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Active Learning, Theory and Application, and Japan's New *Course of Study Guidelines* as They Relate to University Language Teaching

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Abstract

The aim of this report is to familiarize college instructors with Active Learning (AL), its basic features, theoretical underpinnings and classroom applications. The Self-Determination Theory of Ryan and Deci (2000) is presented to explain the positive attitude that many AL students develop towards learning. We introduce three levels of AL activities, low, intermediate and advanced, as defined by the European Council's *Common European Framework of Reference for Languages*. We then review the Japanese Ministry of Education, Culture, Sports, Science and Technology's (MEXT) recently issued *Course of Study Guidelines* (2018-2019), particularly as they relate to AL and university language teaching, and argue that a carefully managed and coordinated, institution-wide curriculum is needed as a foundation for successful AL implementation. However, the best chance of working toward MEXT's objectives appears to be a well-trained, dedicated, and mutually supportive teaching staff.

Keywords: Active Learning, *Course of Study Guidelines*, MEXT, Process-Oriented Guided Inquiry Learning, research writing

Introduction

Active learning (AL) is generally considered to be an application of the constructivist theory of learning developed by Piaget and others in Europe in the early 1900s. Learners integrate new information with past learning. By modifying either the old or new learning when data do not agree, learners produce a harmonious body of personal knowledge (Bransford et al., 1999). AL group work and teacher monitoring are also advocated by the social cultural constructivist theory of Lev Vygotsky (1978), developed from the late 1920s to 1934. Vygotsky viewed learning as happening when students solve problems somewhat beyond their competency level in collaboration with peers and aided by the teacher.

In the U.S., AL caught the attention of educators in the 1970s and 1980s. However, it was not until 1991 that Bonwell and Eison penned today's most often-quoted definition of AL as "instructional activities involving students in doing things and thinking about what they are doing," (p. 2). These authors promote student-centered AL as a desirable alternative to traditional, lecture-based (teacher-centered) instruction. To be active, students needed to do more than just listen. They needed to read, write, discuss or be engaged in problem solving and higher order thinking, analysis, synthesis and evaluation. Students can then create new knowledge and connect new and prior learning, facilitated by communication with peers during group work and regular interaction with the teacher. AL strategies will allow students to develop skills and explore their own interests, attitudes and values. Today, AL activities are seen as promoting engagement, creativity, and problem-finding-and-resolution skills (Prince, 2004). In 1991, most AL activities suggested by Bonwell and Eison complemented lecture classes, allowing students to work together at intervals, summarizing notes or discussing data. These authors also endorsed cooperative learning, debate and discussion courses.

Theories Supporting Use of AL

Ryan and Deci (2000): Self-Determination Theory

The self-determination theory (SDT) of Ryan and Deci (2000) has been cited recently by researchers investigating the positive attitudes of AL learners (Jones & Palmer, 2017; Lombardi et al., 2021). SDT draws upon five psychological mini-theories regarding human motivation and personality. The authors assert that satisfying people's psychological needs plays a major role in enhancing learning motivation and performance.

Ryan and Deci (2000) believe that people have three basic psychological needs: competence, relatedness and autonomy. *Competence*, a feeling of being capable of performing, can be nurtured through feedback, communication, and rewards, similar to the positive comments on performance given to students by AL instructors. *Relatedness*, a sense of security and support from those in one's environment, resembles the team spirit found among dedicated group members working on class projects with encouragement from the teacher. *Autonomy* is a feeling of control over what one does. AL allows students to make many decisions about their learning.

The right environment can enhance learners' three psychological needs, according to Ryan and Deci (2000). Once the three needs are met, a healthy feeling of well-being is produced. This feeling can increase the learner's intrinsic motivation to engage in tasks. Engagement, the state needed for learning, can lead to academic achievement.

But what about those with only extrinsic learning motivation, such as the desire to earn a scholarship or to get a better job? Rather than considering extrinsic and intrinsic motivation to be polar opposites, the authors envision motivation running along a continuum with four degrees of extrinsic motivation followed by

intrinsic motivation.

Figure 1. The Self-Determination Theory Motivational Continuum

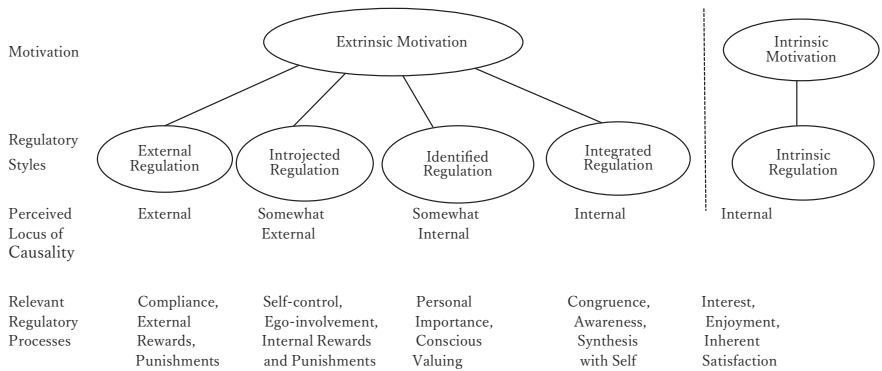


Figure 1 adapted from “Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being,” by R. M. Ryan and E. L. Deci, 2000, *American Psychologist*, 55(1), p. 72. Copyright 2000 by the American Psychological Association.

Ryan and Deci (2000) believe people’s motivation for different tasks varies, and can exist at different points along the continuum. Intrinsic motivation produces the most positive experience, but in nurturing environments, a person’s extrinsic motivation can gradually move from external to internal extrinsic motivation, which can provide some of the same benefits as intrinsic motivation, such as more engagement. A well-executed AL program could be the catalyst for such a motivational shift.

Reeve and Tseng (2011): Agency Theory

An intriguing study by Reeve and Tseng (2011) adds a fourth dimension, agency, to Ryan and Deci’s (2000) three psychological needs for competence, relatedness and autonomy. *Agency* is defined by Reeve and Tseng as “students’ constructive contribution into the flow of the instruction they receive,” (p. 258). Examples of students’ use of agency include: positively expressing preferences to the teacher;

offering suggestions, ideas and opinions; and asking questions, as ways to add personal relevance to their learning. To be agentic, such behavior must be: 1. proactive (happening before or during a learning activity); 2. intentional (done deliberately and purposefully); 3. enriching (making learning more interesting, challenging or valued); 4. constructive for learning (e.g., students suggest the execution of a class activity or a follow-up activity for the next lesson); and 5. not fault-finding (not used to point out the teachers' shortcomings). The authors see a student-teacher dialectic framework occurring as a result of agency. Student contributions influence the teacher's motivating style and instructional choices, which in turn, enhance the students' positive feelings about their learning environment, which further influences the teacher's choices.

The authors' research on 365 upperclassmen in Taiwan revealed that agency correlates positively with greater student engagement and motivation, and results in more learning and higher academic achievement. Their findings underscore the importance of teacher behaviors which encourage students' agentic engagement. Reeve and Tseng (2011) stress the need for teacher training programs focusing on the appropriate language to use in interactions with students in AL courses.

Practical Applications

AL is a broad term describing communicative, knowledge-creating activities which can range from five-minute summarizing tasks to highly complex work constituting a whole course. The common factor in all AL activities is the greater amount of competency, relatedness and autonomy allotted to students, which leads to better engagement and learning.

Ideally or to the extent possible, AL classes

1. Are student-led and student autonomous.
2. Require students to be active throughout lessons: reading, writing, listening and speaking.
3. Utilize student groups to collect and analyze data, and to create and report new knowledge.

Short-term learning goals include developing students’

1. Motivation to learn and their enjoyment of learning.
2. Higher order thinking abilities, such as analysis, synthesis and evaluation.
3. Communication skills needed for cooperative production of new knowledge.
4. Flexibility when faced with problems, and ability to learn while doing.

While Bonwell and Eison (1991) maintain that AL can be used at any level, they caution that activities and goals must be carefully chosen to suit the subject mastery (or language competency for language learners) of one’s students. Student level should be based on what students are actually capable to doing in a language as opposed to an entrance exam score. In western nations, the Council of Europe’s *Common European Framework of References for Language (Global Scale)* (n.d.) is commonly used to estimate students’ levels (Nakashima, 2021), with Basic User A1-A2, Independent User B1-B2 and Proficient User C1-C2 describing low, intermediate and advanced ability levels respectively. See Appendix 1. This instrument may also be adaptable for non-language courses.

The graph below, taken from Yang (2022), shows a continuum of AL activities from simple to complex or low to advanced. While simpler activities are more suited to low level classes, they can be used with higher levels to heighten engagement. Lombardi (2021), however, warns that the addition of a few low-level activities to a non-AL course does not transform it into AL.

Figure 2. Continuum of AL Activities

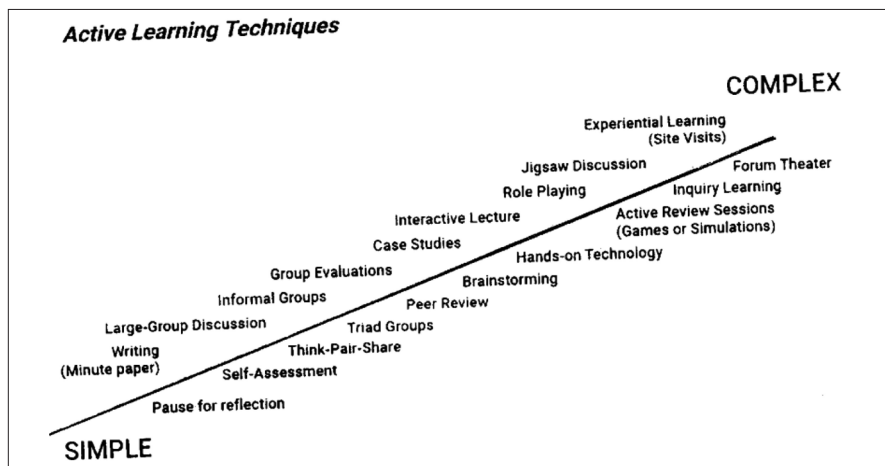


Figure 2 adapted from “Active Learning: Techniques to Improve Learner Engagement” by C. Yang, 2022, *University of Utah Health: Accelerate*. <http://accelerate.uofuhealth.utah.edu/leadership/active-learning-techniques-to-improve-learner-engagement>

A few of the more promising activities for low, intermediate and advanced levels are detailed below. Most are variations on the activities that appear in Yang’s 2022 chart. Yang (2022) cautions that the goals of a lesson or course must be kept in mind when choosing AL activities. For example, roleplay could be a useful activity for a presentation class, but it would probably not be suitable for a TOEIC course. Also, scaffolding will be necessary for a number of these activities, and the instructor will probably need to write these exercises from scratch. Some of the activities appear to be designed for lecture courses but could be adapted for language classes.

Lower-Level Activities

1. Purposeful pauses: Receive – Share – Refine
 - a) **Receive:** Students take notes on teacher instruction, using an incomplete outline or template.

- b) The teacher pauses after 10-15 minutes of direct instruction, and students try to complete their notes.
 - c) **Share:** In groups of 2 or 3, students share their notes and add to them.
 - d) **Refine:** In groups of 4 or 5, students
 - 1) complete their notes further.
 - 2) take a multiple-choice test together in their group on the content of the lesson.
2. Writing for reflection: Communication with the teacher
- a) Minute paper
 - 1. Students write for one minute on a topic related to their studies.
 - 2. The teacher collects the papers and reads and returns them the following lesson with comments on content.
 - b) Self-assessment
 - 1. Near the end of class, students write for one minute, assessing their performance in class that day.
 - 2. The teacher collects the papers, reads them, writes advice or encouragement, and returns the work the next class.
 - c) The muddiest point
 - 1. Near the end of class, students write for a minute on the most difficult, confusing or unclear part of the lesson.
 - 2. The teacher collects, reads, adds comments and returns the papers next class. The instructor may choose to modify teaching techniques based on student responses or to reteach certain points.
3. Think – Pair – Share: Communication with Peers
- a) The teacher announces an interview topic and the time allowed per interview.
 - b) **Think:** Students are given a few minutes to construct questions and review vocabulary. Alternatively, students could select questions from a

list.

- c) **Pair:** Students form pairs. Student A interviews Student B. Student A takes notes. Student B interviews Student A and takes notes.
- d) **Share:** Two pairs move together to form a group of four. Each student reports on what they learned about their partner from the interview.

Intermediate-and-Above Level Activity: Variation on Think – Pair – Share with News Articles

The content of this activity is derived from outside reading and written homework. The entire activity can take 30 minutes or more. This particular activity was used weekly in a newspaper course.

a) For homework, students locate and read a recent news article of about 200 words on a serious topic. They then complete Side 1 of a two-sided template, with a helpful list of vocabulary, their summary of the article, and their reactions to the issues described. See Appendix 2 for classroom materials.

b) Students bring their article and their written homework to class.

c) **Think.** Students are given 1 minute to prepare.

1. Student A (informant) reviews his/her written homework.
2. Student B (interviewer) scans Student A's article for basic information.

d) **Pair.**

1. Student B returns Student A's article, interviews Student A and takes notes on Side 2 of his/her homework paper.
2. Student A answers Student B's questions while referring to his/her homework paper and article.

e) **Share.** Students briefly form new pairs.

1. Student B finds a new Student A and gives a brief summary of the interview he/she conducted with the old Student A.
2. The new Student A listens and may ask questions but does not write anything.

f) Students return to their original partner. Old Student A joins old Student

B again.

- g) **Think.** Students are given 1 minute to prepare.
 - 1. Student B (informant) reviews his/her written homework.
 - 2. Student A (interviewer) scans Student B's article for basic information.
- h) **Pair.**
 - 1. Student A returns Student B's article, interviews Student B and takes notes on Side 2 of his/her homework paper.
 - 2. Student B answers Student A's questions while referring to his/her homework paper and article.
- i) **Share.** Students briefly form new pairs.
 - 1. Student A finds a new Student B and gives a brief summary of the interview he/she conducted with the old Student B.
 - 2. The new Student B listens and may ask questions but does not write anything.
- j) All students submit their articles and homework/notetaking papers to the teacher for review and grading. Grades are awarded for completeness of homework and interview notes and for following directions. Sample materials used with this activity can be found in Appendix 2.

This activity is long enough to provide quality pair interaction and higher-level thinking. It is short enough to allow time for direct teaching, scaffolding or other desired activities. It is autonomous in that students choose their own articles and what they want to say about them. A variation on this activity, consuming a full class period, can be found in Davies (2005).

High Intermediate to Advanced Activity: Process-Oriented Guided Inquiry Learning
One purpose of Process-Oriented Guided Inquiry Learning (POGIL) is to have students perform tasks that they will do during their professional careers (Moog & Spencer, 2008). Typical activities in such classes are student-led research and production of laboratory research papers. Students in groups of 3 to 4 actively

collect original data on a topic of their choice related to their major to prove or disprove a hypothesis formed after reading academic-level papers. These activities are termed *course-based undergraduate research experiences* (CURE) (Lombardi et al., 2021) and build students' confidence in their professional skills by providing the experience of discovery and the opportunity to produce original data and research-based conclusions of interest to the professional community in their classroom (Ballen et al., 2018). Data collection and analysis are followed by writing a group IMRAD (containing Introduction, Methods, Results, and Discussion sections) research paper and presenting the findings in academic group speeches.

Syllabus

The 15-week active learning course which is presented here, featuring POGIL, is based on a course in a two-year undergraduate English program at a STEM (Science, Technology, Engineering and Mathematics) university in the Tokyo area. Classes were composed of 25 to 30 intermediate-level English students. The program was carefully structured to build students' skills for the challenge of producing POGIL papers and academic speeches during their second semester of sophomore year.

The POGIL course was roughly divided into three, 5-week parts: 1. preparation, data collection and analysis; 2. report writing; and 3. speech preparation and delivery. A sample 15-week syllabus appears below.

Weeks 1-5: Preparation: Data Collection and Analysis

Week 1:	Syllabus reviewed; groups formed; topic and main hypothesis chosen
Week 2:	Model research paper, abstracts on group topic reviewed; additional hypotheses formed
Week 3:	Surveys written and revised
Week 4:	Surveys piloted among class members; data analyzed Homework: Student groups administer 30 surveys on campus.
Week 5:	Actual survey data analyzed and conclusions drawn; ways to avoid plagiarism reviewed

Weeks 6-10: Writing and Revising Sections of the Paper

<i>Revised</i>	<i>Written</i>
Week 6:	Results
Week 7: Results	Discussion
Week 8: Discussion	References
Week 9: References	Introduction, Methods, Abstract
Week 10: Introduction, Methods, Abstract	First draft of research paper Homework: Leader submits first draft of research paper.

Weeks 11-15: Presentation: Speech Writing, Practice and Delivery

Week 11:	First draft of paper revised to prepare for speech
Week 12:	Speeches written and planned using templates
Week 13:	Speeches practiced; techniques reviewed
Week 14:	Speeches practiced; presentations filmed
Week 15:	Final speeches reviewed; course wrapped up

Although POGIL was originally designed for use with STEM majors conducting scientific research, the method can be adapted for use with students in other disciplines. For instance, an academic writing text by Kluge and Taylor

(2018) includes a model paper written by a business major investigating the marketability of different types of cellphones to male and female university students. The student read market research studies, formed a hypothesis, polled students on her campus, analyzed the data, drew conclusions and produced the research paper. This paper could be a useful model for students writing their first IMRAD report. See Appendix 3 for samples of materials useful for data collection and analysis, and Appendix 4 for additional guidance on structuring activities. Written permission was obtained from student groups for our use of their original materials.

Pros and Cons of AL Instruction

Large studies by researchers in STEM disciplines have yielded definite support for AL in college classes.

1. Freeman et al.'s (2014) meta-analysis of 225 studies of undergraduates in AL STEM courses found that AL students achieved test scores half a standard deviation higher than those of students in lecture courses. The AL students were also 55% less likely to fail.
2. Theobald et al. (2020) analyzed 41 studies containing the records of 53,849 students. In STEM courses taught using AL, minority students had a 45% lower failure rate and a 33% gain in test scores compared to minorities in lecture courses. *Minorities* was defined as groups underrepresented in STEM courses, such as women and non-white students.
3. Vernon and Blake's 1993 meta-analysis of 35 medical course studies from 1970-1992 found that problem-based learning, commonly used in AL, produced positive attitudes in students toward their studies. AL students across many disciplines exhibit this improvement in attitude (Prince, 2004).

AL critics state the following:

1. AL students show only modest gains in scores (Smith et al., 2011).

2. Practical problems with implementing AL abound: less direct instruction time, greater workloads, difficulties with low and large classes, and the need for moveable seating and larger classrooms (Bonwell & Eison, 1991).
3. Experts do not agree on how to categorize AL. Is it a method, a strategy, or an approach? AL is sometimes called an umbrella term for many different activities. This makes accurate, quantitative mega-analysis of its effects difficult to assess (Lombardi et al., 2021).

Nevertheless, AL has gained wide acceptance, especially among humanity and social science instructors.

New Course of Study Guidelines and Active Learning Objectives

Course of Study Guidelines is a cover term for the learning objectives of kindergarten, primary, junior high and high schools (K-12), issued by the Japanese Ministry of Education, Culture, Science, Sports, and Technology (MEXT) at approximately 10-year intervals since 1947 (O’Halloran, 2019). The *Guidelines* are fixed teaching standards which apply to all public-school programs in Japan, and all are expected to comply (McMurray, 2018). They carry definite implications for academic instruction since each level of education, including university undergraduate and graduate study, is required to build upon the objectives of earlier levels. Public universities, recipients of substantial government funds, have been among the first to follow the new curriculum. Private universities will soon be under pressure to conform. University administrators are legally obliged to implement guidelines issued by the Ministry or incur financial penalties (MEXT, 2016). The newest *Guidelines* urge schools to implement AL at all levels of education and in all subjects.

As mandated by the *Guidelines*, all Japanese students will study English starting from grade 3, in English-only classes, and will learn a significantly larger amount

of vocabulary than in past years. Students will conduct age-appropriate group research and develop problem-solving skills by actively seeking out information and analyzing, synthesizing and drawing conclusions about it. In the higher grades, activities, such as presentation, debate, academic reading and formal writing, are recommended (MEXT, 2016).

These objectives represent the culmination of decades of effort by MEXT to gradually implement a more western style of education in Japan and improve their universities' academic standing. The recent announcement on the adoption of new AL textbooks at the high school level makes MEXT's commitment to change clear (NHK, 2022).

In addition to the AL learning objectives thus far mentioned, MEXT (2016) also describes the lifetime benefits expected for students in AL programs. These include: 1. the development of a) a zest for life, b) a passion for lifelong learning, and c) a desire to improve society. *Zest for life* is defined by MEXT as solid academic capabilities, a well-balanced character, and the good health needed to thrive in a rapidly changing society. These are quite high expectations of AL, given that it is at best a methodology, and not a theory. Formal research on AL has also focused almost exclusively on short-term performance outcomes and only in educational settings. There is as yet no evidence of the long-term effects of AL on learners' behavior over the course of a lifetime (Lombardi et al., 2021).

Preparation Needed to Meet Objectives

Schools

Research suggests that many instructors at the academic level may resist implementing AL instruction unless it is required institution-wide or at least department-wide, due to the greater workload and the tendency of educators

to teach as they were taught (Bonwell & Eison, 1991). A highly structured, supervised, multi-year program appears to be necessary to establish a permanent shift to the new methodology. Use of AL in elective classes also may fail without administrative support as students are inclined to elect non-AL courses with less demanding objectives (Matsubara, 2019). An AL program lasting several years is probably also needed at each institution to provide the time necessary for students to develop intellectually (Bonwell & Eison, 1991; Ginsberg, 2009; Jones & Palmer, 2017; Lombardi et al., 2021). Furthermore, instructors themselves require ongoing training in AL (focused on course construction, not techniques) their first two years in the new program, along with regular, filmed, classroom observations and feedback, as well as structured opportunities to interact with colleagues teaching AL classes. Otherwise, teachers are likely to depart from this style of instruction (Ebert-May et al., 2015; Viskupic et al., 2019).

Teachers in higher education are now waiting for MEXT to publicly announce the new *Course of Study*'s expectations for universities. In April 2023, college instructors will begin teaching the first year of high school graduates educated under the new guidelines. It is doubtful that all universities will have the recommended AL training programs and infrastructure in place to assist them. College teachers must be ready to teach AL courses without significant institutional support.

Teachers

Some academic EFL language educators doubt the wisdom of the government's prescribing AL methodologies curriculum-wide.

Critics argue:

1. "Constructivist inquiry-based and discovery-based techniques" are not appropriate for the majority of language students in Japan (Jones

Proponents of AL counter:

1. From 2023 onward, students entering college will have larger vocabularies and progressively more experience with AL in all

& Palmer, 2017, p.122).

disciplines. They will be better prepared for bigger challenges.

2. Effective English teaching methods currently in use may be displaced by AL due to government pressure.
2. AL techniques can be used in combination with other methodologies.
3. AL is already in widespread use in EFL courses in Japan. Further implementation is not necessary for EFL instructors.
3. Grammar-translation style (*yakudoku*) methods continue to be used (Kikuchi, 2013). University EFL teachers may also need to update their AL techniques to meet higher teaching standards and serve better prepared students.

Bonwell and Eison (1991) discovered, from a survey of instructors on 24 college campuses, that 90% of instructors rated their teaching performance as above average to outstanding. The authors point to such teacher overconfidence as one of the biggest obstacles to upgrading college instruction and to utilizing AL more effectively. They urge those now using AL to reflect critically on their efforts and to seek to improve. Year by year, teachers may also need to adapt their methods in response to the growing abilities of their new students. Both novice and seasoned teachers should review AL's foundations and methodologies, particularly approaches to supportive teacher interaction with students and techniques involving the latest technology. Careful preplanning of AL courses is essential for optimal learner outcomes.

Conclusion

For decades, academic EFL instructors have bemoaned their students' poor learning of English in grades 7-12 and lack of motivation to study the language in college. These problems were blamed on the amount of time students spent on rote learning and grammar-translation in preparation for college entrance exams.

Students in Japan, grades 3-12, are now being taught English through active learning, a methodology which increases learner motivation and higher order thinking, according to the literature. A new entrance exam, designed to measure AL objectives, has been promised by the government soon. With these major sources of learner demotivation removed, it is possible that college English instructors will inherit students from the public school system who are more open to learning and more advanced than past groups.

Whether we use exclusively AL strategies or a judicious combination of AL and other approaches, we need to nurture the new motivation and build upon the new learning that future AL students will bring to our classrooms. We have a chance now to work in a modern teaching environment and to offer a student-centered curriculum, which can result in better learning and greater student satisfaction. Given MEXT's lofty expectations of the new AL curriculum and the higher-level learners it could produce, just maintaining the status quo in our classrooms should not be our goal. As professionals, we university teachers should do everything we can to make this a successful educational transition, by improving our use of AL methodology, and producing graduates better prepared to find original answers to unexpected problems in an unpredictable, future world.

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Appendix 1: Common Reference Levels: Global Scale

Table 1: *Common Reference Levels: global scale*

Proficient User	C2	Can understand with ease virtually everything heard or read. Can summarize information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in more complex situations.
	C1	Can understand a wide range of demanding, longer texts, and recognize implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibly and effectively for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organizational patterns, connectors and cohesive devices.
Independent User	B2	Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialization. Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.
	B1	Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans.
Basic User	A2	Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.
	A1	Can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type. Can introduce him/herself and others and can ask and answer questions about personal details such as where he/she lives, people he/she knows and things he/she has. Can interact in a simple way provided the other person talks slowly and clearly and is prepared to help.

Appendix 1 adapted from *Key Points of the Revised Foreign Language National Curriculum Standards (Course of Study) at Elementary School and Lower Secondary School Levels* by T. Nakashima, 2021, Ministry of Education, Culture, Sports, Science and Technology. National Institute for Educational Policy Research. <<https://nier.go.jp/English/educationjapan/pdf/20210623-01.pdf>>

Appendix 2: Newspaper Activity Materials

A) Appendix 2. Figure 1. Homework Assignment Paper (Sample)

Homework

Basic assignment:

For our next class, find and bring to class

- a) An English language news article from a newspaper or from the Internet.
- b) Your completed Newspaper Article Report Sheet, Side 1 only.

Important message

You must bring a suitable article and completed newspaper report sheet (Side 1 only) about this article to class next week. If you forget to bring these materials or bring incomplete materials to class, you cannot participate in class activities and will lose all points for that week.

Requirements of your article

Your article must be an English language newspaper article or Internet news article which is:

- a) Interesting for you and simple enough for you to understand
- b) No more than one week old
- c) About 200 words long
- d) On a serious topic: government, business, society, education, environment, etc.
- e) Not on one of the following topics: sports, entertainment...

B) Appendix 2. Figure 2. Report Sheet

Newspaper Article Report Sheet (Side 1)

(Note: The back side of this form will be identical to the front but labeled Side 2.)

Directions: Look at your newspaper article. Find the answers to the questions on Side 1. For parts 2-4, write the answers in complete sentences. Write at least 150 words.

1. VOCABULARY: What are some important English vocabulary words that students must know to understand this news?

English vocabulary word	Meaning in Japanese (OK to use kanji)
a) _____	_____
b) _____	_____
c) _____	_____
d) _____	_____
e) _____	_____

2. TITLE:

- a) What is the title of the article? _____
- b) What does the title mean? _____

3. SUMMARY:

- a) Who (or what topic) is the article about?
- b) What happened?
- c) When did it happen?
- d) Where did it happen?
- e) Why did it happen?
- f) How did it happen?

4. REACTION:

- a) In your opinion, why is the topic of this article important?

- b) What is your opinion on the problem in this article? (How could this problem be solved or how could this situation be improved?)
- c) Why did you choose this article?
- d) Your partner will ask you an original question about the topic of this article. Listen and try to answer the question.
- e) Your partner will share his/her opinion. Listen. Say whether you agree or not and why.

Appendix 3: Additional Guidance on Structuring POGIL Activities with Sample Tools for Data Collection, Analysis, and Speech Writing

First Five Weeks

During the first class, students formed groups and selected a leader. They chose a topic related to student life which could also be researched in the academic literature. The topics were expressed as relationships. One example was the relationship between eating breakfast and grade point average (GPA) or overall health. They formed a main hypothesis about the relationship, for example, “Students who eat breakfast have higher GPAs.” The teacher approved each topic and general hypothesis. For homework, students were assigned to find three academic articles which related to their topic and which might be useful for their research. Each group was required to bring a laptop computer to class every week to use for data collection and writing.

The second week, students presented abstracts of their articles orally to their group members using a template to help organize their thoughts. After these

informal presentations, the students confirmed or revised their main hypothesis, based on what they had learned, and formed two or more sub-hypotheses. For example, on the theme of eating breakfast and GPA or overall health, the group formed the sub-hypotheses: “Students who regularly eat breakfast have lower Body Mass Indexes” and “Students who eat rice for breakfast have higher GPAs than those who eat bread for breakfast.” These were also teacher approved.

The third week, students created surveys similar to the Breakfast Research survey shown in Figure 1 below. The teacher circulated and made changes as needed. Each leader sent their group’s final survey form via email to the teacher before the next class.

Appendix 3. Figure 1. Breakfast Research Questionnaire and Research Permission

Breakfast Research

We are doing some research on the effects of eating breakfast. Please take a minute or two to answer the questionnaire (IN ENGLISH).

Thank you for helping us with this research.

1. Gender	Male			Female	
2. Age					
3. What year are you in university?	1	2	3	4	Other
4. How often do you eat breakfast?	Everyday	Often	Sometimes	Don't eat	
5. What kind of breakfast do you eat?	Rice	Bread	Cereal	Only Drink	Others
6. What is your BMI?	~ 16.99	17.00 ~ 18.49	18.50 ~ 24.99	25.00 ~ 29.99	30.00 ~
7. How is your GPA?	Excellent	Good	So-So	Not So Good	Bad

RESEARCH PERMISSION

Participant Release Form

I allow the use of this information for research and publication purposes. I understand that my personal data will be kept confidential.

Signature _____

Date _____

The fourth week of class, the teacher brought in a class set of each survey. Every student answered the questions on each of these surveys and returned the papers to the appropriate group. The groups tabulated the answers to each question and analyzed the data in an effort to draw conclusions. If questions appeared to be misinterpreted by respondents, groups consulted the teacher about revisions. The next homework was for each group to administer their survey to at least 30 students attending their university, but not from their class, to obtain original knowledge about their peers. Groups shared the job of conducting the surveys.

Completed surveys were brought into class the fifth week and checked for completeness. Each group worked together to tabulate, analyze and make conclusions about results. See Tables 1, 2 and 3 below.

Appendix 3. Table 1. Frequency of Eating Breakfast and Grade Results

	Excellent	Good	So-So	Not So Good	Bad
Everyday	2	6	5	7	2
Often	1	1	3	3	1
Sometimes	0	1	2	0	1
Rarely	0	0	0	0	0
Don't eat	0	2	1	3	1

Appendix 3. Table 2. Frequency of Eating Breakfast and BMI Value

	-16.99	17.00-18.49	18.50-24.99	25.00-29.99	30.00-
Everyday	1	2	17	0	2
Often	0	0	9	0	0
Sometimes	0	0	2	2	0
Rarely	0	0	0	0	0
Don't eat	0	0	6	1	0

Conclusions

Half of respondents eat breakfast every day. No one responded that they rarely ate breakfast.

The number of the students who earn not-so-good grades is the highest among breakfast eaters.

The number of the students who have 18.50-24.99 BMI is the highest among breakfast eaters.

Appendix 3. Table 3. Food Eaten for Breakfast and Grade Results

	Excellent	Good	So-So	Not So Good	Bad
Rice	1	3	4	4	1
Bread	2	5	5	4	2

The data was inconclusive. We could not find any pattern in the results.

Second Five Weeks

These five classes were devoted to writing sections of the paper, aided by templates and a research paper model. Students also rewrote sections of the paper that had been submitted during the prior week and corrected by the teacher. Some teachers chose to have students write the more difficult parts of the paper in the earlier weeks of this period.

Last Five Weeks

During class 12, the students wrote their group speech using a presentation template, to help them organization and write faster. See the model below in Figure 3.

Appendix 3. Figure 2 . Sample Template for Constructing Speech on Research Findings

Academic Speech Template on Research Results

Directions: Choose from the italicized words at the left and use those words and information from your report to complete the sentences (A through Z) at the right. This will give you sentences which you can use to make a group speech about your research findings.

- A. (Opening) (All speakers say) _____
Hello. (A)
Hello everyone.
Good morning/afternoon.
- B. (Hypothesis) (Speaker 1) _____
(Your main research hypothesis) (B)
- C. *most people believe.* That is what _____
many people assume. (C)
people think.

- D. (Article) (Speaker 2)
 (Authors of an article that Research by _____
 agrees with your hypothesis) (D. Author or authors' names)
- E. *idea* supports this _____
opinion (E)
conclusion
- F. (Group you studied, (Speaker 3)
 e.g., *Japanese students,* We wanted to know if our hypothesis
our fellow students) was true for _____
 (F. Group studied)

Thereafter, speech practice classes began with activities (reading short articles, answering questionnaires, watching videos) which focused on the students' weaker skills, such as eye contact, speaking pace, teamwork and the use of visuals. The information that the students shared about their survey results in their presentations was genuinely new for the listeners, created specifically for their edification. Students in the audience completed evaluation sheets after each speech assessing the speakers' techniques. These were handed to the teacher for screening and then given to the speakers for immediate feedback. The speeches were filmed and later reviewed during the last class.