end of each session. Quantitative data collection of the tour guides was done online. The snowball sampling was used. Some tour guides shared the link to Questionnaire 1 to other chat groups. Thus, data came from tour guides who received training from different institutions.

Three different field trips to Ayutthaya, the old capital of Thailand, were held subsequent to the on-campus sessions. Each trip included visits to four to five places such as active and inactive temples, the ancient palace, and museums. The itinerary for each trip was similar. Students were tasked to identify a problem of the tourist attractions they visited, provide real evidence to illustrate the problem, and recommend solutions to the problem. Specifically, for each place, I or a museum curator first provided a 15-minute commentary. Then, students were assigned to small groups to explore the tourist attraction on their own for 30 to 45 minutes to identify a problem at that place (e.g. clarity of signs and cleanliness of bathrooms). They were asked to collect as much information (e.g. pictures and tourist interviews) as possible to illustrate the problem. During the trip back to school, each group presented the problem and suggested solutions. Questionnaire 2 was distributed after the group presentations.

Qualitative Phase

A subsample of two students, two tour guides and a teacher from the pilot study was interviewed for their perspectives on the prospective ET course content and field trips. All of the interviews were in the participants' native language, except for an English interview with Ngar (see Table 1). All the interviews were tape recorded, each of which lasted approximately 35 minutes.

Table 2: Procedure of Data Collection

	Data collection				
	Quantitative phase (pilot study)			Qualitative phase	
Procedure	<div><div>Introduction to English for Tourism</div><div>➡</div><div><div>On-campus sessions</div><div><ul style="list-style-type: none">• Thai Food• Thai Culture• Natural Attractions</div><div>➡</div><div><div>Field trips</div><div><ul style="list-style-type: none">• Ancient palace• Buddhist temples• Art and cultural museums</div><div>➡</div><div><div>Feedback on preliminary survey results and perspectives on content and field trips</div></div></div></div></div>				
Instruments	Questionnaire 1 Content topics		Questionnaire 2 Field trips	Semi-structured interviews	
Data sources	Students		Students	Students	Teacher
	Tour guides			Tour guides	

Data Analysis

Mean and median of the Likert-scale item responses on the content topics and field trips in the questionnaires were calculated. For the 29 content topic items, within-group mean scores were ranked. The rankings were compared between the student and tour guide groups for the democratic view on the needs. The comments on the content topics and the field trips were coded bottom-up. That is, all of the codes were extracted inductively from the data, not by the literature or theories (Urquhart, 2013). By doing so, the coded data reflect the needs that the students voluntarily informed me apart from the pre-selected content topics and trips. The interviews were transcribed verbatim and employed as secondary data to provide explanations for the questionnaire results.

Results

RQ 1: What are the perceived needs of course content for the ET course?

The mean and median scores of top content topics, along with their rankings, in the students and tour guides' surveys are presented in Table 3.

Table 3: The Content Topics from the Top Ten Survey Results

Content topic	Students (n = 113)			Tour guides (n = 70)		
	Mean	Median	Ranking	Mean	Median	Ranking
Natural Attractions in Thailand	4.69	5	1	4.49	5	6
Thai Food	4.65	5	2	4.60	5	4
Thai Food Cooking	4.62	5	3	4.35	5	10
Cautions When Visiting Attractions	4.59	5	4	4.74	5	1
Thai Temples	4.33	4	5	4.64	5	3
Thai Cultural Indiscretions	4.27	4	6	4.71	5	2
Indiscretions in Other Cultures	4.27	4	7	4.40	5	9

Table 3 illustrates the common content topics that appeared in the 10 highest-ranked topic results of both the students and tour guides. In general, the two groups rated all topics as important ($\bar{x} > 4$). The results showed between-group agreement on places: natural attractions and Buddhist temples. Cultural understandings and cautions were another area that both groups considered as important. Lastly, the tour guides and especially the students saw importance of incorporating Thai food and its cooking demonstration into the course. History, a popular topic for current English for tour guides textbooks and field trips, was not among the top content topics.

Regarding cultural understandings as top content topics in the both groups, the interview with Ngar from Vietnam provided further insight:

Something very strange for me when you [Thais] talk to teachers in English, you call the teacher like *ajarn* in a way you respect the teacher. Even Jeffry, my teacher, he calls other teachers *ajarn*. Or when you call another person younger [sic] than you, you call them *khun*. [Ngar]

Ngar suggested that *ajarn* and *khun* as forms of address among Thais are relatively complicated for foreigners like her. From the excerpt, she correctly understood how *ajarn* was used. However, she misunderstood that *khun* is for a younger person while it is actually used to show politeness regardless of their age in relation to the addressee. Even Ngar who saw importance of cultural differences and had studied in Thailand for over 6 months during the time of interview misunderstood this. Thus, incorporating topics of cultural indiscretions is of particular importance. She also asserted that cultural differences be taught in the prospective ET course so that the students can explain these to foreign visitors to prevent pragmatic violations. Understanding the cultural differences to prevent inappropriate manners in a particular culture was also mentioned in the interview of Preena. In her view, it was obviously crucial to explain to tourists the reasons for the prohibition of shorts and casual clothing in the Grand Palace. With the results from the interviews, the top content topics of cautions when visiting attractions and cultural indiscretions in the survey could specifically be Thai forms of address and dress codes.

However, the survey results also showed between-group differences in the perceived priorities of the topics. The preference for adventurous topics was more discernible in the student group. The students' mean score of natural attractions in Thailand was the highest ($\bar{x} = 4.69$) compared with 4.49 (ranked 6th) for the tour guides. Thai boxing, an adventurous activity, was ranked 9th for the students as opposed to 20th for the tour guides (see Appendix 3). In contrast, Buddhism and historical topics: Thai temples, Thai monarchy, Buddhist holidays and Rattanakosin history (1782 AD to present) were ranked atop in the tour guide group. Thai temples, however, were the only content topic concerning Buddhism and history in the top ten of the student survey results. Demographic data showed that the average age of the student participants was 18 and the tour guide participants was 42.5. Possibly, there was an age effect on topic preferences. This is supported by hands-on experiences of the tour guide interviewees.

Clients aged between 18 to early 20s like adventurous tours. They do not like to listen to a commentary on history. They like to take photos, interested in the architecture different from theirs. No matter what country they are from, the younger clients seem to be like this. For older clients, they like to know the history of our country. [Preena]

This interview excerpt of Preena manifested different interests of the two age groups of clients. In a separate interview, Arak mentioned that his late-teen clients frequently asked him for information about challenging activities such as bungee jumping. With the data from the participants and tourists, we may conclude that historical and religious topics and attractions generally entice seniors while adventurous places and activities tend to attract the younger group.

Another between-group disagreement of the survey results lies in the topics of interesting places on campus and near the university. The students rated interesting places in the university 17th and interesting places near the university 11th while the tour guides rated them the lowest. When reported the incongruence of the content-topic preferences between the two groups, Metta provided the following suggestions:

[Interesting places in and near the university] can be used as a warm-up lesson to make students aware that even things close to their life, they still do not know. If a student is asked on the spot about where on campus a visitor should visit or how to get to places around campus, they might not know. This is to push them to learn and be prepared more on content...[Metta]

To her, as exchange students and foreign professors are the target clients for the students of the ET course, a warm-up lesson such as giving a spontaneous recommendation for a canteen on campus or giving directions to a shopping mall in the vicinity could make them relate to the course more.

RQ 2: What are the perceived field trips for the ET course?

The three one-day field trips investigated in this study were cultural trips to historical places in the former capital of Thailand. Four out of nine five-point Likert-scale items of Questionnaire 2 on field trips are relevant to my study. The mean scores were ranked and reported in Table 4 below.

Table 4: Ranked Mean Scores of the Three Field Trips' Evaluations

Field trips participants (N = 83)		
Evaluation item	Mean	Median
1. Commentary and activity content	4.39	5
2. Choice of place	4.31	4
3. Content meeting expectations	4.19	4
4. Time length of the trip	4.12	4

In general, the participants were content with the pilot trips ($\bar{x} = 4.25$, *median* = 4). Time length was the aspect that might need to be first reconsidered. Though also rated relatively high, the frequency of negative comments on time length for each site and the whole trip provided more information. Four students commented that there was not enough time for each site. A 15-minute commentary on a historical site before 30-45 minutes to explore on their own seemed short for them. A few students explicitly wished the one-day trip they participated in an overnight trip and the commentary part to be shorter. Six students suggested a future overnight trip. As for content, they were satisfied with the content knowledge gained from the commentaries, games and activities during the trip the most ($\bar{x} = 4.39$, *median* = 5) though the mean and median scores for the content meeting expectations were lower ($\bar{x} = 4.19$, *median* = 4). Two students wished that the activities could have promoted solidarity and provided them with more opportunities to speak English.

Looking into choice of place, it was found that the students were not displeased with historical places which featured most of the itineraries ($\bar{x} = 4.31$). This finding was triangulated with interviews of students who joined the field trips. Below is an interview excerpt of Sira concerning choice of place.

Me: If a field trip of the new English for Tourism course is to Ayutthaya, should all of the four temples you visited be included?

Sira: It might be hard to exclude any of them, but Ayutthaya also has a variety of places. We might need to choose...Oh I know. The jewelry from the crypt of Ratchaburana Temple is at the museum in Ayutthaya. At the museum, the teacher can tell them that the jewelry in front of them was kept in the Temple's crypt. [Sira]

Sira accepted a field trip with different temples on the itinerary for the ET course. Though these places were acceptable to him, a variety of places would make the trip more enticing and educational especially when there were connections between the places. In a separate interview, Metta also mentioned the connection between the temple and the museum for better understanding of the places. She recommended a visit to the temple's empty crypt to get a glimpse of the original environment before completing their picture with the museum that currently keeps the treasure in the crypt. She also proposed a combination of different types of places in the field trips of the ET course.

Most interviewees agreed that two to three field trips throughout the course were suitable. In addition to Buddhist temples, natural attractions were suggested as possible options by the students for the field trips of the course. Sea, mountains and zoos were each mentioned more than five times in the questionnaire and interviews. In addition, the interviews with the tour guides found that a local community such as local fresh markets could be a type of field trip destination for the course. When asked whether the choice of place should differ between foreign customers and friends, Preena and Arak answered as below:

Most of my clients are first timers to Thailand. I usually take them to more touristy places. If places were too local, I'm afraid that my clients would get lost, and local people do not really speak English. But for foreign friends, I take them to more local places like the JJ Market or Thewet Market as they are more adventurous. [Preena]

If I receive my foreign friends, I can take them to local communities or places I like, which are usually not in the itineraries of my company. I do not need to take them to famous places. [Arak]

The two interview excerpts above clearly illustrate the different target groups that tour guides and the prospective ET course students receive. Based on these results, as the target clients of the ET course are exchange students and professors who may already know or have been to

touristy places in the country and who are more adventurous, visits to local communities may be more suitable for them. Thus, the ET course may include a visit to a non-touristy local community for first-hand experience of the local way of life and food in the target language. By doing so, the ET course will prepare hosts with the language and knowledge repertoire about the host country's way of life.

Discussion

The results on content topics and field trips from the two surveys and interviews are informed input for the content domains and types of field trips of the prospective English for Tourism (ET) at a large public university in Thailand. The findings indicate a mismatch between the current English for tour guides curriculum and the needs expressed by the two stakeholder groups. This mismatch has important implications for the prospective ET course at the university and the current English for tour guides curriculum offered by many institutions nationwide.

Implications for Curriculum Development

Considerations for the ET Course Design

According to the findings, the following points are deemed necessary when making decisions on the course content of the ET course. First, content on Buddhism should not be overemphasized unlike the majority of domestic English for tour guides textbooks do. When included, the topic of Buddhist temples may not heavily focus on the history because only the topic of recent national history was in the top ten of the tour guide group and completely absent from the student group survey results. Instead, teachers may link the topic of Buddhist temples to do's and don'ts since cautions and cultural indiscretions are favorable topics for both groups. Second, contextualization of the course content could be another consideration. With the course objective and students' context taken into account, ET course is more specific than English for tour guides. Although not rated high by the tour guides, both students and the teacher concur that the topics on interesting places in and near the university be included in the course. The majority of foreign guests the students will likely receive are connected to the university context. Thus, the ability to converse in the target language about the university and places in the vicinity is desirable for the students.

The research results also indicate that the pilot speaking activities that engage the places in the itineraries and their problems are suitable for the ET field trips. In line with Wozniak (2010), speaking skills seem to be the most crucial skills for visitors' hosts especially in the communicative functions of analyzing and presenting tourist attraction problems and solutions. However, the 15-minute commentary by the teacher for each attraction could be overly lengthy as the results show. Due to the low needs and wants of profound historical knowledge for giving a tour to their clients, the historical part in the teacher's commentary could be shortened. In terms of choice of place, a variety of field trips is deemed necessary for the ET course. Based on the survey results, the field trips for the ET course can be planned to natural attractions, and local communities, in addition to historical places and Buddhist temples as currently designed in the pilot ET curriculum. As the three choices of field trips are also aligned with the desired content topics in class, pedagogical considerations on sequencing the lessons in class and field trips could be taken into account. For example, lessons on Thai food can be taught in class prior to a trip to a local market with speaking activities on the description of local snacks and their preparation.

Informed Input for a Balanced Curriculum

Beyond the immediate context of ET course at my university, findings of this study also have implications for curriculum development for the national General Guide Training Course. The results indicate the needs for changes to the English textbooks such as Parasakul (2012), Suansap (2002) and Intarakumnerd and Prarathajariya (2011) earlier discussed. The change should also extend to the field trips for the tour guide curriculum nationwide (see Appendix 1). A variety of the trip destinations and textbook lessons are needed. The destinations and lessons related to history and Buddhism can be shortened or reduced. The area of distant history, in particular, is possibly replaced by topics and places related to domestic natural attractions, local communities and cultural indiscretions as the results suggest.

However, this does not entail the same field trips and course content as the ET course at the university. Course content intensity and client groups are the major conditions for the decisions on the extent of changes to the English textbooks and field trips of the national General Guide Training Course. Unlike the ET course, students of the tour guide course will get a professional license to give a tour upon graduation. In order to deliver quality commentaries and create superior tourist experiences (Weiler & Ham, 2002), intensive training in the interpretive guiding skills is needed. Thus, the findings on students' preferences for shorter commentary

and group speaking tasks for the ET course may not be generalizable to the tour guide course. Longer commentaries by the trainers and individual practice by the tour guide trainees seem more suitable. The different target groups of the clients are another condition. Because the majority of the tour guide clients are seniors who tend to be interested in history as the results indicate, the historical places in the field trips and the topics related to history are more needed in the tour guide course than in the ET course. In addition, field trips and textbooks' lessons on famous places such as the Grand Palace are more needed in the tour guide course. According to the tour guide participants, guiding services are needed more among first-time tourists to Thailand than exchange students and professors. These tourists tend to prefer visits to highlight attractions.

Implications for Research Approaches on Needs Analysis

Methodologically, findings of this study also suggest the need to consider alternative approaches to needs analysis in ESP curriculum development, depending on the specific needs to be examined. In the case of this study, Brown's (2016) CLA through the democratic view were chosen over the prevalent task-based approach because the language tasks in the ET domain are widely understood, and I was interested in a comprehensive coverage of content topics needed for hosts to foreign visitors. In contrast, certain professions may entail narrower related content topics. The prevalent task-based approach was selected by Jasso-Aguilar (1999) and Al-Salamah (2015) to investigate the tasks in the workplace for hotel maids and nurses. Without CLA, I would not have known the content topics related to domestic tourism and types of field trips suitable for the course. CLA also helped reveal the unbalanced content topics and choice of place for English for tour guides textbooks and field trips. With the democratic view of the students and tour guides, a better representation of the constructs of the ET course is achieved. The results of the seven content topics rated the highest in both the student and tour guide groups better justify the inclusion of those topics than input from only one group. The third-party viewpoint of the teacher compromises the conflict in the rating results of the two groups. Thus, surveys and interviews of preferences and perceived importance from different stakeholder groups are more suitable.

Conclusion

My study employed Brown's (2016) CLA to investigate the needs of content topics and field trips in English for Tourism at a large public university in Thailand. It can be a starting point

for course designers of English for tourism or other ESP courses to reflect on the balance of content in the current comparable courses. Though English for tour guides and their textbooks in Thailand heavily focus on history and Buddhist temples, the findings suggest other important content topics to be included in the English for tour guide courses, namely natural attractions, social indiscretions and cautions for hosts and travelers. My study could be an impetus for other ESP course designers and teachers to reexamine the nature of their courses and the communicative functions the students need to engage in. The course content should not simply be what the teachers are comfortable with or have expertise in. Instead, it should be congruent with the practical needs of the students and their future professions. This study is in its inception of an English for tourism curriculum building with a topical syllabus. The informed content topics and field trips work as a starting milestone for further studies that can investigate suitable activities, teaching approaches, and assessment.

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Appendix 1: Compulsory Field Trips for the General Guide Training Course at a Public University in Bangkok

Trip: Provinces	Places	About history and Buddhism?
1: Ayutthaya	Active and inactive Buddhist temples, national museum, and ancient palace of Ayutthaya	Yes
2: Lopburi, Singburi, and Angthong	Ancient palace in Lopburi, inactive Buddhist temples, and reclining Buddha	Yes
3: Nakorn Ratchasima, Buriram, Sisaket, Surin, Ubon Ratchatani, and Amnat Charoen	Ancient Khmer temples, and museums related to Hinduism and stone lintels	Yes
4: Lampang, Lamphun, Chiang Mai, and Chiang Rai	Active and inactive Buddhist temples, Golden Triangle, and museums	Yes
5: Sukhothai, Phitsanulok, and Kamphaeng Phet	Ancient palace, active and inactive temples, museums, and archeological sites	Yes
6: Bangkok I	Famous temples in Bangkok	Yes
7: Bangkok II	Famous temples and throne halls in Bangkok	Yes
8: Bangkok III	Grand Palace and the Temple of the Emerald Buddha	Yes

Appendix 2: Content Topics and Their Relevance to History and Buddhism in Parasakul (2012)

Unit	Content Topics	About history and Buddhism?
1: Coach Tour in Bangkok	<ul style="list-style-type: none"> Tours to important temples and Grand Palace Itineraries: Hotel pickup, river cruise, summer palace, and temples 	Somewhat
2: Thai Architectural Styles	<ul style="list-style-type: none"> Do's and don'ts in Thai culture Types of stupas and prangs Roofs, layouts and types of temples 	Yes
3: Describing a Buddha Image	<ul style="list-style-type: none"> Parts and materials of important Buddha images Different postures of Buddha images 	Yes
4: Buddha Images of Different Periods	<ul style="list-style-type: none"> Different styles of Buddha images History related to Buddha images and naga 	Yes
5: Talking about Past Events	<ul style="list-style-type: none"> History of important historical sites and Buddha images Tales about influential figures in Buddhism and Thai literature 	Yes
6: Temple of the Emerald Buddha	<ul style="list-style-type: none"> Important structures and history of the temple History of the Emerald Buddha 	Yes
7: The Grand Palace	<ul style="list-style-type: none"> Important structures and history of the Grand Palace 	Yes
8: Temple of the Reclining Buddha	<ul style="list-style-type: none"> Important sites and history of the temple Traditional Thai massage 	Yes
9: Talking about Thai Food	<ul style="list-style-type: none"> Famous Thai dishes and ingredients Kitchen utensils and different cooking methods 	No
10: Thai Handicrafts	<ul style="list-style-type: none"> Thai handicrafts shopping in the northern Thailand Characteristics of Thai silk 	No
11: Talking about Gem Stones	<ul style="list-style-type: none"> Types of and beliefs about gem stones Descriptions of gem stones 	No
12: Buddhism and Thai Way of Life	<ul style="list-style-type: none"> Daily life of monks and laymen Lord Buddha's teachings Types of Buddhism and major Buddhist holidays 	Yes
13: Buddhism and Superstition	<ul style="list-style-type: none"> Spirit houses, monk's bowls and amulets 	Somewhat
14: Sukhothai Historical Park	<ul style="list-style-type: none"> History of Sukhothai province Important structures, materials and beliefs in two historical parks 	Yes
15: Day-Trip to Ayutthaya	<ul style="list-style-type: none"> Important temples and history of Ayutthaya Geography of and transportation in Ayutthaya 	Yes

Appendix 3: Rankings of Questionnaire 1 on Content Topics

Content Topic	Students' Rankings	Tour Guides' Rankings
1. Buddhist Holidays	24	7
2. Monarchy	21	5
3. Natural Attractions in Thailand	1	6
4. Thai Food Cooking	3	10
5. Rattanakosin History	26	8
6. Thai Cultural Indiscretions	6	2
7. Thai Traditional Massage	16	19
8. Thai Boxing	9	20
9. Thai Musical Instruments	14	24
10. Hotels	25	21
11. Airports	22	12
12. Sukhothai History	28	13
13. Currency Exchange	19	22
14. Weather and Climate	18	18
15. Photography	12	25
16. Health and Wellness	23	14
17. Cautions When Visiting Attractions	4	1
18. Indiscretions in Other Cultures	7	9
19. Bargaining	15	22
20. Thai Food	2	4
21. History Before the Sukhothai Period	29	26
22. Hometown Province	20	27
23. Thai Local Beliefs	13	17
24. Interesting Places in the University	17	28
25. Thai Handicrafts	10	16
26. Thai Temples	5	3
27. Ayutthaya History	27	11
28. Important Museums in Thailand	8	15
29. Interesting Places near the University	11	29



The Impact of Flipping on Students' Behavioural, Emotional, Cognitive and Agentic Engagement in Academic Writing Skills

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Biodata

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Abstract

Flipping has been advocated as an instructional approach which impacts positively on students' learning experience, improves their motivation, and most importantly raises their engagement in academic courses. My mixed-methods research study explored the impact of flipped instruction on the behavioural, cognitive, emotional, and agentic engagement of 57 Omani English as Foreign Language (EFL) students who were enrolled in my Academic Writing course.

My study results indicate that flipped instruction affects the four dimensions of students' engagement positively. At the behavioural engagement level, students in the flipped writing classroom experience increased effort, improved concentration, persistence, communication and collaboration, and amelioration in their attitude to class attendance. Similarly, learners undergo cognitive growth, and develop self-regulatory strategies and meta-cognitive awareness. Emotionally, learners initially experience negative emotions such as anger and frustration, and then more positive emotions such as contentment and increased interest in the subject. Flipped instruction also seems to influence students' autonomy and capacity to ask questions and express opinions. It appears, however, that this approach does not influence students' ability to contribute to their own learning resources and activities.

Keywords: Flipped instruction, academic writing skills, EFL, cognitive engagement, student agency, emotional engagement, behavioural engagement

Introduction

Omani school graduates join post-secondary education with several types of English language deficiencies and inadequacies, among which are writing skills (Al Badwawi, 2011; Al-Mahrooqi, Denman & Al-Maamari, 2016). Despite the vital role it plays in students' academic success in higher education institutions, academic writing is considered the major challenge that most Omani English as Foreign Language (EFL) students face (Al-Issa, 2006). It is argued that among other problems, Omani students experience difficulties with sentence formation, generation of ideas, text coherence, and use of adequate vocabulary to express ideas (Al-Seyabi & Tuzlukova, 2014). Combined with other factors such as their "weak educational background from school, unprepared mind-set for higher studies and attitude toward hard work" (Baporikar & Shah, 2012, p. 17) and their general lack of motivation to write in English (Al-Mahrooqi & Denman, 2015), the challenges which students encounter in writing courses result in their disengagement. Disengagement affects students' performance, examination scores and overall academic progress negatively considering the heavy reliance on written assessments in university and college studies in various disciplines (Leki & Carson, 1994).

According to Al-Issa (2006), Al-Issa and Al-Bulushi (2012), and Al-Mahrooqi and Denman (2015), EFL educators' teaching approaches and practices which are teacher-centred and rooted in the audio-lingual method are one of the reasons for students' academic writing skills inadequacy. Such approaches and practices fail to assist Omani students to develop satisfactory writing skills and to prepare them for their undergraduate studies. Consequently, an alternative instructional approach which places students at the centre of the teaching-learning process, encourages students' active participation, and harnesses their higher-order thinking skills needs to be investigated.

Current discussions about effective writing instruction in the Omani context revolve around the process-oriented approach, which is advocated as a better alternative to the product-oriented instructional model (Al-Mahrooqi & Denman, 2015). My study, however, presents flipping as an alternative model that viably integrates process and text in teaching students to write (Coffin, Curry, Goodman, Hewings, Lillis, & Swann, 2003) and which could effectively enhance students' engagement. In this sense, my study provides a small, yet valuable, contribution to

practice in the EFL field in Oman and to knowledge about student engagement in writing courses in Oman and other educational contexts.

Literature Review

The Significance of Student Engagement

The concept of student engagement has attracted the attention of instructors, researchers, policymakers and other parties concerned with students' learning in the higher education field. This concept has been valued for several reasons. Firstly, it is argued that engagement contributes significantly to students' academic attainment and is, in fact, an "enabler of academic achievement" (Greenwood, Horton & Utley, 2002, p. 342). It makes learning possible and helps to predict students' academic performance and overall progress since it results in several positive outcomes, such as persistence and satisfaction, which are essential for academic success (Tinto, 2000). Secondly, the significance of the concept of student engagement relates to students' overall academic learning experience. According to Finn and Zimmer (2012), engagement plays an essential role in enhancing the quality of students' learning experience through the medium of motivation. Added to that, research findings show that a correlation exists between student engagement and improvement in several desired outcomes that are considered vital for college graduates such as general and intellectual abilities (Kuh, Hu & Vesper, 2000; Pike, Kuh & Gonyea, 2003), practical competence and critical thinking (Kuh, 1993), cognitive development (Pascarella, Seifert & Blaich, 2010), and self-esteem (Bandura, 1993; 1997). Halpern (1998; 1999) and Mann (2001) maintain that upon completion of a college/university course, a student should demonstrate the ability to think critically and to solve problems creatively to be able to deal with the increasingly complex workplace demands. Disengaged students are unlikely to develop such essential skills and squander the opportunities available to them to grow personally and intellectually (Kuh et al., 2000).

The Dimensions of Student Engagement

Reschly and Christenson (2012, p. 3) contend that a "conceptual haziness" relating to the engagement construct still exists. In fact, several learning theories have influenced the conceptualisation of engagement, from early behaviourist to cognitive and more recent social constructivist theories, thus leading to several definitions over time (Coates, 2006). However, my study conceptualises engagement as a multifaceted construct that is "malleable, responsive

to contextual features and amenable to environment change” (Fredricks et al., 2004, p. 59). It involves behavioural, emotional, cognitive and agentic dimensions (Reeve & Tseng, 2011).

This conceptualisation is particularly useful for my study because of the dynamism and complexity associated with the learning process and the environment in which it occurs. The behavioural dimension of engagement involves students’ attention and concentration on the task and their effort and persistence in completing it. The presence of positive emotions, such as interest, curiosity and enthusiasm, and the absence of negative emotions, such as distress, anger and frustration, constitute the emotional dimension of engagement. Students’ cognitive engagement consists of their usage of complex, deep and individualised self-regulatory learning strategies and the conceptual understanding which students seek. Finally, agentic engagement refers to students’ intentional and constructive contribution to their learning through suggestion-making, input-offering and the degree of enrichment they add to their learning experience. This conceptualisation contributes partially to our understanding of this construct.

The Flipped Teaching Model

The flipped instructional approach, i.e., assigning course materials for students to review before class, has been practised by teachers for decades (Strayer, 2012). However, the way flipped teaching is conceptualised today is grounded in Aaron Sams and Jonathan Bergmann’s work (Noonoo, 2012). Flipping is viewed as a type of blended learning atmosphere in which: (a) the lecture aspect of the lesson is moved out of class; (b) class time is used for active and productive social collaborative activities; and (c) learning tasks are completed before and/or after class to capitalize on the benefit of in-class learning activities. Blended teaching and learning consists of “integrating technologies in face-to-face environments through a principled selection of actions, tools and networks that are situated in particular groups, times and locations with an aim to meet specific educational goals” such as narrative, interactive, communicative and productive purposes (Gruba & Hinkelman, 2012, p. xiii). As a type of classroom blend, it is expected that a flipped learning atmosphere meets students’ needs for (a) competence, (b) autonomy, and (c) relatedness in order to (d) reduce students’ cognitive load, and to (e) enable them to manage it properly.

Utilizing flipped instruction in an academic writing course is favoured for two main reasons. Firstly, it is crucial that students comprehend key writing concepts in order to advance in the course. A thorough explanation of these concepts in a traditional classroom design is time-

consuming and, often, reduces the time spent assisting individual students in class (Maringe & Sing, 2014). Applying these key concepts could, therefore, be problematic if students fail to grasp them within the allotted class time, which disadvantages them and accentuates their disengagement. Secondly, a detailed explanation of key concepts in a writing class decreases the amount of time allocated for the actual writing practice which results in assigning the productive task, i.e. essay writing, as homework. This could be extremely challenging for students. Asadifard and Koosha (2013, p. 1576) conducted a study which involved 12 EFL university writing educators and 37 EFL students in Iran who were classified as disengaged in writing, concluded that lack of “systematic and objective feedback and correction by the teacher” is considered the main cause of students’ lack of engagement in writing skills. This finding highlights the need to create more opportunities for in-class writing practice and to give students proper immediate feedback on their work to enhance their engagement.

Added to that, a blended teaching-learning model which merges offline and technology-mediated instruction and involves students in several synchronous and/or asynchronous activities is particularly useful in this context (Diaz & Brown, 2010). To begin with, teacher-student and student-student communication in an ordinary writing class in our educational context is confined to the classroom. Students who need additional support to develop their understanding are often faced with the problem of teachers’ unavailability outside the teaching time due to their busy schedules and heavy academic and administrative workload. Likewise, students’ chances to collaborate and assist each other outside the classroom are extremely limited as a result of the variances in students’ schedules and other cultural factors which restrict male and female students’ interaction outside class. As a dynamic and interactive medium, technology, and more specifically synchronous and/or asynchronous communication which is facilitated by computers and smartphones, can help overcome many of these problems. According to Warschauer (2001), increased communication motivates students and enhances their emotional involvement. Moreover, it develops their cognitive engagement (Hanson-Smith, 2001; Lee & Wang, 2013). The flexibility which digital technologies provide to teachers and learners in a classroom blend that integrates both face-to-face and technology-mediated learning tasks helps to increase students’ interest, engage them, and become more autonomous learners.

Methodology

Participants

My explorative mixed-methods study involved a total of 57 EFL students enrolled in my academic writing course which is offered to Level 3 students as an integral part of the General Foundation Program (GFP) in a private higher education institution in Oman. Of the participants, 61% were females and 39% were males, with the majority aged between 18 and 29 (85%). About 56% of the participants were studying full-time and 44% were studying part-time. Eighty-three per cent of the students involved in my study reported having either very good or good English language skills while the frequency distribution of students across technology skills shows that most of them reported having excellent (30%), very good (38%) or good (24%) skills.

Data Collection and Analysis

The Student Engagement Questionnaire (SEQ) my study utilised was based on three validated tools which showed acceptable internal consistency levels, namely Greene's (2015) Cognitive Engagement Scale, Miserandino's (1996) Perceived Behavioural and Emotional Engagement Questionnaire, and Reeve and Tseng's (2011) engagement survey instrument. The SEQ comprised of a total of 67 questions which aimed to assess students' perceptions of their cognitive, behavioural, emotional and agentic engagement and 9 demographic questions about gender, age group, nationality, mode of study, employment status, technology skills, years of learning English, English language proficiency, and the average preparation time for the writing class.

Each item in the SEQ was measured on a 6-point Likert scale ranging from 'strongly agree' (6) to 'strongly disagree' (1) in Parts I, II, III and IV, and from 'very much' (6) to 'not at all' (1) in Part V, with 'slightly agree'/'slightly disagree' and 'so-so'/'a little' forming the middle categories. Most of the items in the SEQ were worded in a way that a high score (6) was positive. However, eleven items were worded in the reverse direction where a high score (6) was negative. The reverse scored items were adjusted so that (6) became (1), (5) became (2) and (4) became (3), etc. to provide a meaningful analysis. The numeric Likert-type data collected underwent both descriptive and inferential analysis using the Statistical Package for Social Sciences (SPSS) while the qualitative data was analysed following three main processes: data reduction, data display, and drawing and verifying conclusions (Miles & Huberman, 1994).

Procedures of the Flipped Writing Class

The writing module offered to Level 3 students in the institution has two main components: an integral academic writing component and a basic research skills component. The flipped approach was implemented in the challenging component, i.e. in academic writing. This part of the course aims to advance students' ability to compose comparison and contrast and evaluation essays, to use the grammatical aspects linked to these genres, and to describe graphs. Teaching extends over a period of 12 weeks where students are assessed both formatively through the number and quality of produced essays and summatively through a mid-term and a final examination conducted in weeks 7 and 14 respectively.

In a traditional classroom environment, the teacher often presents students with model essays and asks them to imitate these texts with little analysis of their rhetorical aspects or social functions (Coffin et al., 2003). The in-class analysis is often followed by an out-of-class implementation phase in the form of a writing homework which the students complete and submit in the next class. However, the flipped writing course I taught adopted a task-based teaching approach which “involves learners in comprehending, manipulating, producing or interacting in the target language” (Nunan, 2004, p. 4), and in which the order of activities is reversed (Bergmann & Sams, 2012). I used different to introduce the theoretical aspect of the lesson outside the class, while students engage in enriching and practical learning activities in the class (Hodges & Weber, 2015).

Out-of-Class Learning Activities

Video and/or presentation viewing was one of the main components of the out-of-class activities. Several educational videos were shared with the students through the Learning Management System (LMS) Edmodo. Some of these were YouTube videos selected based on their relevance and language simplicity. They were utilized to present central writing concepts such as the structure of a basic essay, the constituents of an introductory paragraph, the components of a body paragraph, and the elements of a conclusion. When the available YouTube videos did not cover the range of concepts necessary for a particular lesson, recorded PowerPoint presentations were prepared and then shared with the students to serve the same purpose. The maximum length of the videos and presentations used was limited to 15 minutes to avoid the counterproductive effects of long videos (Morisse, 2015; Velegol, Zappe & Mahoney, 2015).

Along with video watching, students in the flipped writing classroom completed weekly short online quizzes that helped them to check their own understanding of the concepts which the videos and presentations contained. These quizzes comprised of three main types of questions: true/false, multiple choice, and short answer questions. The reports generated by the LMS helped shed light on the problematic content areas which required additional explanation in class.

My students also reviewed model essays and authentic reading materials such as BBC news articles which addressed some of the topics they wrote about. The purpose of reviewing the model essays was to familiarise students with the generic features of the essay genres (Wang, 2013), to improve their attitudes to essay writing, and to encourage them to include the information they learn in their own writing (Bejarano a Chapetón, 2013). The supplementary authentic reading materials, however, were utilised as a brainstorming strategy to enhance students' understanding and generation of ideas for the actual in-class writing tasks (Rao, 2007).

Another component of the out-of-class tasks was participating in discussions on the LMS. Most of the discussed themes were argumentative. They required students to take a position on a specific topic and to provide arguments to support their opinions. The LMS was also used for other purposes, for example, asking questions, communicating with peers and teacher, and receiving feedback about one's performance. An online noticeboard was also used to brainstorm ideas for the essays in order to broaden students' knowledge about the topics discussed.

It should be noted here that the pre-class tasks engaged students in lower-order thinking skills such as understanding and remembering specific concepts. This facilitated understanding and completion of the in-class learning tasks, helped the teacher to keep track of students' engagement outside class, or lack thereof, and of their academic progress through the electronically generated reports, and kept students engaged with the writing module content and with their peers and teacher outside class, which was not possible in a 'traditional' classroom.

In-Class Learning Activities

Unlike the out-of-class tasks, the learning activities inside the flipped writing classroom engaged students in higher-order thinking skills such as analysis, evaluation and creation, which are more challenging and require students' collaborative effort and the teacher's

assistance to be completed successfully. Nevertheless, the pre- and in-class activities were carefully aligned, directly connected, and clearly supported each other to ensure students' active engagement and to maximise learning. Each class began with a ten-minute review session to check whether key concepts had been understood, and when required, live online quizzes were completed using the cloud-based response system Socrative. The live results provided a valuable opportunity to reinforce correct information and to clarify ambiguities.

The subsequent activities aimed to provide students with the opportunity to put key concepts into practice. These activities included the analysis of model essay structures, the construction and deconstruction of model essays, the evaluation of different text purposes and their cohesion and coherence, and the creation of different texts for different purposes, for instance, to evaluate and to compare and contrast.

Findings & Discussion

The main question my study posed related to how flipped instruction influenced the four aspects of student engagement, i.e. agentic, behavioural, cognitive and emotional. To answer this question, the mean score and SD of each engagement subscale in the SEQ were computed. The results showed that the mean score ranged from 2.61 to 5.23, while the SD ranged from .88 to 1.76. The total score for each of the four engagement subscales was also calculated. The results presented in Table 1 show that the mean score of students' responses in each engagement subscale differed. Overall, the raw mean scores were higher for the behavioural, emotional and cognitive engagement subscales than for the agentic engagement subscale.

Table 1: Composite Scores for the Four Engagement Subscales

Engagement Subscale	M	SD
Agentic engagement	3.63	1.12
Behavioural engagement	4.63	.75
Cognitive engagement	4.12	.56
Emotional engagement	4.35	.91

Impact of Flipped Instruction on Students' Behavioural Engagement

As far as students' behavioural engagement is concerned, the study indicated that flipping academic writing instruction influenced positively the effort students invested in their learning,

their concentration and attention while learning, collaboration and communication patterns, and class attendance patterns.

According to Jamaludin and Osman (2014), one of the immediate impacts of flipped instruction is the enhancement of students' behavioural engagement, which was often reflected in students' attempts to do well and to contribute more to class activities. These findings are also congruent with results from Sahin, Cavlazoglu and Zeytuncu (2015), who found that unlike being taught in the traditional method, the flipped model changed students' preparation habits and intensified efforts. As indicated in students' reports, 26% declared that they spent between 6 and 10 hours preparing for the writing classes, while 13 % indicated that they spent between 11 and 15 hours on their preparations. About 9% of the participants, however, indicated that they spent more than 15 hours preparing for class. One of the interviewees explained: "In the beginning, I used to hang out with friends... go to the movies, but now we replaced that with studying" (AYM1.5). The preparation before class helped students to be dynamic and active participants in lesson activities. Most importantly, my research study showed that flipping reduced the pressure usually experienced in a traditional classroom design and facilitated students' learning.

Moreover, my study demonstrated that students' increased effort and participation in their learning was accompanied by improved attention and concentration while completing the assigned tasks. Although students stated that initially, low concentration negatively affected their understanding of the recorded materials, they admitted that their concentration level improved as they progressed in the course since they associated better understanding with better concentration and acted accordingly. Thus, students reported pausing and/or rewinding the audio and video materials at least twice to grasp essential information. Furthermore, they exhibited positive behaviours such as note-taking and summarising and engaged actively in class discussions about their learning, which indicated high concentration levels. One student said: "In the beginning, we just watched the video and solved the quiz, there was no concentration. However, because you asked us about what we understood from doing the tasks, we started to focus more, take notes of important information..." (BAF3.14). My study's findings are in line with those obtained by researchers including Clark (2015) who found that regardless of the educational context, students' study level, and/or courses taught, flipped instruction improves students' concentration. Flipping enabled students to adopt a 'deep' rather than 'surface' learning approach where the concern was to understand the subject matter thoroughly rather than just complete the assigned tasks.

In addition to the enhanced student effort, participation and concentration, flipping engaged students in several in-class and out-of-class collaborative tasks, including contributing to discussion forums throughout the week, writing group essays in class and engaging in debates about different topics, which entailed increased student-student communication. One interviewee reported: “I learned how to communicate with others... In this class, I feel that it made us very close” (HAF8.41). Research conducted by Clark (2015) and Akindele (2012) supports my study’s findings. Clark’s (2015) study revealed that students’ involvement in his course was attributed to several factors, including the augmented utilisation of group work, shared daily assistance and collaboration by peers, and the active role they played in classroom dynamics. These factors interacted in a non-linear manner to build students’ confidence and self-esteem and, consequently, to improve their understanding and learning. Along with student-student interaction, my study also revealed that student-teacher interaction increased considerably inside and outside the flipped writing class. The students and I interacted for a variety of purposes, which included receiving updates about the course materials, following up with the assigned pre- and post-class tasks, clarifying ambiguous content, and providing/receiving feedback about performance. The increased interaction among students and with the teacher helps the students to develop positive relationships (Jones, 2012) and to feel more comfortable and emotionally engaged in the course, and influences their educational trajectory (Sinclair, Christenson, Lehr & Anderson, 2003). According to Dixon (2010, p. 1) “Multiple communication channels may be related to higher engagement” and “student-student and instructor-student communication are clearly strongly correlated with higher student engagement with the course in general”.

Finally, the flipped classroom design helped to address the issue of students’ absenteeism. Despite the flexibility of this design, in the sense that students accessed the learning materials any time they wished and were able to learn at their own pace, students attributed great value to attending face-to-face lessons. My classroom observations indicated that most of the students (85%) attended more than 80% of the course as they felt compelled to attend classes regularly to comprehend the course content. This matches observations made in earlier studies by Deslauriers, Schelew and Wieman (2011) and McLaughlin, et al. (2014).

Impact of Flipped Instruction on Students' Cognitive Engagement

My study indicated that the flipped instructional model had an indirect impact on various aspects of students' cognitive engagement, such as their cognitive development, self-regulation strategies and meta-cognitive awareness.

Similar to other studies conducted by Alsowat (2016), Al-Zahrani (2015), Khanova, Roth, Rodgers and McLaughlin (2015) and Webb, Doman and Pusey (2014), my study found that students' cognitive abilities in the flipped writing course developed considerably. The flipped teaching model encouraged students to utilise lower-order thinking skills such as understanding and remembering before class, and higher-order thinking skills such as analysis, evaluation and creation in class. This led to students' cognitive growth, which one interviewee described saying "It developed our brain" (FAF3.15). This was also reflected in students' improved performance in essay writing, as indicated through the classroom observation. Students' cognitive development could also be attributed to another aspect of the classroom dynamics, which is the teacher's questioning patterns. Despite its importance, this aspect was not emphasised in previous studies which focused on flipped instruction. Some study participants, especially those studying part-time, indicated that my questions forced them to reflect on their assumptions deeply and to reconstruct their knowledge accordingly which led to better understanding. In fact, Smart and Marshall (2013) found that a correlation exists between classroom discourse, including a teacher's level of complex questioning, and students' cognitive engagement. Smart and Marshall (2013, p. 265) argue that "teachers have the unique opportunity to facilitate higher cognitive levels in their students by the questions they ask during instruction and the communication pattern they establish in their classroom". In the flipped writing classroom, students were required to not only respond to the teacher's 'why' and 'how' questions, which necessitated a deep level of thinking, but also to help each other to understand and complete in-class tasks which involved reflecting on their own understanding and improving it.

Flipped instruction was also associated with students' adoption of self-regulatory strategies (Figure 1). The quantitative and qualitative data analysis I performed showed that contrary to what passive learners in a traditional classroom usually do, participants in the flipped writing class adopted self-regulation strategies including goal-setting, self-evaluation, record-keeping and monitoring, information-seeking, and environmental structuring.

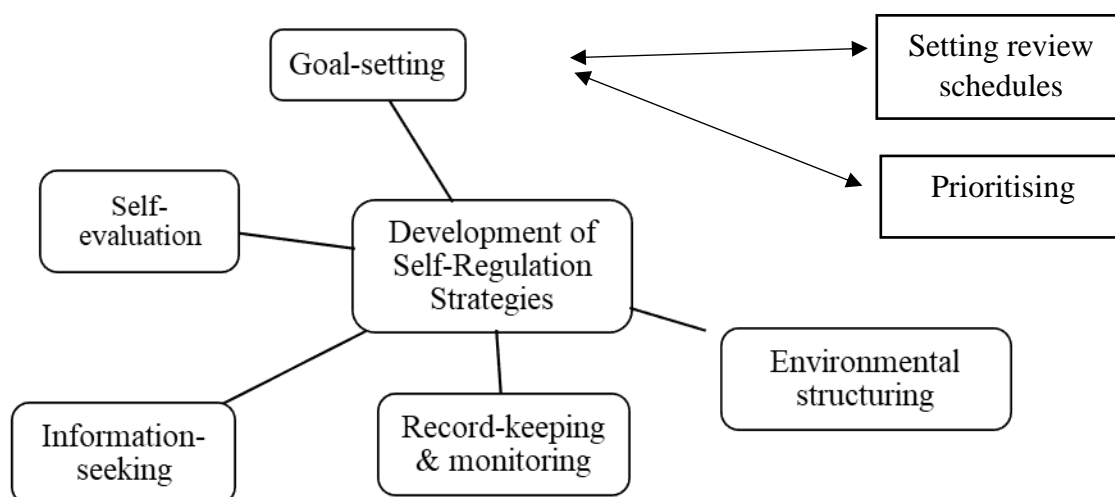


Figure1: Sub-Themes of Self-Regulation Strategies

In fact, students in the flipped writing class realised that inadequate self-regulation would hamper their learning and impede their academic progress. They reported that the fear of not being able to understand compelled them to participate actively in the various lesson stages and to take responsibility for their learning by controlling their learning time and place and the ways they learned. In a study conducted in a post-secondary educational setting in the USA to explore the impact of flipped teaching on students' self-regulated learning, perceptions and achievement, Sletten (2015) observed an increase in student participation, especially the frequency of video-viewing among the self-regulated learners. Furthermore, the participants who demonstrated using self-regulation strategies perceived flipping more positively. The observed correlation between self-regulation, students' positive perceptions of flipping, and their participation confirms Evseeva and Solozhenko's (2015) observation that flipping impacts positively on students' self-discipline and self-directedness, which are indispensable for their success.

It appears that flipped instruction also improves students' meta-cognitive awareness. The quantitative data analysis showed that the study participants considered developing new skills one of the biggest gains from being a member of the flipped writing class. They also reported several positive results during the interviews. These included an enriched learning experience, enhanced understanding, better information retention, and improved writing skills. One participant explained "In the beginning when I used to write, I used to make many mistakes either in grammar or in other aspects of writing... After a while, I felt that my writing improved a lot and I even made fewer mistakes than in the beginning" (AAF2.8). In fact, several other studies, including those conducted by Harvey (2014) and McCarthy (2016), also reported

enhancement of students' comprehension, information retention, and learning in the flipped classes they taught. One possible explanation for students' improved meta-cognitive awareness is that being grounded in constructivist learning theories, flipping enables students to participate actively in their learning process and to develop their cognitive schemas through knowledge construction and reconstruction while interacting with their learning environment. Another reason could be that removing the lecture aspect of the lesson created room for more in-class writing practice, which enabled all students to receive both instant oral feedback and later written feedback on their performance and learning progress, along with individualised assistance when needed in class. This would not be possible in a traditional learning environment.

Impact of Flipped Instruction on Students' Emotional Engagement

My study's results also indicated that students' emotional engagement was significantly influenced in the flipped writing class. Contrary to earlier findings, which emphasised either students' positive perceptions and feelings (Evseeva & Solozhenko, 2015) or their negative attitudes and emotions (Strayer, 2012) in the flipped class, the current study's findings indicated that students experienced both negative emotions such as anger and anxiety at the beginning of the course, and positive feelings such as contentment and interest as they became more familiar with the course design around two weeks later.

Both the students' survey responses and the interview accounts showed that the flipped design initially triggered feelings of frustration and apprehension in the study's participants. The compulsory pre-class preparation, increased workload and effort, and reduced teacher presence in the lecture part and the increase in students' responsibility were the reasons that students offered for feeling frustrated with the flipped instructional model. One of the interviewees commented: "Honestly, there is a lot of pressure, especially as part-time students, since we are busy throughout the day and all the time". Simultaneously, students felt anxious about not being able to cope with this teaching approach, failing to understand the subject matter, and consequently failing to progress academically. One of the participants complained: "Honestly, I am not used to working this way... that I need to have a computer, prepare before class and after class you do something else... I used to do everything inside the class" (AMM1.3).

As they progressed in the course, students, experienced more positive feelings, including contentment and increased interest in the teaching method and the writing subject. I observed this in particular after the mid-term examination which took place in the seventh week of study.

The positive examination results which students obtained probably reduced their anxiety and fear of failing the course and indirectly affected their perceptions of flipped instruction. Furthermore, the interview data indicated that the participants compared the traditional classroom design and the new teaching model they were exposed to constantly which led them to acknowledge the benefits associated with flipping. One participant in the group discussions (SHF5.26) admitted that delivering the writing course using a different method to flipping would be boring considering its dense content. Students particularly appreciated the opportunity they were given to be ready for class, to be involved in interactive learning activities, to be engaged in writing practice, and to reflect on their learning and to evaluate it, which helped them to learn better.

Impact of Flipped Instruction on Students' Agentic Engagement

Another significant finding of my study is that students were, to a certain extent, engaged agentially in the flipped writing class in the sense that they developed autonomy and resilience in the course.

First and foremost, the participants reported experiencing increased autonomy in the form of self-dependence and development of the capacity to ask questions and to offer recommendations to improve the current flipped writing classroom model. One interviewee explained: "Now... we learn on our own. Before, the teacher gives us all the important information and we just memorise it" (FKF4.18). Sinclair (as cited in Borg & Al-Busaidi, 2012, p. 5) argues that developing autonomy "requires conscious awareness of the learning process – i.e. conscious reflection and decision making". As discussed in the previous sections, students in my study developed meta-cognitive awareness and self-regulation strategies, which suggests that as students' cognitive engagement is enhanced, they become more autonomous learners. Borg and Al-Busaidi (2012) claim that Omani EFL learners have limited experience of independent learning, rely considerably on their teachers, and are unable to exploit available learning resources. My study's findings demonstrated, however, that flipped instruction helps to address these flaws in Omani students' learning approaches. The present study also showed that although a few students utilised additional resources to improve their understanding outside class, overall, students did not contribute their own learning materials or tasks in class. This could be attributed to the novelty of the flipped teaching approach, which means that students would probably be able to contribute more if flipping was used over a longer period or in more than one course, as suggested by Jamaludin and Osman (2014). It is also possible

that students who are used to traditional teaching methods depend heavily on teachers as knowledge-providers rather than coaches and are, therefore, unable to criticise the choices teachers make (Fook & Askeland, 2007).

According to Peach and Matthews (2011) and Richards, Sweet and Billett (2013), agentic engagement requires students to be resilient and capable of dealing with new and challenging situations confidently. Richards et al. (2013, p. 260) argue that resilience is an individual approach students adopt and involves “behaviours, thoughts and actions to develop strategies to succeed, dependent on individuals’ disposition and experience”. The authors add that relationships which support, encourage and reassure students are key factors in resilience. My data analysis showed that participants in the flipped writing class adopted several strategies and behaviours which helped them cope with the course demands. For instance, in addition to the discussion forums and emails used for student-student and student-teacher communication, the study participants formed groups on the WhatsApp free-messaging application and used them to discuss module-related issues and to assist each other outside class. In class, it was observed that students formed small communities of practice which collaborated to share information, explain difficult concepts and clarify ambiguous information. This approach enabled students to overcome the challenges they faced with the course content and to succeed.

Conclusion

My research study highlights the impact which flipped instruction has on the four dimensions of students’ engagement in an academic writing course in the context of Oman. It constitutes a valuable contribution to practice in the EFL field as it proposes flipping as a novel instructional model which could help to address the problem of students’ lack of engagement in an indispensable skill for their success in HEIs in Oman. Moreover, my study contributes valuable knowledge to the literature in the context of Oman and beyond.

Several aspects of students’ engagement, specifically students’ behavioural, cognitive and emotional engagement in writing, were found to be influenced positively by the flipped classroom design. That said, these findings have pedagogical and institutional implications and implications for practice and future research in the field. Most importantly, the flipped classroom emerges as a potentially novel teaching model which is worthy of further investigation. Consequently, more practice-based research studies are essential to determine how flipping can be implemented in the teaching of various language skills. It is equally important to conduct studies to investigate the effect of the flipped model of teaching on the

engagement of students in other language skills, specifically reading, listening, speaking, grammar and vocabulary. Furthermore, it is necessary to explore other aspects of students' learning in relation to flipped instruction, including examination pass rates and academic achievement.

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