

UDL Theory-based Inclusive Learning Environments in University Foreign Language Classes

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Abstract:

The present study examines the effectiveness of implementing Universal Design for Learning (UDL) in English as a foreign language class at the university level. Two teachers of English adopted selected UDL guidelines in five classes at the same time and conducted a mixed-method case study utilizing post-semester questionnaire (N = 65) and interviews with 16 students on the effectiveness of their UDL-based class practices. The results of the questionnaire showed an acceptance of the principles, and the interviews revealed the importance and effectiveness of preparing an inclusive learning environment based on the UDL guidelines. The authors conclude that it is both feasible and recommended for English teachers in the university to incorporate UDL guidelines in their classes, regardless of whether there is a special needs student or not, as the student population becomes increasingly diverse.

Key terms: UDL, learning environment, multiple means of engagement, multiple means of action & expression

1. Introduction

Since the Developmental Disability Support Law (2005) and the reform of the School Education Act (2013) were introduced, educational institutions all over Japan have been expected to prepare more efficient and better environments and classes to meet the needs of various students including students with special needs. Both public and private universities in Japan now offer different degrees of reasonable accommodation by offering academic advising, self-management, expert counseling, and providing case-by-case accommodation in each class (Japan Student Services Organization, hereafter JASSO, 2023). However, such educational efforts may not be shared effectively among the faculty and staff. As a means of helping diverse learners learn, the authors adopted the Universal Design for Learning (hereafter UDL) framework proposed by the Center for Applied Special Technology (CAST) to improve their English classes with the hope of spreading their findings among relevant stakeholders. UDL is a theory derived from the latest neuroscience and cognitive science on learning to consider what, how, and why students learn, and “is achieved by means of flexible curricular materials and activities that provide alternatives for students with differing abilities” (Burgstahler, 2021, para. 7). “UDL Guidelines are a tool used in implementation of Universal Design for Learning, a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn” (CAST, 2018, para.1). UDL is expected to facilitate inclusive education so that no one feels excluded, as teachers design lessons that respect each learner by taking advantage of each learner’s learning styles and strengths. In UDL research, it has been recognized that a class designed for a particular student with special needs also supports everyone’s learning. In other words, “a UDL approach focuses less on the narrow accommodation of specific disabilities or identities, and more on a holistic approach to boosting everyone’s learning” (Sanger, 2020, p.35). This paper is based on the oral presentation from Association of Universal Design for English Language Learning (AUDELL) 2022 that introduced the implementation of the UDL approach in five English classes at a university, presenting the results of the post-semester questionnaire and interview data. The study took place at a medium-sized private university in Japan which values diversity and inclusion, with half of the undergraduates as well as the faculty members coming from abroad. Therefore, using their own classes as case studies, the study aimed to address the following research questions.

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1.1 Research Questions

To find out whether the application of selected UDL guidelines actually supports university students, the authors implemented aspects of UDL guidelines in their EFL classes and sought to answer the following research questions.

1. To what extent do UDL guidelines improve student engagement and learning outcomes in university-level EFL classes?
2. What specific accommodations do university students identify as necessary to achieve UDL-friendly EFL classes?

At the authors' institution, a group of five faculty members, both from the Center for Language Education and the Education Development and Learning Support Center, started incorporating UDL in their classes in 2021. As one of these faculty members, the first author designed the current study to expand this initiative among multiple classes and teachers within the English language section. Both research questions focused specifically on UDL applications in EFL instruction, where linguistic and cultural diversity present unique pedagogical challenges.

2. Literature Review

2.1 Social Model of Disabilities, Universal Design, and Universal Design for Learning

From the 1980s through the 2000s, several key concepts precipitated fundamental changes in the perceptions of disabilities and principles of accessible design. The Social Model of Disabilities (SMD) is derived from the fundamental principles of disability published by the Union of the Physically Impaired Against Segregation (UPIAS) in the United Kingdom, which defines disability as “a situation, caused by social conditions, which requires for its elimination (UPIAS, 1975, p. 3).” Coined by Oliver (1982), the term SMD marked a paradigm shift in theorizing disabilities, moving the focus from the physical limitations of persons with impairments to the limitations in social environments imposed upon specific people.

Concurrently, in the United States, architect Ronald Mace introduced the term Universal Design (UD) in the mid-1980s. In 1997, Mace and his colleagues at North Carolina State University established core principles of Universal Design (Centre for Teaching Excellence, n.d.). Also, in 1984, David Rose, Anne Meyer, and three other clinicians from North Shore Children's Hospital in the United States founded Center for Applied Special Technology (CAST). Initially, CAST explored how computer technology could improve the learning experiences of students with disabilities. Over time, its focus shifted from students' individual needs to holistic design issues in the classroom, school, and education system more broadly. Since the mid-1990s, CAST has begun disseminating the concept of Universal Design for Learning through its talks and presentations and continued to develop the framework of UDL. Meyer and Rose released the first UDL guidelines in 2008 (CAST, 2024). These guidelines organize numerous elements to design inclusive learning environments based on neuroscience related to three brain networks: engagement (affective networks), representation (recognition networks), and action and expression (strategic networks). The three principles correspond to three stages of learning (access, build, and internalize) to foster expert learners. The guidelines serve as a tool for researchers and educators to design accessible and meaningful learning opportunities for all learners. They are available in many languages, and there have been several revisions. While the authors adopted version 2.2 for the study (Table 1), the most recent version (3.0) was made available in 2024.

Table 1*The Overview of the Universal Design for Learning Guidelines (CAST, 2018)*

	Engagement The WHY of learning	Representation The WHAT of Learning	Action & Expression The HOW of Learning
Access	Recruiting Interest	Perception	Physical Action
Build	Effort & Persistence	Language & Symbols	Expression & Communication
Internalize	Self Regulation	Comprehension	Executive Functions
Goal:	Purposeful & Motivated	Resourceful & Knowledgeable	Strategic & Goal-Directed

In the United States, the proportion of students with disabilities enrolled in higher education institutions (HEIs) significantly increased from 6.3% in 1995 to 19.4% in 2019 (National Center for Education Statistics, 1995 and 2021). The enactment of the Higher Education Opportunity Act of 2008 further promoted the adoption of UDL in HEIs, leading to numerous case studies on UDL implementation in HEIs. Boothe et al. (2018) conducted a comprehensive literature review on UDL implementation in HEIs from 2008 to 2018, compiling research-based UDL practices and recommendations for HEI instructors. Similarly, Evmenova et al. (2024) identified effective practices and strategies for designing college courses using the UDL framework. At the implementation phase, professional development programs to implement the UDL framework have been provided in the U.S. with some success (Craig et al., 2019). Research interest in UDL implementation and effectiveness in HEIs has also grown internationally (Altowairiki, 2023; Ciurana & García, 2023; Garrad & Nolan, 2022; Kakamad et al., 2021; Moodley, 2024; Yaqoubi et al., 2022). A recent survey on EU and US faculty perceptions on UDL implementation in HEIs recommends professional development initiatives to enhance faculty understanding to achieve scalable UDL implementation (Timuş et al., 2023).

In contrast, UDL implementation is still uncommon in Japanese tertiary settings. A recent publication by Herrera (2025), although not based on UDL, is a useful exception based at the same institution as this study in that it focused on multimodal approaches to foster inclusive English classes. Tables 2 and 3 below demonstrate a growing research interest in UDL, as evidenced by a search of the CiNii Research database. Data was collected by combining three search terms, universal design, learning, and higher education, and was analyzed in five-year periods beginning in 2000. The first table's search was limited to "universal design" and "learning," while the second table's results include the additional term "higher education." While the first table indicates a steady growth of the UDL research field, the second table suggests a notable gap in the literature concerning UDL implementations specifically within higher education.

Table 2*CiNii Search Results*

Search Terms: Universal Design, Learning

	All	Research Data	Articles	Books	Dissertations	Projects
2000 - 2004	0	0	0	0	0	0
2005 - 2009	19	0	16	0	0	3
2010 - 2014	45	0	26	7	0	12
2015 - 2019	108	0	77	4	0	27
2020 - 2024	103	0	71	6	0	26

Table 3

CiNii Search Results

Search Terms: Universal Design, Learning, Higher Education						
	All	Research Data	Articles	Books	Dissertations	Projects
2000 - 2004	0	0	0	0	0	0
2005 - 2009	0	0	0	0	0	0
2010 - 2014	1	0	1	0	0	0
2015 - 2019	2	0	1	0	0	1
2020 - 2024	5	0	2	0	0	3

2.2 Recent Development of Japanese Legal Framework Concerning Persons with Disabilities

In the past two decades, the legal framework concerning persons with disabilities in Japan has undergone significant changes and improvements (Table 4).

Table 4

Recent Development in Japan's Legal Framework Concerning Persons with Disabilities

Year	Event
2005	Implementation of the Developmental Disability Support Law
2006	Adoption of the Convention on the Rights of Persons with Disabilities (CRPD) by the United Nations
2007	Ratification of the CRPD by Japan
2011	Third Revision of Basic Act for Persons with Disabilities
2012	Study Report on Support for Students with Disabilities (First summary) by Ministry of Education, Culture, Sports, Science and Technology (MEXT)
2013	Revision of the School Education Act
2016	Enforcement of the Act for Eliminating Discrimination against Persons with Disabilities
2017	Study Report on Support for Students with Disabilities (Second summary) by MEXT
2021	Revision of the Act for Eliminating Discrimination Against Persons with Disabilities
2024	Study Report on Support for Students with Disabilities (Third summary) by MEXT Implementation of the revised Act for Eliminating Discrimination Against Persons with Disabilities

The effects of these proactive measures of legal reform can be found in the national statistics. According to the national surveys on children and adults with disabilities living at home, there was a nearly 50% increase in the estimated total count of individuals with disabilities from 7,879,000, about 6.2% of the country's population, in 2011 to 11,646,000, about 9.3%, in 2022 (Ministry of Health, Labour and Welfare, 2013, 2018, 2023). This increase may be a reflection of the growing awareness and acceptance of various cases of disabilities, including neurodiverse conditions. The composition of the higher education population in Japan also reflects the trend in national statistics. According to JASSO, the ratio of individuals with disabilities enrolled in higher education rose from 1.09% in 2020 to 1.71% in 2024 (2025). The significant increase coincided with the 2021 revision of the Act for Eliminating Discrimination against Persons with Disabilities and its implementation in 2024. The timing suggests that higher education institutions were actively adapting to the new legal framework by preparing for and accommodating students with disabilities.

2.3 UDL in the Japanese EFL context

JASSO has been collecting data on students who need reasonable accommodations support since 2005 by requesting all tertiary institutions in Japan to complete a survey, whose response rate has almost always been 100% since 2007. As of

2024, 55,510 students at tertiary education in Japan were assumed to have some kind of disability including Learning Disabilities (LD) (JASSO, 2025). UDL has been recognized widely in the U.S., but it has only been gradually noticed in English as a foreign language education in Japan in recent years, as can be seen by the recent establishment of the Association of Universal Design for English Language Learning (AUDELL, 2019) and the Accessibility in Language Learning Special Interest Group within The Japan Association for Language Teaching (JALT, 2021). However, as can be observed from the AUDELL Journal (2022; 2023; 2024), most of the UDL research focuses on special education in primary to secondary schools, students who have audio or visual impairment, or those with learning disability and dyslexia, and few of the studies are conducted in inclusive institutions or tertiary settings. One such example is reported by Kagata, Yoshida and Sakagami (2016) that tried to create an educational environment across several schools incorporating collaborative learning and the use of ICT materials in primary, junior and senior high schools. Another instance can be seen in Sawaya (2020) who compared primary school teachers' awareness with that of secondary and higher education teachers that incorporated UDL and found that primary school teachers focused on communicative activities better. As these examples show, not many studies focused on implementing UDL at university level English classes.

Despite the reported low percentage of students with special needs, language instructors in Japanese higher education occasionally encounter significant difficulty when attempting to accommodate such students into an academic curriculum. UDL can offer a valuable framework to address some of these issues by accommodating and supporting students with various physical and neurological needs, even when they are not officially reported, thereby enhancing the overall quality of their learning experiences at the tertiary level. Teachers can use the UDL framework to design lessons that address learner variability. With UDL guidelines, they can integrate flexible options to ensure that standards-based lessons are accessible to a range of learners in their classrooms (Rao & Meo, 2016). However, there is a lack of literature on the practice of foreign language classes following UDL principles in Japan (Aoki et al., 2025). This case study addresses this critical gap and sheds light on the implementation of UDL practices and learners' perception of its effectiveness.

3. Method

3.1 Incorporating UDL Guidelines in English Classes

With regards to the support provided to students with special needs, the university's academic office supports students with disabilities and special needs by issuing a request for reasonable accommodation, informing the faculty of individual requests, and following up with them with a questionnaire at the end of each semester. The university is working toward more diversity, equity and inclusion with various initiatives.

Prior to this study, UDL-led teaching had not yet achieved widespread recognition at the authors' institution, let alone become a widely adopted instructional approach. One of the authors started implementing UDL guidelines in their English classes in spring 2021 and conducted a questionnaire. They revised the lessons based on the result, incorporated more guidelines in fall 2021, and did another questionnaire and interviews. The current mixed-method case study was conducted in spring 2022, based on the results and feedback from the past two semesters, expanding the sample size to five classes taught by two faculty members.

3.2 Participants

Based on the findings from previous studies, the authors implemented the UDL framework in three Elementary and two Intermediate classes (N = 93) of three different required English language courses offered in the spring semester of 2022 (Table 5).

Table 5

English Language Classes in the Study

Courses	Level	Number of Enrolled Students
Elementary English A-1	CEFR A1-A2	18
Elementary English A-2	CEFR A1-A2	18
Elementary English B	CEFR A1-A2	20
Intermediate English B-1	CEFR A2-B1	19
Intermediate English B-2	CEFR A2-B1	18

The survey participants were recruited through convenience sampling, as the researchers implemented the UDL framework in their own classes and asked the students to take part in the survey afterwards. Four of the classes mainly had first-semester students, with some repeating students. One class consisted of second year or older students. All the students were studying English as a foreign language, but students came from different regions such as Japan, Korea, mainland China, Taiwan, Hong Kong and Mongolia. Of all the participants who completed the questionnaire, 16 students said they could also participate in an interview, and all of them were later interviewed, enabling the maximum variation of participants. This study took place during the Covid-19 pandemic, when many international students joined classes online, therefore some classes were conducted in hybrid style, while other classes met in-person and online interchangeably. Offering multiple modes of communication was integral in times of online/hybrid communication.

3.3 Procedure

The effectiveness of the UDL framework was measured through a mix of quantitative survey and qualitative interviews of the students. UDL guidelines recommend providing multiple means in three principles of learning, which are engagement, representation, and action and expression. Engagement influences affective networks, promoting the “WHY” of learning. Representation influences recognition networks, promoting the “WHAT” of learning. Action and expression influence strategic networks, promoting the “HOW” of learning (CAST, 2018). In 2022, instructors paid particular attention to having many communication channels. Specifically, in addition to traditional methods such as e-mail, the Learning Management System and office hours, a class journal using Microsoft’s OneNote was introduced to reflect on each class, a reminder application called Remind, and Instagram, which is used daily by university students, was also utilized for information sharing and communication. The main UDL-based instructional approaches employed in the instruction are presented in Table 6. As shown below, the researchers focused on two areas; one is to provide options for engagement, and the other is to provide options for action and expression.

Table 6*UDL-based Instructional Approaches used in English Language Classes*

UDL Guidelines	UDL-based Instructional Approaches	Concrete Plans
Provide multiple means of Engagement	7.1 Allow learners to participate in the design of classroom activities and academic tasks. 8.1 Heighten salience of goals and objectives 8.4 Increase mastery-oriented feedback 9.1 Promote expectations and beliefs that optimize motivation 9.3 Develop self-assessment and reflection	· Students are invited to share their favorite songs to be played in class · Learning-conductive class atmosphere was created to foster collaboration and community · Students are encouraged to set a goal and reflect on each class · Goals and objectives of the lesson were made salient, and individualized feedback was given after each class
Provide multiple means of Action & Expression	4.2 Optimize access to tools and assistive technologies 5.1 Use multiple media for communication 6.1 Guide appropriate goal setting	· Assignments were provided using multiple tools and technologies · Teacher used multiple media for communication and flexible office hours were provided · Class and individual goals were set, and feedback was given for each class

Importantly, none of the students who responded to the survey had officially recognized disabilities or received reasonable accommodation at the time of the study. Regardless, there was a student with hearing aids who requested the teacher to wear an FM microphone in one class, and some others would have benefited from reasonable accommodation as the authors later found out a few students had undeclared traits or illnesses such as dyslexia. In some cases, students in the classes disclosed challenges to the authors that could have been recognized as special needs but decided not to report these matters to the university officially.

3.3 Data Collection

It must be noted that the study was part of a cross-departmental study, for which the data collection had been approved by the research compliance/ethics review committee at the institution studied before launching the survey and interviews. The survey was not anonymous, which was necessary since the authors needed to identify whether the participants had any special needs. Participation for the study was voluntary, and protection of the participants' personal data was secured. It was also made clear that their responses would in no way influence their grades. The questionnaire was given on the final days of classes, and the subsequent interviews were also conducted after all the grading had been completed. The online questionnaire contained the explanation of the research and letter of consent, and only if the student consented, they proceeded to take the survey.

The survey was given using Microsoft Forms and the data was analyzed in Excel, yielding data from 65 respondents (70% response rate). The survey was first prepared in Japanese, but two classes had 11 Korean students, so a Korean version was also presented as an option. The questions were refined based on the previous study conducted in the spring and fall semesters of 2021, and included the usefulness of the new UDL procedures, self-evaluation of autonomous learning, satisfaction with English classes, and student problems. In addition, semi-structured interviews were conducted online during the semester break. Sixteen students were approached for interviews based on their questionnaire responses. All the interviews were conducted in Japanese. Both authors attended the interviews for triangulation purposes: while one asked about any unclear points or points students would like to delve into for each question, the other sometimes asked a follow-up question. In other words, the researchers did not ask new questions but asked for clarification or reasons for their questionnaire responses. With the participants' consent, the authors took down notes and conducted a member check. The interviews lasted for 15 to 33 minutes, on average for 22 minutes. The qualitative data were analyzed using the pile sorts method, explained by Bernard and Ryan (2010). Pile sorts was done

by printing out the interview notes from 16 students in anonymous form, eliciting the main themes on post-it notes, spreading them on a desk, giving each chunk a theme, and selecting the most recurring quotes that best represent the group. After looking out for repetitions, similarities or differences, we returned to the questionnaire responses to see if there were overlaps. The results showed that the students were generally positive about all the initiatives.

4. Results

In this section, the authors first show the students' self-analysis of their English skills obtained from the questionnaire. Through the analysis of the questionnaire and interviews using pile sorts method described in the data collection section, three distinct themes emerged. In Sections 4.2 to 4.4, the authors present the combined results using the students' quotes to illustrate the points.

4.1 Students' Characteristics

Figure 1 presents an overview of the participants' self-reported level of English proficiency, categorized into six skills: grammar, vocabulary, writing, reading, listening and speaking. Based on the average scores obtained in each skill, it may be inferred that the participants had the most difficulties in the areas of grammar, speaking, and vocabulary. Figure 2 illustrates the reactions of students in regard to the English skills they focused on to improve. The two areas of study that attracted the greatest attention from students during the semester were speaking and vocabulary.

Figure 1

Students' Self-analysis of their English Skills

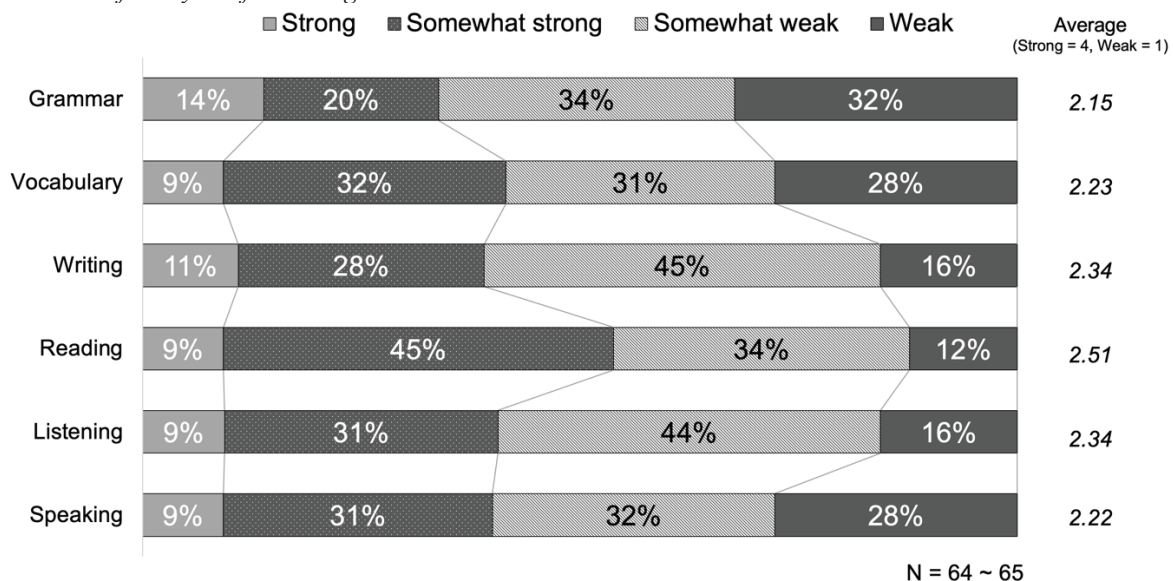
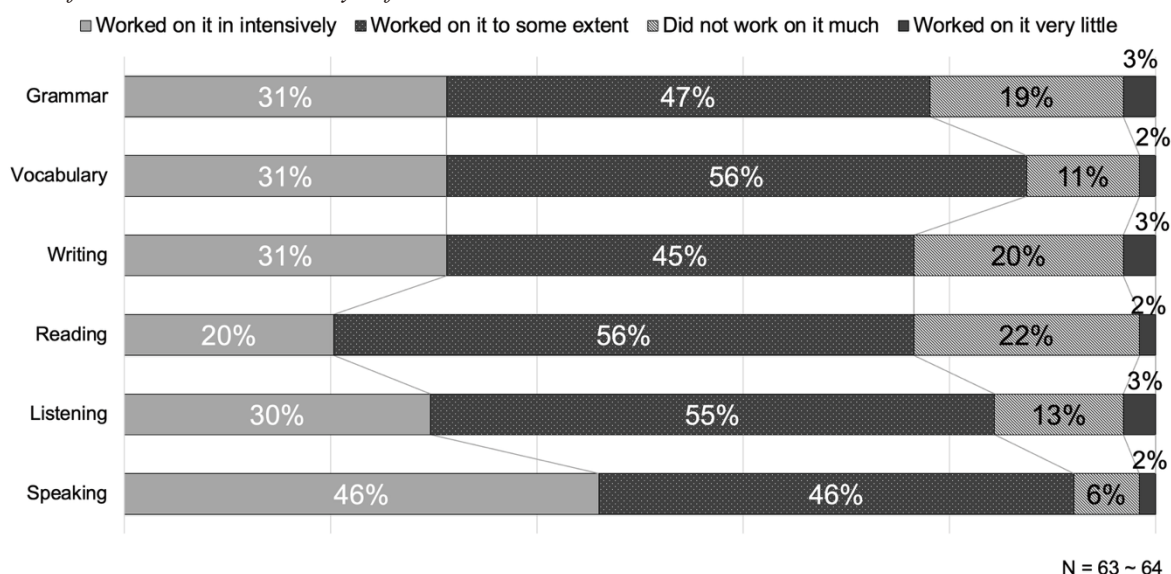


Figure 2*Skills of Focus: Which skills did you focus on this semester?*

In the proceeding sections, we identify three major themes that emerged through the combination of the questionnaire and interviews.

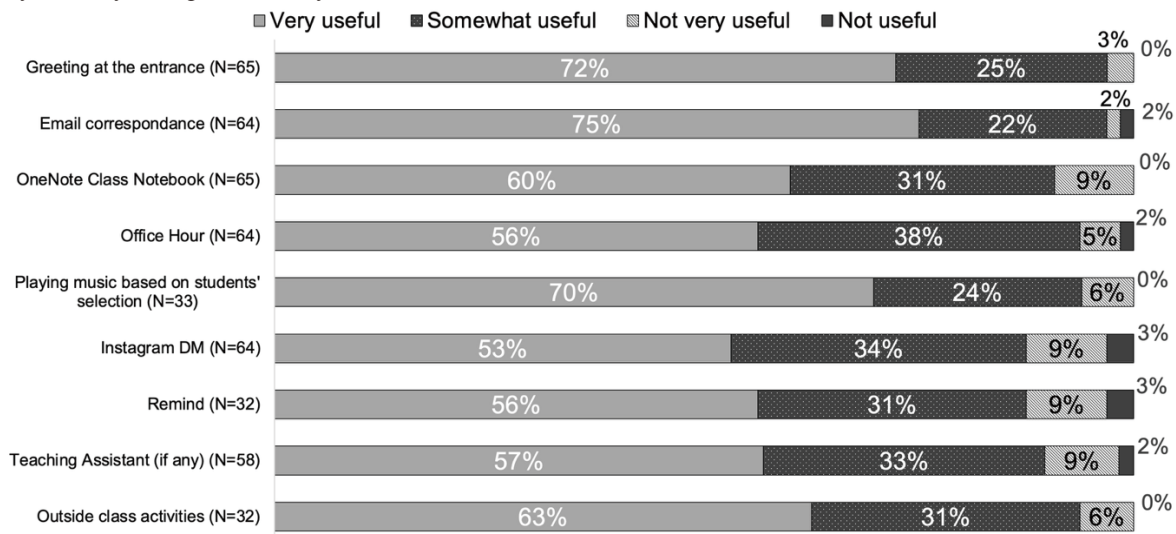
4.2 Community Building through Multiple Channels

To provide multiple means of action and expression, the authors used multiple media for communication, following UDL guideline 5.1 as shown in Table 6. This included offering several ways to communicate with the teacher, in and out of class, both in person and online. The questionnaire results showed that students showed positive reactions to all the communication channels that the authors prepared (Figure 3). Firstly, conventional communication methods, such as regular greetings and email correspondence, proved to be highly effective. Several interviewees mentioned how they appreciated the teacher greeting them by their names, as Hiro (all the names in the paper are pseudonyms) stated, “when face-to-face classes started, I was nervous, but the teacher greeted me by name, which was really great.”

Secondly, providing students with an opportunity to design the class atmosphere by allowing them to create a music playlist for the class’s break time was highly popular as well. This was confirmed by several interviewees including Shiro who said, “I was able to feel uplifted, make friends with classmates who like the same music, and switch between study and relax mode.” Thirdly, although Instagram and Remind, which is a messaging application designed for school use, were not as commonly used as emails, there were students who engaged in communication with teachers only on those platforms, proving the importance of preparing multiple communication channels. JK commented that “it was really great that teachers were trying to communicate with students using various methods, via office hours and social media.” Itsuki also told us, “I felt the distance between the teacher and students was close. We get to talk a lot. Some classmates tell me about the office hours they went to, and we can depend on the teacher if there is a problem.” We must note, however, that there were a few students who felt there were too many options, as Tony said, “sometimes I wasn’t sure which way to contact the teacher.” The interviews overall confirmed the questionnaire data that showed the usefulness of providing multiple means of communication, which helped create a friendly atmosphere in each classroom.

Figure 3

Usefulness of Multiple Means of Communication



4.3 Goal Setting, Reflection and Feedback

Another method we focused and collaborated on was to provide multiple means of engagement by way of goal setting, reflection, and providing timely and individualized feedback. It was evident both from the questionnaire (Figure 4) and interviews that students appreciated this method.

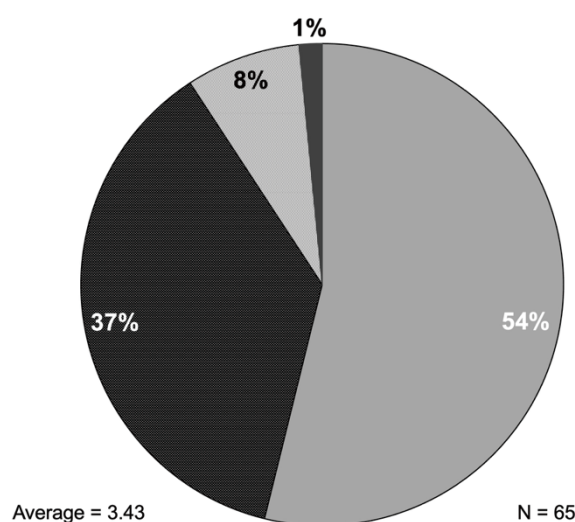
At the beginning of each class, both authors spent a few minutes presenting the class objective, encouraging the students to set their own goal, and write it down on the digital class notebook. Sometimes the authors also asked the students to share what they had written with their classmates. Most interviewees commented on the positive effect of setting a daily goal, such as the following, “once I set a goal, I felt motivated to try harder (Jun).” “Classes up to high school were passive learning. By becoming conscious about what is important in class, I was able to study more efficiently (Shiro).” “It helped me to stay motivated because I set the goal to achieve A+ (Hiro).” We need to heed the rather negative comments by some interviewees too, who reported that it was too frequent and setting a weekly goal would have been sufficient, or that they did not know how to set a personalized goal.

Just like the goal setting, the authors spent the last few minutes of each class asking the students to revisit the goal, and answer self-evaluation questions such as: “Were you positive today?” “Did you use English enough?” “What did you learn?” “Do you have any comments or questions?” Between class times, sometimes within one day or three days, the authors visited each student’s page and gave positive feedback on their reflection. The interview data clearly show that this activity not only heightened the salience of goals and objectives but also increased mastery-oriented feedback as well as motivated the students, as exemplified in Figures 4 and 5.

Figure 4*Student Perception on Goal Setting, Reflection and Feedback*

Question: At the end of each class, you reflected on the goals, wrote comments, and received feedback from the instructor. How do you evaluate this effort?

■ 4. Very useful ■ 3. Somewhat useful ■ 2. Not very useful ■ 1. Not useful



This shows that most of the students felt the reflection and feedback at the end of each class was useful. Below is a sample of the actual log between one of the participants and one of the authors.

Figure 5*Sample Goal Setting, Reflection, and Feedback Between Author 1 and Yuri*

- Write **"Today's Goal"** before/in the beginning of every class.
- Fill in columns 2 through 5 after/at the end of every class.
- You can write this journal either in English or Japanese.
- Your teacher will check your comments and give you feedback after every class.
- For questions 2 and 3, "strongly agree" = 5, "strongly disagree" = 1. Highlight your answer. *Example: 1 - 2 - 3 - 4 - 5*

Class #	Date	1. Today's Goal	2. Was I positive today?	3. Did I use English enough?	4. What I learned today	5. Comments	Teacher's Feedback
1	4/12	Memorize face and name!	1 - 2 - 3 - 4 - 5	1 - 2 - 3 - 4 - 5	英語を聞きながら分を読むと発音もわかるしわからない単語も覚えられること。	This class was so fun! I knew of you on guidance, so I was so excited! It is gonna be more fun using English;))	Nice to meet you! You have great goals. Let's work together to achieve your goals. I'm happy to have you in my class!
2	4/15	Read English sentences and search a new words.	1 - 2 - 3 - 4 - 5	1 - 2 - 3 - 4 - 5	自分は意外にわからない単語をスル...していた... それを気付いた時がみんなであんなに単語を先生に聞いた時...こんな単語あったのか!となりもう一度読んだ。	I think I still feel hard reading so I want to read a English quickly... <u>It need to learn a new words and vocabulary.</u>	Thank you for your nice reflection! I think reviewing is quite important. It's OK not to know all the words in class. Let's learn to guess the meaning of the words too.
3	4/19	Discuss a topic in English as I can as possible.	1 - 2 - 3 - 4 - 5	1 - 2 - 3 - 4 - 5	Asking a new word to teacher and friends when I did not understand, it is important.	I was completely lost. This university is too big. And I am getting to like discission because I can become to do it in English and learn what partner think! It was fun.	It was great to meet you on campus! You did a good job with class discussions.
4	4/22	Understand the story.	1 - 2 - 3 - 4 - 5	1 - 2 - 3 - 4 - 5	Reading sentences aloud, I can learn pronunciation too.	This section was a little hard for me but the story was interesting.	Thank you for the reflection. It's good to hear that you stayed highly positive and that you used English a lot.

The quotes below exemplify the perceptions students felt about the use of a class notebook for setting goals and receiving feedback.

Yuri: *"I was purely happy. I could feel you pay attention to each student. The distance between the teacher and students got closer and I felt motivated."*

Itsuki: *"I often forget to reflect, so by having the time in class, I was able to organize my thoughts."*

Taka: *"There was much useful feedback. I often asked questions about reading methods. However, some people didn't make use of the notebook. Perhaps there could be concrete examples."*

Takashi: *"I started writing in English, and it was OK to make mistakes. Because you checked my English, it was worthwhile doing it. I was surprised to receive feedback after tests when there were comments like I did well in the test, or it was very close to my goal."*

Bomu: *"By exchanging feedback, I felt closer to the teacher, and as time went by, I didn't feel nervous in class anymore."*

As shown above, the participants viewed the goal-setting, reflection and feedback cycle as enhancing habit formation, English practice, and social bonding.

4.4 Sense of Security via Supportive Atmosphere

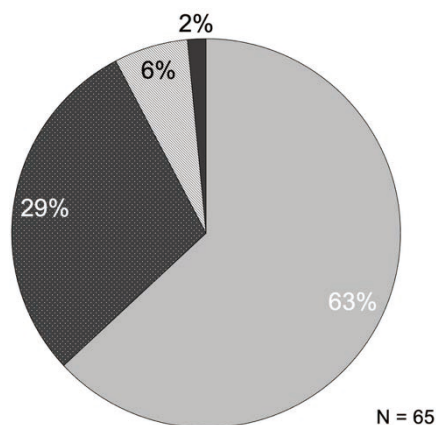
To provide multiple means of engagement, the authors paid attention to creating a friendly class atmosphere through various methods. Figure 6 indicates the effectiveness of the learning environment the authors accommodated based on the UDL guidelines. Ninety-two percent of students responded positively to whether they felt secure during class.

Figure 6

Students' Sense of Security I

Question: During class, were you able to study with a sense of security?

■ Yes ■ Somewhat yes ■ Somewhat no ■ No



The above data is fortified by various comments by the interviewees such as below.

Taiga: *It was really good. I felt you were the most thoughtful of all the teachers I had met. You greet us, answer questions carefully, and other small details, like playing our favorite songs. I felt so from the way you communicated with us on a daily basis.*

Sungwol: *I enjoyed the lessons. I could feel that you were sharing the experience with us. I was also moved by the birthday present.*

While the learning environments guided by the UDL principles received highly positive reactions in this study, Figures 7 and 8 reveal that a significant number of students facing challenges did not seek assistance from university officials or instructors to enhance their learning experiences. Based on the data shown in Figure 7, it can be observed that a notable proportion of students, specifically 15%, had challenges during their classroom experiences. Nevertheless, according to Figure 8, a mere 30% of these students sought guidance from university staff or faculty.

Figure 7

Students' Sense of Security 2

Question: Are you facing any difficulties when attending university lectures? It doesn't have to be related to English classes.

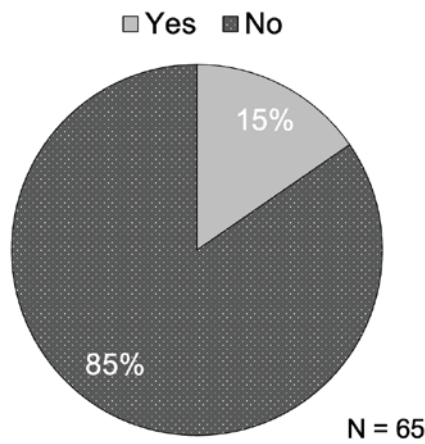
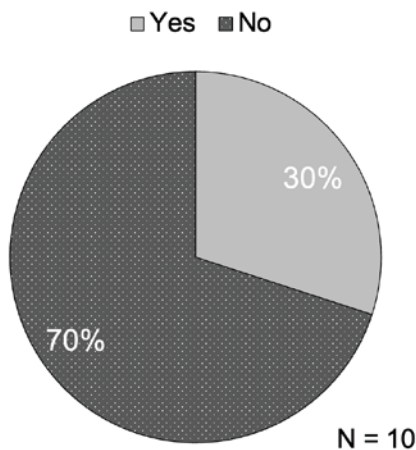


Figure 8

Students' Sense of Security 3

Question: Regarding the aforementioned difficulties, are you consulting university offices or course instructors?



At the interview, we asked all the students if they had any anxiety before classes started or when attending university lectures. Some of them answered yes, but that they typically solved problems by talking to their peers, as Jun reported, "It was nothing big, the kind I could solve by talking to my friend." The results from above show that more university students may be experiencing issues or anxiety on academic matters outside of our knowledge, and that they tend to hesitate to approach either the offices or their instructors for help.

5. Discussion

Based on the findings, although we cannot generalize the extent UDL guidelines improved student outcomes, we were able to elicit which guidelines are perceived to be effective by students. We argue that separate initiatives targeting the whole class proved to be effective in addressing the varied needs and preferences of students, including those who needed reasonable accommodations, reducing the issues or anxiety among students. The data showed that 92% of the students from the Spring 2022 questionnaire were able to attend class in a comfortable atmosphere, which was supported by various interview quotes such as Eolssu saying, “There was a lot of feedback which made the class interesting” and Jun and Itsuki who simply stated, “I loved the class atmosphere.” By revising classes in ways so that students can overview the course better and support their learning strategies, we should be able to support the remaining students better in the future.

We also learned that there are many situations in class management and lesson planning where the UDL framework can be incorporated. The class levels and objectives of the five classes taught by two English faculty were different, but we were able to adopt the same guidelines and provide effective teaching. In doing so, it is not necessary to implement every check point. By utilizing some of the points, we will be able to recommend UDL principles to our other colleagues in the language sections. Two of the most useful guidelines that could be made salient in language classes are related to engagement: foster collaboration and community and develop self-assessment and reflection. Both of them can be incorporated in daily routines without changing the current syllabi or schedule. Another guideline that we learned to be valid is related to action and expression. For instance, preparing multiple communication channels with students and providing them with more opportunities to design the class environment could be an effective first step.

6. Limitations and Future Research

The current study inevitably has several limitations. First and foremost, it being participatory research, instructors were the researchers, and the data lacked complete anonymity. The authors cannot deny the possibility that the data is skewed because the students did not want to make negative comments. In future studies, researchers should at least interview each other's class participants or involve a third-party interviewer. Secondly, it is not an experimental study, and the data lacks comparisons with classes that did not intentionally promote UDL. After learning about UDL principles, the authors noticed that a lot of what we had been implementing in our classes aligned with UDL principles, and it is possible that teachers without the knowledge of UDL may also be unconsciously providing means of engagement, representation, action and expression. It might be useful to conduct a pre- and post-intervention study as seen by Davies et al. (2013). In the study, instructors received UDL training sessions, implemented UDL-based lessons, and undergraduate students in treatment and control courses completed surveys on their perceptions of instruction. Third, the data lacks comparisons of students' development as a learner before and after the UDL implementation, as the data was collected post-semester only. In other words, we cannot claim that UDL methods improved the learners' English ability. In order to see the change among the same group of students, further research into the development of individual students before and after an intervention is desirable. Fourth, the study did not focus particularly on students with disabilities or special needs. Had the authors been able to capture the voices of students who have officially recognized special needs, it may help others who are looking for ways to accommodate various students' needs. In addition, the study only focused on convenience samples from one institution, which limits the generalizability of the findings. It is hoped that more studies be conducted in other similar settings in the future. Lastly, as introduced in the literature review, UDL researchers worldwide have developed and recommended a range of practical strategies for UDL implementation at HEIs, encompassing all three components of the UDL guideline. Expanding UDL implementation by incorporating useful strategies and examining their efficacy in the tertiary EFL context in Japan would improve the

quality of inclusive education in higher education settings.

7. Conclusion

This study presented positive outcomes of applying UDL principles in five English classes at the tertiary level especially on student engagement, action and expression. The mixed method data provided an assurance that UDL will reflect positively on nurturing a friendly and supportive atmosphere in university English classes. We also learned that the authors were successful in encouraging students to become goal-directed, purposeful and motivated learners. Admittedly, the study is constrained in several ways, but the fact remains that the study was conducted across several courses with various students, including first semester and older students, and students from various countries such as Japan, Korea, and China, which shows UDL principles can positively impact a diverse study body.

A faculty development workshop on UDL principles and potential class preparations was held by the authors in response to the study's findings before the spring 2023 semester. UDL in foreign language learning is a relatively new concept among language teachers at the authors' institution, as was mentioned in the introduction. The relevance of inclusive education and creating a learning environment with a holistic approach to meet a diverse body of students, however, are increasingly becoming shared goals among educational institutions, including tertiary education in Japan, as universal design itself gains wider recognition in society (see for instance Aoki et al., 2025; Herrera, 2025). Disseminating effective UDL methods should be a continuous effort to promote awareness of UDL principles and their potential. This study offers an accessible starting point and an intriguing viewpoint for promoting more welcoming and inclusive classrooms for all students.

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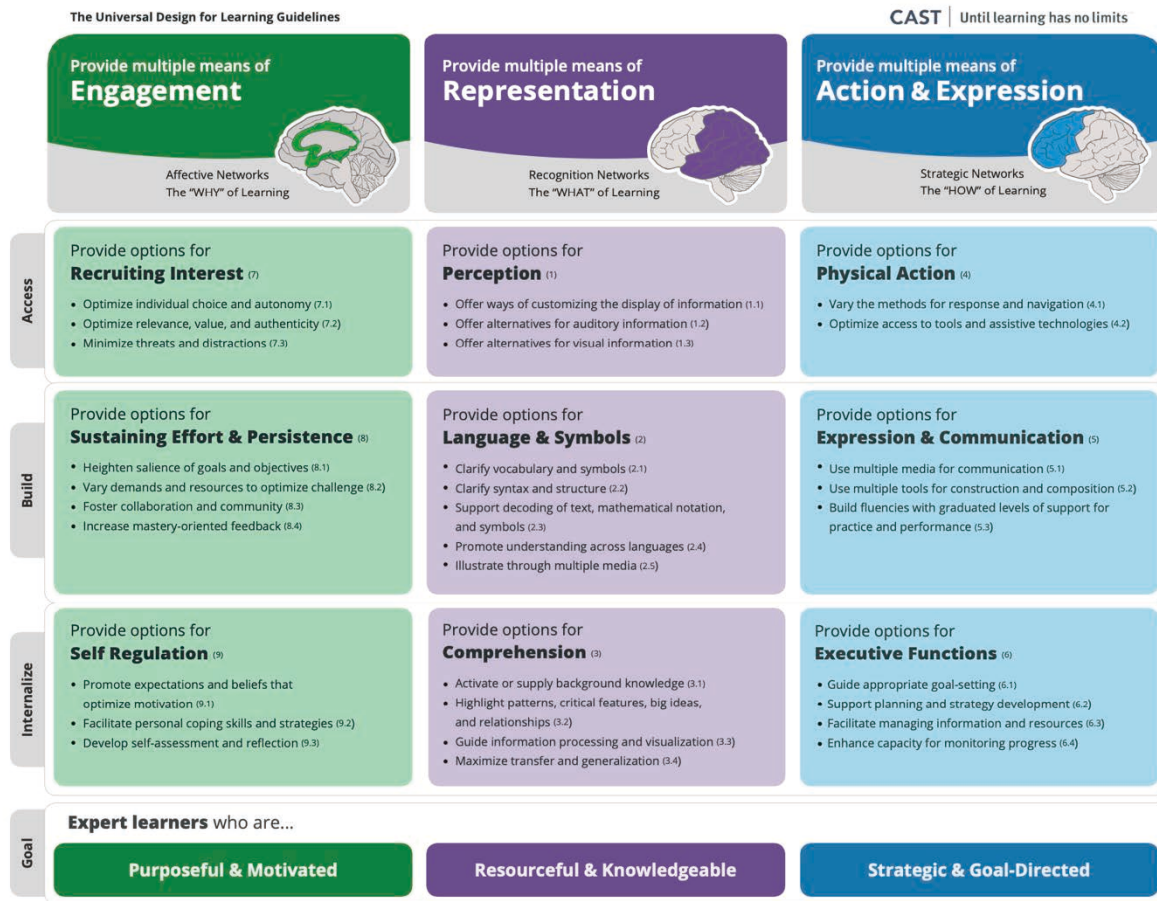
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Appendix – Universal Design for Learning Guidelines Version 2.2 (CAST, 2018)



udlguidelines.cast.org | © CAST, Inc. 2018 | Suggested Citation: CAST (2018). Universal design for learning guidelines version 2.2 [graphic organizer]. Wakefield, MA: Author.

Appendix – Survey Questions (translated into English from the original Japanese)

1. I like studying English.
Strongly disagree/ disagree/ agree/ strongly agree
2. How confident are you in the following language skills?
I am not good at all/ I am not so good at it/ I am somewhat good at it/ I am good at it
Speaking/ Listening/ Reading/ Writing/ Vocabulary/ Grammar
3. Would it be alright if we used your responses to the pre-semester question on which skill you wish to improve on this semester?
Yes/ No
4. Which language skill study did you focus on this semester?
I hardly studied/ I did not study much/ I studied a little/ I studied a lot
Reading/ Writing/ Grammar/ Vocabulary/ Listening/ Speaking
5. At the beginning of each class, we checked the class goal, and you were encouraged to set a personalized goal. How do you evaluate this activity?
It was not useful at all/ It was not so useful/ It was somewhat useful/ It was very useful
6. At the end of each class, we reflected on the goal, you wrote the comments, and the teacher returned feedback. How do you evaluate this activity?
It was not useful at all/ It was not so useful/ It was somewhat useful/ It was very useful
7. To check your independent learning contents, we delivered a notebook and sometimes checked them. How do you evaluate this activity?
It was not useful at all/ It was not so useful/ It was somewhat useful/ It was very useful
8. Through Study Plan, independent learning, and English Language Learning Database, do you think you understood your appropriate study methods?
I do not think so at all/ I do not think so that much/ I think so, to some extents/ I do think so
9. Were you able to study in a safe atmosphere?
I do not think so at all/ I do not think so that much/ I think so, to some extents/ I do think so
10. In order to welcome the students and formulate a supportive atmosphere, the teacher tried to offer a variety of communication tools. How useful do you think the following were?
Not useful/ Not so useful/ Somewhat useful/ Very useful
Greeting when students join the class/ Playing students' favorite songs/ Email correspondence/ Class Notebook/
Office Hours/ Instagram/ Remind/ Teaching Assistant/ Extra-curricular exchange activities
11. If there is anything else the teacher was trying that you noticed, please let us know.
12. Do you have any worries about taking university lectures? It does not need to be related to English classes.
Yes/ No
13. (If "Yes") Have you communicated your worries to the university staff or class teacher?
Yes/ No
14. If you don't mind, could you tell us what your worries are?