# An Investigation into Active Learning at MIC:
## A Beginning and the Way Forward

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## Introduction

Active Learning (AL) is not a new concept, particularly to those who teach language or young learners, but it is becoming better known at the tertiary level as well. Its very familiarity can be an obstacle to its development, as different practitioners have different ideas of what AL means, which can impede communication. As part of the Acceleration Program for University Rebuild (AP) grant received by Miyazaki International College (MIC) from Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) in 2014, the Active Learning Working Group (ALWG) was charged with investigating the AL practices of MIC faculty over the next several years. In doing this, the ALWG hopes to facilitate the growth of AL by giving the MIC community a common definition, sharing practices among differing disciplines, and increasing instructors' overall teaching skills. In addition to these goals, an investigation into AL can make our mission as an institution easier to convey to stakeholders in Japan, where knowledge and practice of AL is not so widespread, particularly in university settings.

This paper describes a pilot project looking at some preferred practices of AL at MIC, how they are tied to critical thinking goals, and how they can be categorized in order to help qualify and quantify what kinds of strategies are preferred by MIC instructors.

## What is Active Learning?

The theoretical basis for AL is said to have derived from situated cognition theorists such as

Paolo Freire, who laid the foundations for critical pedagogy. Freire is perhaps most famous for his attack on what he called the "banking" concept of education, in which the student was viewed as an empty account to be filled by the teacher, which "transforms students into receiving objects. It attempts to control thinking and action, leads men and women to adjust to the world, and inhibits their creative power" (1970). The Constructivist Theory of learning that emerged in the 1970s and 80s "gave rise to the idea that learners actively construct their knowledge in interaction with the environment and though the reorganization of their mental structures" as opposed to simply being passive recipients of information. This lies in contrast to previous learning models from the 20th century: Behaviorism and Cognitive Psychology. Under Jean Piaget's Constructivism, knowledge is thought to be constructed rather than acquired. Adding on to this model to create Socio-constructivism, such theorists as Vygotsky, and Rogoff and Lave developed this idea to suggest that learning does not happen in isolation from the environment and students' interaction with it (UNESCO, 2016).

According to a theory of learning called Constructionism, the interests and capabilities of young people differ based on their stage of development. Constructionism was built on Piaget's work by Seymour Papert and "focuses more on the art of learning, or 'learning to learn', and on the significance of making things in learning" (Ackermann, 2011). Currently, both Constructivist and Constructionist views on learning perhaps best reflect the way we understand how people learn and grow, and both of these models are intrinsically linked to AL.

Although most people involved in education have some intuitive idea of what AL is, it is surprisingly difficult to find a generally accepted definition. In 1991, Bonwell and Eison claimed that there was no common definition of AL (p.18), and Drew and Mackie made the same claim in 2011. The problem may have to do with delimiting the meaning of "active" in this context. Some practitioners may claim that if learning is taking place, a teaching strategy

can be considered active (Bonwell & Eison 1991, p.18), which would mean that all learning is a form of active learning. AL is sometimes contrasted with lecturing (e.g. Weimer, 2015), and yet there are quite a few ways of lecturing actively (e.g. Bean, 2001).

A useful definition can be found in Prince (2004): "Active learning is generally defined as any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing." Boswell and Eison (1991) give more detail: "Students are involved in more than listening. Less emphasis is placed on transmitting information and more on developing students' skills. Students are involved in higher-order thinking (analysis, synthesis, evaluation). Students are engaged in activities (e.g., reading, discussing, writing). Greater emphasis is placed on students' exploration of their own attitudes and values." This view is reiterated in Fern et al.: "Essential to the AL approach is the view of the learner as responsible for discovering, constructing, and creating something new and the view of the teacher as a resource and facilitator" (1994). As the goal of this project is to discover as much as possible about AL at MIC and its relationship with critical thinking, these are the definitions we used when listing and describing AL activities.

AL accompanied a paradigm shift, from seeing students as *tabulae rasae* who could be motivated by extrinsic rewards such as grades, to regarding them as co-creators of their own learning who could be motivated intrinsically by the pleasure of learning itself. Along with this we have changed our view of instruction, from the proverbial 'sage on the stage' to the 'guide on the side' (Johnson, Johnson, & Smith, 1991). In his look at Eric Mazur's advocacy for AL at Harvard University, Lambert notes that, "active learning overthrows the 'transfer of information' model of instruction, which casts the student as a dry sponge who passively absorbs facts and ideas from a teacher" (2012, para. 16). A key feature of AL is learner autonomy and the learner's use of higher-order thinking skills, rather than what the instructor

or students might be doing or how "active" they are to an observer.

A further question concerns the effectiveness of AL. Most of the work on this issue seems to have been done in the hard sciences, and AL has been shown to be generally effective in those fields (Prince, 2004; Freeman et al., 2014). AL is not known so well in Japan as it is in the West, although MEXT called for more active classrooms as early as 1997. However, instructors are beginning to introduce it in tertiary classrooms in Japan, and it has been found to be effective (again, in the hard sciences) here as well (Ito & Kawazoe, 2015).

**Active Learning at MIC**

AL is an explicit part of the institutional identity of MIC. It was one of the founding principles of the College, and MIC took a leadership role in promoting AL at a time when it was not widely practiced in Japan in non-language courses. In 1999 a group of faculty guest-edited and authored several articles in The Language Teacher, the practical journal of the Japan Association for Language Teaching (JALT) on AL (Isbell et al., 1999). Today, it is still mentioned in our public relations materials as being the "core of our academic program." The idea of AL informs our personnel and budgeting decisions as well as faculty development. Although MIC instructors come from disparate backgrounds and teach a variety of subjects, AL is common to all of our classrooms.

**Research Questions and Method**

The initial research questions for this pilot project by the ALWG were as follows:

    What are preferred practices for AL at MIC?

    What is the connection between AL and critical thinking?

    What is the connection between AL and discipline?

The remainder of this article describes the first part of the project, which addressed the first of these questions, and gives some preliminary results.

The ALWG at MIC compiled and defined a list that came to over 35 concepts that the group chose to define as "Active Learning Teaching Strategies," hereafter referred to as ALTSs. These strategies were compiled from lists of activities used by three large universities in the US: the University of Michigan, the University of Minnesota, and the University of North Carolina at Chapel Hill. This list served as a foundation for the creation of terminology to describe AL in MIC classes. Terms were renamed, redefined, and amended as group members talked informally with other MIC faculty in the preliminary research stages of the AP Grant period. The ALWG wanted to first determine what types of AL were actually taking place at MIC on a regular basis, as well as what strategies were being used at other institutions.

In 2015, the ALWG began to observe classes and interview instructors. Fifteen classes were observed that year. The ALTSs observed in the classroom were listed on the observer's notes. While many of these observed ALTSs were consistent with the list the ALWG had created, new strategies were also observed, and these were added to the list. Teachers were also surveyed and asked to identify strategies from our list that they often used (see appendix). In each interview, the ALWG member and the instructor first reached a shared understanding of the ALTSs that were used and the terminology used to define it. The instructor was then asked about other ALTSs used in class and asked to choose the ones they generally prefer. After this, the instructor was asked to identify critical thinking goals for the class, using Bloom's Taxonomy. The results were used to modify the ALWG's list of teaching strategies.

**A Matrix for Understanding Active Learning**

One challenge encountered with creating a list of ALTSs, regardless of its comprehensiveness, was creating terminology that was not only clear but also consistently as narrow or broad as other terms on the list. For example, two ALTSs that frequently came up in the literature included experiential learning and learning though hands-on technology. While these terms are clear, they embody such a broad range of potential sub-strategies that the terms are too encompassing to be potentially useful for comparison with other strategies. In essence, these popular terms are umbrella concepts for a sub-category of ALTSs that the group was keen to use on the MIC list. While it is predicted that most strategies will indeed overlap in any instructor's AL teaching arsenal, and while it is likely that instructors will use the strategies in different ways, the ALWG deemed it desirable to create concepts and terms that were distinct enough from one another to be useful in defining and explaining ALTSs.

In order to show the broad range of class activities that are encompassed in AL, the ALWG next faced the task of organizing the ALTSs. Depending on how they are defined, there are probably hundreds and possibly thousands of different ALTSs. Even if the ALWG at MIC only uses a fraction of this potential number in the AP Grant project, the thinking behind organizing the strategies is still justified, as doing so enables understanding of how the ALTSs differ from each other, and the extent to which different strategies are employed at MIC.

A common misconception about AL is that it inherently appears "active," meaning there is an expectation that students engaged in AL display physical movement or at the very least are engaged in oral communication of some sort. In reality, AL may also refer to something as unassuming as quiet, introspective refection on subject matter presented in class. Likewise, as mentioned before, listening to lectures can be classified as AL if students are required by teachers to engage in some way with what they are listening to.

Recognizing that AL includes more than learning through physical activity and interpersonal communication, the ALWG plotted ALTs on a spectrum ranging from what we termed inward to outward. This was done in order to distinguish between intrapersonal and interpersonal ALTSs. ALTSs on the MIC list were initially categorized as one or the other.

> OUTWARD: ALTSs that employ interpersonal strategies (communicative involvement with others, mostly oral)

> INWARD: ALTSs that employ intrapersonal strategies (reflective, mostly written, mostly individual)

Perhaps unsurprisingly, most ALTSs lie near the outward side of this construct; however, a number of strategies exist that lie more toward the inward side.

Having defined the strategies as either inward or outward, the ALGW then went through all items on the list and made notes on what other factors or characteristics differentiated one strategy from the other, including desired outcome, methodology, time frame, and output channel (speaking or writing, for example). This resulted in the idea for the following additional spectrum:

> PREPARED: ALTSs allotted longer preparation or rehearsal time and involving presentation to an audience and/or submitting work

> EXTEMPORANEOUS: ALTSs of a more impromptu nature, often in pairs or small groups

The ALWG soon realized that these two spectra together could form a two-dimensional matrix, which would allow the plotting of ALTSs as inward and outward, and as prepared or extemporaneous. All but two of the compiled ALTSs fit to some degreee into one of the four quadrants, showing that ALTSs can be grouped in terms of two categorical definitions. By mapping the ALTSs onto this matrix, conclusions may be drawn about MIC-preferred ALTSs,

or about which type of strategy might be appropriate for a certain critical thinking goal or a certain discipline. Claims of this nature cannot be substantiated at this time, however.

Examples of common ALTSs in each of the four categories of the matrix can been seen as plotted below, and a more extensive categorized list of the strategies compiled to date at MIC can be found in the appendix.
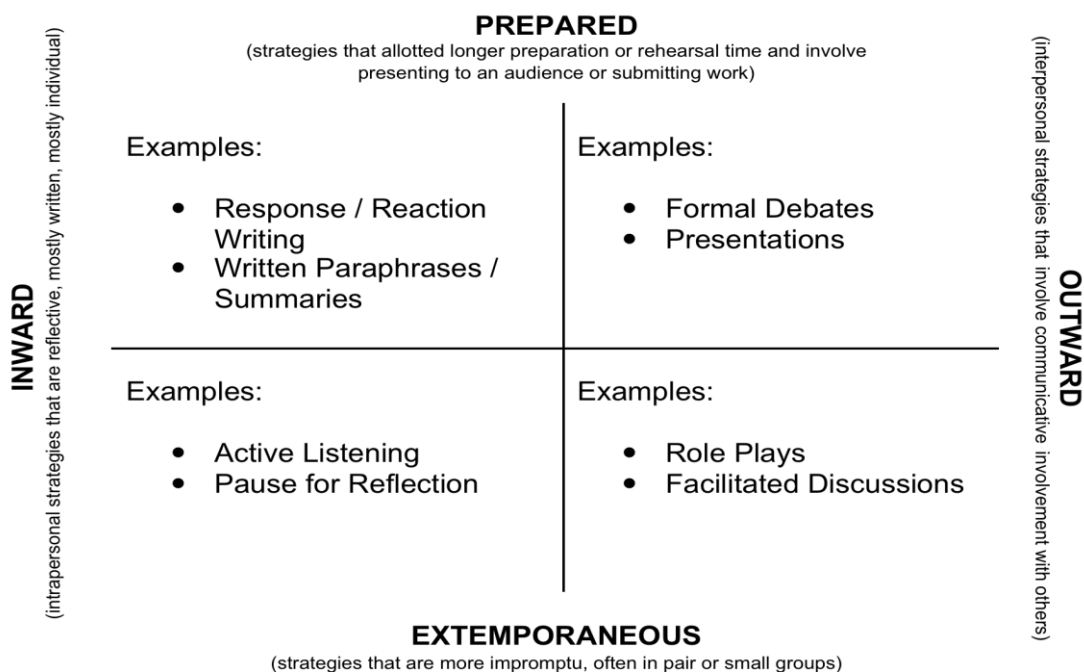


It is worth noting that a class activity or set of activities may involve a combination of ALTSs from different quadrants in this matrix. For example, after a facilitated small group discussion, students may be required to summarize the results of their discussion on paper as homework. This involves movement from the outward-extemporaneous quadrant (small-group discussions) to the inward-prepared quadrant (written summaries). It should also be pointed out that, as with AL itself (Bonwell & Eison, 1991) the axes of the matrix should be understood as continua. Items in the "prepared" half of the matrix, for example, might range from a presentation prepared in a few hours to a senior thesis that took 18 months to research and write. It is tempting to try to map these activities onto the matrix with activities taking less preparation time placed more toward the center. However, since the ways in which the

ALTSs are actually practiced might differ to a large degree from instructor to instructor, accuracy in plotting ALTSs onto the matrix is unlikely.

**Preliminary Results**

It was found that MIC instructors use a wide variety of strategies. Small-group discussions, jigsaw speaking, interactive lectures, and think/pair (or group)/share appear to be the most often used thus far in our research. In addition, there were many unique activities that do not seem to fit on the list in its current form, and as a consequence, the list and the matrix are slowly being revised.

One observation is that so far all of the ALTSs used at MIC fall into the outward (interpersonal) half of the quadrant. A reason for this may be that instructors are taking advantage of limited class time to use more interactive strategies, instead of the intrapersonal ones that can be done at home. Another reason could be that MIC classes are held in English, and faculty who are more focused on language issues may tend to prefer use of interactive activities. A further reason may be that instructors understand AL in a limited sense – as confined to physical or orally communicative activities – and therefore are less likely to report inward ALTSs that may take place in their classes.

As for the question of the relation between critical thinking goals and AL, the results are still murky. One source of trouble is that Bloom's Taxonomy was used to prompt instructors when they were asked about their critical thinking goals for the class. Teachers overwhelmingly selected "application" as the critical thinking skill that they had in mind for the class. It may be that Bloom's Taxonomy is too broad to allow us to categorize goals for our classes; more specificity would offer more variance. Another result found was that while all the instructors valued critical thinking and had specific critical thinking goals for the course as a whole, the

reason they had chosen a particular teaching strategy appeared often to have had more to do with their own or the class's enjoyment, ease of use, or things like time constraints. While critical thinking goals can usually be "retrofitted" to the chosen AL teaching strategy, it is more difficult in this case to delineate certain activities which are suitable for certain goals, and the ALWG came to the conclusion that it is unlikely that critical thinking goals were being kept in mind by most instructors when creating class activities.

**The Way Forward**

The ALWG has several tasks ahead of it. The first is to collect more data from colleagues in order to add to and refine its list of ALTSs. It is possible that some items not being used at MIC will be dropped from the list as well. More interview and classroom data will also help to confirm our ideas for categorizing the teaching strategies using the matrix.

In order to further clarify the relationship between critical thinking goals and ALTSs, MIC has begun to pilot the use of the Critical Thinking Assessment Test (CAT), created by Tennessee Technological State University with support from the National Science Foundation (NSF). The CAT lists critical thinking goals more specific than those from Bloom's Taxonomy. These can help instructors narrow their focus in selecting AL teaching strategies for a class, and may help the ALWG postulate a clearer connection between critical thinking goals and AL activities. The CAT also offers a method of assessment that would allow us to see if we have been successful in achieving our critical thinking goals.

It is hoped that the matrix can be of heuristic use to the MIC community in several ways. For instance, it could be used in learner training, to help students to understand the reasons that they are being asked to do certain activities in class, as well as for faculty development. It would also allow faculty to become familiar with the breadth of ALTSs, which would make it

easier to plan classes and communicate their ideas with peers. Instructors could also use the

matrix to plot their own classes, to observe for themselves the breadth of different ALTSs

they use.

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**Appendix**

**List of ALTSs Categorized into MIC's Heuristic Matrix**

**OUTWARD** (interpersonal activities that involve communicative involvement with others)

**INWARD** (intrapersonal activities that are reflective, mostly written, mostly individual)

**PREPARED** (activities that allotted longer preparation or rehearsal time and involve presenting to an audience and/or submitting work)

**EXTEMPORANEOUS** (activities that are more impromptu, often in pair or small groups)

**Category 1. OUTWARD-EXTEMPORANEOUS**

Interactive Lectures

This is lecturing by the instructor that involves the students frequently asking questions, being required by the instructor to clarify, offer opinions, and offer views on the material being delivered.

Facilitated Discussions

These are student-lead discussions in which one student acts as the facilitator and the other students participate based on explicit instructions and guidance with regard to their assigned or chosen roles.

Free Discussions

Students are given open or allotted time in class to discuss a particular issue, passage, etc. They are not assigned roles so it is up to group members to decide what participants' roles should be, if any.

Case Studies

Students investigate a case that is presented to them by the instructor and try to draw conclusions and interpretations that would illustrate preferred practices.

Role Plays

Students play / act out roles in short dramatic presentations. They typically script out language they will use and rehearse the roles (often in class) prior to performing them in front of others.

Impromptu Skits

Students are called upon in an impromptu fashion to act out a scene using appropriate language patterns and expressions.

Jigsaw Activities

Students have different information and have to communicate to convey the information to each other in order to finish the task. Students could also be involved in discussions in one group and then migrate to different groups to report on their previous discourse.

Oral Paraphrases / Summaries

Students orally paraphrase or restate the main points of a passage in their own words.

Informal Debates

Students argue for or against an issue in a less-structured format. They are usually not given time outside of class to prepare, do not have set speaking and rebuttal time limitations, and may often pick their own sides to defend.

Group Work on Questions

Students work on questions in a group wherein cooperation is encouraged.

Think-Pair-Share and Think-Group-Share

Students share opinions/answers/solutions etc. with a partner or group and perhaps then share consolidated content will a larger group or the whole class.

Oral Peer Review of Written Work

Occurring typically after Written Peer Review of Written Work, students discuss the work and assessment with their partners or group members.

**Category 2. OUTWARD-PREPARED**

Skits

Students act out prescribed encounters with one or more other students in front of class, working with fixed language patterns and expressions if language is (part of) the goal. Time is typically given for rehearsal outside of class time.

Dramatic Productions

Students develop, write, and act out dramatic productions that can involve multiple scenes. They have ample time to rehearse and the productions can consist of a cast from one to about ten people. They are generally longer in duration than skits.

Acting Scenes from Novels

Students take a scene from a text and develop, write, and act out a dramatic reproduction of the scene.

Formal Debates

Students argue for or against an issue in a structured way and are given time to prepare

(typically outside of class) and have set times for speaking and rebuttal.

## Presentations

Students present content individually or as a group to the whole class or to smaller groups. The content of their presentation could be prepared on their own or in cooperation with co-presenters of typically three to five people. Presentations may or may not include visuals, such as posters or slides.

## Reverse Presentations

Individuals or small groups prepare content as they would for regular presentations, but instead of presenting to classmates, the onus is on the classmates to solicit information from the presenters by asking questions. Presenters may be required to solicit these questions to a certain degree.

## Panel Discussions

A group of students deemed more knowledgeable about a specific issue or topic gathers to discuss a topic in front of an audience, typically their peers. Students ask questions or react to the views and opinions of other panel members.

## Creative Recitations

Individually or in groups, students recite poetry or other creative writing without having memorized it word for word to the whole class or to smaller groups.

## Surveys / Interviews

Students prepare questions and do field work for the purpose of data collection for a larger project.

Peer Teaching

Individually or in groups, students prepare a session (presented to the whole class or in groups) wherein they take the traditional role of the teacher, whether it be to simply impart information in an engaging way or to lead a workshop or other form of lesson. These sessions can be teacher-structured (wherein the teacher supplies a premade PPT presentation, for example) or completely open.

## Category 3. INWARD-EXTEMPORANEOUS

Written Peer Review of Written Work

Students share their written assignments – typically essays – and offer advice to each other. They could use peer assessment sheets designed by instructors or students. The sheets are filled out and returned to the writers.

Pause for Reflection

Teachers allow time in class for students to think and reflect upon presented or read materials, or simply allow time to formulate an opinion.

Active Listening

When presented with a recorded listening passage in class (or outside class) that is typically challenging to comprehend, students are instructed to listen for key words or for meaning. Through replay of the listening passages students gradually construct the fuller, more complete meaning.

Close Reading

Students read and think deeply to go beyond surface features of a text in order to interpret meaning (useful in poetry).

Symbolized Paraphrases / Summaries

Students paraphrase or restate the main points of a passage or lecture using some form of symbolism, whether through pictures, graphs, charts, or any form of expression outside language.

## Category 4. INWARD-PREPARED

Creative Writing

This form of writing emphasizes narrative craft, character development, and the use of literary devices to allow students to express their thoughts and emotions.

Self-Assessment

Students make judgments about the quality of their performance in relation to course standards created by the teacher. However, those standards can also be created in whole or in part by the students (Student-Created Self-Assessment Criteria).

Written Paraphrases / Summaries

Students paraphrase or restate the main points of a passage in their own words in written form.

Response / Reaction Writing

Students write their opinion about a passage or passages. This usually follows a summary they have written.

Feedback Survey / Report

Midway or several times per semester students are asked to supply open-ended feedback on

the class, including what activities they enjoy or do not enjoy, what they find effective or ineffective, and what kinds of behaviors, lessons, activities etc. they would like to see in and out of class to help their learning.

Journal Writing

Students regularly write on various topics – possibly their reactions to class or homework content, their study strategies, their successes and failures, etc. Journals typically require less research than term or research papers, and instructors may chose to give feedback, edit, or evaluate. Typically, however, grades are not awarded and grammar is not checked, as many times the objective is the development of writing fluency.

Senior Thesis

Students read and research in detail, formulate a thesis or hypotheses, formulate research questions, plan an outline, and go through the cycles of writing, editing, and revising under the guidance of their senior thesis advisor and second reader.

**INWARD/OUTWARD-PREPARED/EXTEMPORANEOUS (potentially in ALL 4 Categories on MIC's Heuristic Matrix)**

Student-Created Self-Assessment Criteria

Self-assessment involves varies degrees of student participation in making decisions about the standards of performance expected in a particular course.

Cooperative Student Projects

Students work together sometimes doing different tasks to complete a project which could be upon completion presented as a presentation, report, essay, scrapbook, website / webpage, or some other format.

Simulations & Experiments

Students apply knowledge they have learned to a real-life simulation, such as Geo-caching for applying knowledge of latitude and longitude. Simulation may be also used before a lecture or discussion as a method of teaching new information. Examples are intercultural simulations such as Barnga and An Alien Among Us for learning cultural norms and adaptation. Teamwork can be practiced through simulations such as Rocket, and experiments like the Egg Protection Project.