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Rethinking active learning in the context of Japanese higher education

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Abstract: This paper reconsiders active learning (AL) in the context of Japanese higher education. AL encourages students to actively engage with learning, enhancing their generic and employability skills. In Japan, AL has become increasingly popular but lacks a clear definition. AL proponents suggest that it is the use of instructional methods that encourage cooperative learning (CL) and problem/project-based (PBL) learning approaches, without established learning contents and goals. CL and/or PBL used alone may not enhance students' learning. I argue that AL should be viewed as one approach contributing toward a pedagogical methodology, rather than a collection of methods. The term *proactive learning* may be a more precise descriptor of this approach. Using the word proactive may help Japanese university instructors to: (1) Avoid misunderstanding of AL as physical activity; (2) Divert their attention from specific methods to a broader methodology; and (3) Refocus on the ultimate purpose of using AL.

Subjects: Social Sciences; Economics, Finance, Business & Industry; Educational

Keywords: active learning; higher education; employability; pedagogy; Japan

1. Introduction
The term active learning (AL) has only recently been used in Japan. According to Mizokami (2014), AL started attracting attention in Japanese higher education around 2010. He explains that the

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Hiroshi Ito is a professor in Economics at the Nagoya University of Commerce and Business (NUCB). He received his MA from Teachers College, Columbia University, PhD from the University of California, Los Angeles (UCLA), MBA from the Université Paris I Pantheon-Sorbonne. Before coming to NUCB, he had worked as an education expert for UNESCO (France). He also worked for UNICEF (the Philippines), JICA (Ecuador & Paraguay), an educational NGO (Guatemala), and an educational service company (USA).

His research interests include pedagogy and educational assessment. He has been involved in the national project entitled "Improving Higher Education for Industrial Needs" emphasizing the importance of active learning and published several articles in peer-reviewed journals. He is concerned that the term active learning is not defined well in Japan. The current article addresses this issue by articulating why the term is not well understood in Japan and proposing possible solutions.

PUBLIC INTEREST STATEMENT
This article explains what people think of active learning in Japanese universities. Active learning is said to help students with learning and is becoming very popular all around the world, including Japan. However, active learning does not have a clear definition, at least in Japan. Active learning seems to be regarded as only teaching techniques like cooperative learning (groups work learning) and problem-solving learning. Yet, active learning is a learning framework that goes beyond teaching techniques. Because active learning is a new and complex concept in Japan, many Japanese educators seem confused with the term. In Japan, "active learning" has been implemented to develop generic and employability skills, and to create innovative human resources. I therefore suggest using the term "proactive learning" in this article because active learning intends to promote "changes through action" rather than only "involvement in activities."

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importance of AL was emphasized in the 2012 comprehensive report *Qualitative Transformation of Undergraduate Education* of the Central Council for Education and in the 2012–2015 national project entitled "Improving Higher Education for Industrial Needs" (IHEIN) funded by the Ministry of Education, Culture, Sports, Science, and Technology (MEXT). The use of AL in these high-level documents contributed to the spread of the term throughout Japanese higher education.

The Central Council for Education (2012), an advisory board for MEXT, claims that unlike traditional didactic lectures, AL is a type of learning where students actively learn through various instructional methods such as collaborative learning (CL) and problem/project-based learning (PBL) to develop generic skills. These skills include critical thinking, analytical reasoning, problem-solving, and writing (Arum & Roksa, 2012) that serve to develop employability (Ito, 2014). The Central Council for Education has not provided any further definitions of AL and these generic skills beyond mentioning that they are cognitive, ethical, social, and life skills.

One of the main purposes of IHEIN was to identify industrial needs and to help develop university students' employability through AL. There has been growing concern about a mismatch between the skill sets of graduates and what industry seeks (Ito & Kawazoe, 2015). AL thus emerged as a response to economic demands (Drew & Mackie, 2011). It is considered to encourage students to actively engage with their learning (Biggs & Tang, 2007; Nagata & Hayashi, 2016) and develop generic skills linked to employability and industrial needs (Healey, Pawson, & Solem, 2012; Kawaijuku, 2011; Kember & Leung, 2005; Nakai, 2015; Power, 2012). The author of this article was involved in IHEIN and participated in meetings, seminars, and activities where "AL experts" gave lectures on its application. Until recently, however, the vast majority of Japanese university instructors, including education scholars, had not heard the term. Amazon Japan (2016), for example, notes that over 90% of books about AL were published between 2015 and 2016.

As pointed out by scholars such as Nishikawa (2015) and Sunaga (2010), in Japan, AL is often regarded as the mere use of instructional methods such as CL and PBL. Perez, Garcia, Muñez, Alonso, and Puche (2010) define CL as an instructional method in which a "small group of students work together to maximize their own and each other's learning" (p. 1) PBL involves students analyzing and solving problems in a socially interactive environment (Gokhan, 2013). It should be noted that there are many more instructional methods that can be used for AL, apart from CL and PBL, e.g. flipped classrooms and case studies. For convenience, however, in this paper we refer mainly to CL and PBL as representatives of instructional methods for AL. Although instructional methods such as CL and PBL can constitute elements of AL, the use of these methods per se is not AL.

The lack of understanding of the concept of AL has led to a range of issues. Nakai (2015), for example, notes that Japanese university instructors complain that their students participate in activities such as group discussions or projects, but they do not learn the contents. He suggests that this is common in Japanese higher education because university instructors do not fully understand what AL is. Tsuchimochi (2016) also notes that Japanese university instructors follow the trend of employing AL approaches and tend to be under the impression that the implementation of AL itself is the ultimate goal of higher education.

With this in mind, this paper reconsiders AL, particularly, but not exclusively in the context of Japanese higher education. To define AL, the term learning needs to be defined first. Therefore, this paper begins with a description of learning itself. Next, I define AL and elaborate on its components. The paper then discusses issues surrounding AL. I conclude with a suggestion that the term "proactive learning" fits better with the definition of AL.

2. What is learning?

Text mining of the definitions of "learning" made by several well-known dictionaries (i.e. Cambridge Advanced Learner's Dictionary 2013, 4th edition; Collins Cobuild Advanced Dictionary 2013, 7th edition, Longman Dictionary of Contemporary English 2009, 5th edition, Macmillan English Dictionary

Figure 1. The learning pyramid indicating average percentage of information retained in different learning activities.

Note: Constructed by the author based on National Training Laboratories.
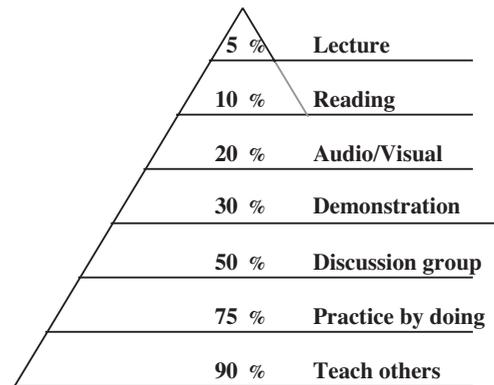
for Advanced Learners 2006, 5th edition; Oxford Advanced Learner's Dictionary 2015, 8th edition) reveals that learning can be summarized as "gaining new knowledge and skill through studying and experience." The frequent citation of the learning pyramid (Figure 1) illustrates that learning is often considered in terms of knowledge acquisition and retention.

The learning pyramid suggests that on average students retain only 5% of information presented to them in lectures. Retention rate increases to 50% and higher through group discussion, practice by doing, and teaching others. As AL often involves these methods, it has received considerable attention because of its potential to help students retain knowledge (Gokhan, 2013; Hopper, 2014; Joyce, 1999; Okano & Ishikawa, 2013; Prince, 2004; Sugiyama & Tsuji, 2014; Swaray, 2012; Taniguchi, 2013; Tomono, 2013).[1]

Many scholars argue that learning is not merely memorizing knowledge but also involves constructing new knowledge (Azer, Guerrero, & Walsh, 2013; Black, McCormick, James, & Pedder, 2006; Deakin Crick, 2007; Ford, 2010; Mullen, 2012; Revell & Wainwright, 2009; Smart, Witt, & Scott, 2012). According to Black et al. (2006), learning is "knowledge construction that learners have to undertake for themselves" (p. 124). Illeris (2014) describes knowledge construction as "change or restructuring of already acquired content" (p. 579).

In many learning theories, knowledge retention is considered to be associated with surface learning (Alexander, Schallert, & Reynolds, 2009; Azer et al., 2013; Clare, 2007; Deakin Crick, 2007; Hand, Sanderson, & O'Neil, 1996; Wilson & Colby, 2007), whereas knowledge construction is deep learning (Alexander et al., 2009; Azer et al., 2013; Chi & Wylie, 2014; Deakin Crick, 2007; Laverie, 2006; Peters, 2011; Snyder, 2003).

Text mining the descriptions of surface learning by several scholars suggests that surface learning can be summarized as follows: "learning to memorize/reproduce facts without understanding the subject" (Alexander et al., 2009; Beattie, Collins, & McInnes, 1997; Clare, 2007; Hand et al., 1996; Kawaijuku, 2011). In contrast, deep learning means "to understand, create, and construct personalized knowledge and meaning" (Beattie et al., 1997; Clare, 2007; Hand et al., 1996; Kawaijuku, 2011; Tangney, 2014; Wilson & Colby, 2007). Turner and Baskerville (2013) argue that "unless students experience deep learning, it is unlikely that they will develop capabilities in areas such as critical thinking, creative thinking, problem-solving, communication, and teamwork" (p. 582).

Some scholars question the tendency to regard deep learning as superior to surface learning. Beattie et al. (1997) find it "unrealistic to assume that a deep approach to learning is universally desirable, since it may be necessary, given the nature of the knowledge to be acquired, to adopt a surface approach" (p. 1) The idea that surface learning is a prerequisite to foster deep learning is labeled as a strategic learning approach (Beattie et al., 1997; Ramsden, 1992), which requires both surface and deep strategies depending on the learning and/or assessment situation faced (Hand et al., 1996).

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Figure 2. Engagement modes and levels of deep-active learning.

Note: Darker shades of gray represent deeper learning, and lighter shades of gray (or white) represent more shallow learning.

Mode/Level	Motivation	Behavioral	Emotional	Cognitive
Interactive				
Constructive				
Active				
Passive				

If learning consists of both knowledge acquisition and knowledge construction, both surface and deep learning should form significant parts of learning. Yet, the use of AL is often discussed in the context of enhancing deep learning. The following sections attempt to define AL and examine whether and/or how AL can help enhance (deeper) learning by explaining different levels and modes of engagement essential to AL.

3. What is AL?

According to Bonwell and Eison (1991), AL meets these five conditions:

(a) Students are involved in more than listening.

(b) Less emphasis is placed on transmitting information and more on developing students' skills.

(c) Students are involved in higher order thinking (i.e. analysis, synthesis, evaluation).

(d) Students are engaged in activities (e.g. reading, discussing, writing).

(e) Greater emphasis is placed on students' exploration of their own attitudes and values.

Bonwell and Eison (1991) define AL as "anything that involves students in doing things and thinking about the things they are doing" (p. 2). This goes beyond simple involvement in activities (Barkley, 2009; Bromley, 2013; Chi & Wylie, 2014; Drew & Mackie, 2011; Fink, 2003; Ford, 2010; Graeff, 2010; Matsushita, 2015; McQueen & Webber, 2013; Ní Raghallaigh & Cunniffe, 2013; Oros, 2007; Prince, 2004; Revell & Wainwright, 2009; Smart et al., 2012; Zepke, 2014). Mullen (2012), for example, states that AL seeks to engage students in the learning process through active tasks such as CL and PBL. Revell and Wainwright (2009) also suggest that, in AL, students are actively engaged in the learning process. Edgerton describes AL as "pedagogies of engagement" (cited in Smith, Sheppard, Johnson, & Johnson, 2005, p. 87).

According to Chi and Wylie (2014), student engagement can be considered from various perspectives (i.e. motivational, behavioral, emotional, and cognitive) at different levels or modes of AL (i.e. passive, active, constructive, and interactive).

Motivation refers to precursor attitude/interest in learning contents. As Barkley (2009) explains, engagement is rooted in motivation. Motivation develops into cognitive engagement, which positively influences learning through behavioral and emotional engagement (Lee, 2014).

Behavioral engagement refers to the notion of participation, effort, and investment in tasks (Gibbs & Poskitt, 2010). Student participation can be defined as asking questions, making comments, and discussing with instructors and/or peers in class activities (Dancer & Kamvounias, 2005; Lee, 2005; Turner & Patrick, 2004). Hsieh (2014) argues for the significance of active participation and interactions with instructors in student engagement.

Emotional engagement is considered to influence academic performance through behavioral engagement. Emotional engagement refers to the relationships between teachers and peers (Chi & Wylie, 2014), and a sense of belonging (Wimpenny & Savin-Baden, 2013). Emotionally stimulating learning experiences are essential to the notion of co-production that supports genuine engagement (Carey, 2013).

Cognitive engagement is defined as the amount of effort and type of processing strategies used for learning. Achievement goals, self-regulation, perceived instrumentality, and, again, a sense of belonging are factors associated with cognitive engagement.

Cognitive engagement is influenced by the achievement goals, comprising mastery and performance goals. Mastery goals aim to increase competence related to task mastery while performance goals involve competence relative to others (Smiley & Anderson, 2011). Self-regulation is the cyclical process of working toward a goal rather than a once-off effort for achieving goals (Gibbs & Poskitt, 2010; Ravindran, Greene, & Debacker, 2005). The concept of perceived instrumentality refers to student recognition of the importance of learning toward achieving future personal goals (Creten, Lens, & Simons, 2001; Sedaghat, Abedin, Hejazi, & Hassanabadi, 2011). Sense of belonging is an aspect of both cognitive and emotional engagement, and a mediator of motivation and achievement (Akiva, Cortina, Eccles, & Smith, 2013).

These levels and modes of engagement are interrelated: motivation is the beginning and base of engagement, and both behavioral and emotional engagements are prerequisites for cognitive engagement (Gibbs & Poskitt, 2010). Deep learning arguably takes place in the cognitive engagement stage. When students are cognitively engaged, they construct meaning and produce knowledge (Newmann & Wehlage, 1993). Indeed, research shows a positive relationship between cognitive engagement and deep learning (Ravindran, Greene, & Debacker, 2005).

Likewise, according to Chi and Wylie (2014) whose research examines relationships between engagement and AL outcomes, there are different modes of engagement. Graded from high to low levels, these include the interactive, constructive, active, and passive modes (ICAP) with the higher levels implying learning with deeper understanding. The *passive* mode of engagement refers to listening to a lecture with attention and perhaps interest but without doing anything else. Chi and Wylie (2014) include reading texts silently or aloud unless "students read some parts of the passages with greater emphasis" (p. 222). The *active* mode of engagement refers to learners' engagement with instructional materials that "can be operationalized as active if some form of overt motoric action or physical manipulation is undertaken" (Chi & Wylie, 2014, p. 221). This means repeating and rehearsing materials, copying solution steps, and taking verbatim notes (Chi & Wylie, 2014). The *constructive* mode of engagement encourages learners to actively construct knowledge and demonstrate externalized outputs or products. Chi and Wylie (2014) include reflecting out-loud, drawing concept maps, and asking questions. The *interactive* mode of engagement refers to interpersonal activities (e.g. discussions, dialogues) that meet two criteria: "(a) both partners' utterances must be primarily constructive, and (b) a sufficient degree of turn taking must occur ... each person of the group contributes constructively" (Chi & Wylie, 2014, p. 223).

It is noteworthy that the *passive* and *active* modes of engagement are ranked lower than the *constructive* or *interactive* modes in terms of the depth of understanding content. Also, learning depth varies according to the level of engagement (i.e. cognitive, emotional, behavioral). That is, AL is multidimensional and can include deep or surface learning (Martin, 2007).

AL is generally believed to help students "go beyond reproductive, surface learning to deeper levels of analysis and personalized sense-making" (Clare, 2007, p. 437). This type of AL may be called active-deep learning (Hand et al., 1996) or deep-active learning (Matsushita, 2015). Considering its characteristics, active-deep learning lies in the constructive–interactive engagement stage (Grauerholz, 2001) within the ICAP framework (Chi & Wylie, 2014) and at the cognitive engagement level (Newmann & Wehlage, 1993) (Figure 2).

Yet, AL can also include surface learning in the passive–active mode at the behavioral and emotional levels. With this in mind, the following may be considered a definition of AL from an instructor's standpoint: AL is a pedagogy that encourages students to be actively engaged in learning, regardless of the types of instructional methods used. Yet, AL does not include terms such as

pedagogy or teaching in part because the educational paradigm is shifting from teaching to facilitation of learning (Mizokami, 2014; Tsuchimochi, 2016) and AL "conveys the idea that learners possess important knowledge and understanding already, prior to engaging in explicitly educational activity, and that education is about sharing the different knowledge and understandings of both learners and educators" (Kane, 2004, p. 277). From a learner's perspective: If learning occurs with any modes and levels of engagement, including surface learning, it can be considered AL, again, regardless of types of instructional methods used.

In Japanese higher education, however, AL is often identified as the mere use of instructional methods. When it comes to AL, Nishikawa (2015) argues that teachers tend to only think of what methods to use without establishing learning contents and goals. This tendency fails to regard AL as a pedagogical *methodology* that serves to design course contents with learning goals in mind (Kane, 2004).

3.1. AL as a pedagogical methodology
Use of the word "methodology" implies more than simply methods. Pedagogical methodology is a design or action planning (Harrison, 2010) or a framework of teaching and learning. Nagata and Hayashi (2016) consider AL as the entire process of learning within an educational program that involves analyses and assessments through reading and writing, group discussion, and problem-solving activities.

Instructional approaches, such as CL and PBL, are *methods* that can include elements of AL (Graeff, 2010). However, they do not constitute a methodology in isolation. An analogy from research is to consider, for instance, ethnography. Ethnography is a research methodology. Interviews and surveys can be ethnographic methods, but using them per se is not ethnography. Likewise, AL is a pedagogical methodology. CL and PBL can be AL methods, but using them is not AL. The following sections examine why AL may not be well understood and how its perception needs to change in Japanese higher education.

3.2. AL as a new concept
Mizokami (2014) notes that AL started gaining recognition in Japanese higher education around 2010. It is thus a new concept for Japanese university instructors. In 2012, the Central Council for Education reported AL as a type of learning where students actively learn through various instructional methods such as CL and PBL to develop generic skills. Because the Central Council for Education did not provide further definitions of AL, Japanese university instructors believe that using CL and/or PBL per se is AL. This notion is further reinforced, in part, by the AL literature. The 2012–2015 IHEIN, a national project funded by MEXT, contributed to the spread of the term AL, but also failed to define and clarify what AL really means.

Aside from a few opportunities (e.g. Japan Association for College and University Education, Center of Studies of Higher Education and the Center for Promotion of Excellence in Higher Education), Japanese university instructors have limited avenues for interactive engagement and elaboration regarding AL. The majority of university instructors are not educated as education scholars, but are discipline-specific experts (e.g. in accounting, social work, statistics, marketing, business, health science, and political science). Many Japanese university instructors consider AL a set of instructional methods instead of an overarching pedagogical methodology, as they do not have profound understanding of educational concepts such as modes/levels of engagement or deep/surface learning.

3.3. Lost in translation
The term "active" (and thus AL) is not an easy word to translate into Japanese. Although AL has a Japanese translation, "noudouteki/syutaiteki na gakusyū," this term does not convey the full nuance of the term AL. That is why, AL is often described as "akutibu lāningu" (Mizokami, 2015), a borrowed term from English. Nonetheless, some associate the term with physical activities (*active* mode of engagement at best) when they hear the term "active" (Taniguchi, 2013; Watkins, Carnell, & Lodge, 2007).

"Critical thinking," an often-cited skill that should be developed through AL (Azer et al., 2013; Bromley, 2013; Clare, 2007; Ford, 2010; Kane, 2004; Laverie, 2006; Oros, 2007; Peters, 2011), is also difficult to translate into Japanese. Critical thinking is an ability to think multidimensionally and "a general capacity to go beyond description and replication to a more synthetic and creative level, continuously integrating new and old knowledge" (Clare, 2007, p. 439). In Japan, critical thinking is often misunderstood to be a negative attitude to criticize aggressively. Kenkyusya's Dictionary (2002), one of the most commonly used dictionaries in Japan, defines the term "critical" as "censorious/fault-finding," whereas the Oxford Advanced Learner's Dictionary (2015) defines it as "making careful judgment."

"Engagement" is another difficult term for Japanese to understand. The Oxford Advanced Learner's Dictionary includes "being involved" as a definition of engagement, while Kenkyusya's Dictionary only includes "appointment, contract, battle, and employment," which do not reflect the meaning of engagement as intended as an element of AL. It is not surprising that Japanese university instructors struggle to capture and access the concept of AL.

If we continue to use the borrowed English word "akutibu lāningu" to indicate AL, I suggest using the term "puro akutibu lāningu" or proactive learning, at least in the context of Japanese higher education. The following section will further explain why I propose the use of the term "proactive learning," by examining the difference between the terms "active" and "proactive."

3.4. Concepts of "active" and "proactive"
By text mining the definitions of the dictionaries (i.e. Cambridge Advanced Learner's Dictionary 2013, 4th edition; Collins Cobuild Advanced Dictionary 2013, 7th edition, Longman Dictionary of Contemporary English 2009, 5th edition, Macmillan English Dictionary for Advanced Learners 2006, 5th edition; Oxford Advanced Learner's Dictionary 2015, 8th edition), "active" can be summarized as "involvement in activities," while "proactive" means "changes through action/actions."

As explained at the outset of this paper, AL emerged to develop generic and employability skills. It attracted the attention of the higher education sector because of its potential to produce a different type of graduate in response to changing economic demands and to better meet the needs of the job market. AL is thought to promote workplace skills desired by employers (Laverie, 2006). The only distinctive employability skills that work universally regardless of place and time are considered discovery skills (Dyer, Gregersen, & Christensen, 2011). Because discovery skills are essential for creating innovators, they are also called innovation skills (Wagner, 2012) as opposed to delivery skills that are considered to be administrative. Delivery skills include analyzing, planning, attention to detail, implementing, and disciplined executing, while discovery skills are associating, questioning, observing, networking, and experimenting. Although both discovery and delivery skills are crucial for any organization to function or innovate, individuals with discovery skills should be in demand because any organization will struggle to survive in the long run without innovators (Dyer et al., 2011). Therefore, skills or attributes to be developed through AL are needed to make changes through actions rather than only being required to undertake activities in the job market.[2]

Having emerged as a response to meet economic and industrial needs, AL should enable students to be proactive. Instructors and institutions also need to provide proactive motivation support (Simpson, 2008) focusing on individual student needs, allowing learners to interact with their instructors and institutions. The concept of proactive may also be useful to help clarify the nature of AL, through discussions of the difference between what is "active" and "proactive." MEXT should take these details into account and integrate the concept of proactive learning into future comprehensive reports on education or national education projects similar to IHEIN.

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4. Conclusion

Japanese university instructors typically regard AL as using one or more instructional methods such as CL and PBL. As a result, even though Japanese university instructors use these methods or techniques, students often learn little. In this context, I suggested that AL be regarded as a pedagogical methodology rather than a collection of methods. Learning with any modes and levels of engagement can be considered AL, regardless of the instructional methods used. However, the concept of engagement and thus AL is difficult to understand, especially for those who are not educated in an English-speaking environment.

I introduced the concept of "proactive" to avoid misunderstanding AL as physical activities or mere use of instructional methods, and to promote further discussion of what AL is and how it should be perceived. The term more directly reflects the concept of AL—the need and background of why AL has drawn much attention. AL emerged as a response to changing economic demands and business environment by encouraging students to become active learners and acquire generic and employability skills. Introducing the concept of proactive may help university instructors understand AL and become aware that they are now expected to create proactive graduates with innovation skills who are able to make changes through actions.

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Notes
1. The learning pyramid is not based on any scientific evidence (Magennis & Farrell, 2005; Molenda, 2003). Although cited under the National Training Laboratories and was arguably developed from Dale's (1969) cone of experience, the origin of the data is unknown, nor how the research was conducted.
2. It may be important to note that "active" can be a temporary condition, while "proactive" may be an attribute.

References
Akiva, T., Cortina, K. S., Eccles, J. S., & Smith, C. (2013). Youth belonging and cognitive engagement in organized activities: A large-scale field study. *Journal of Applied Psychology, 34,* 208–218.

Alexander, P. A., Schallert, D. L., & Reynolds, R. E. (2009). What is learning anyway? A topographical perspective considered. *Educational Psychology, 44,* 176–192. https://doi.org/10.1080/00461520903029006

Amazon Japan. (2016). *Active learning*. Retrieved from https://www.amazon.co.jp/s/ref=nb_sb_noss?__mk_ja_JP=%E3%82%AB%E3%82%BF%E3%82%AB%E3%83%8A&url=search-alias%3Dstripbooks&field-keywords=%E3%82%A2%E3%82%AF%E3%83%86%E3%82%A3%E3%83%96%E3%83%A9%E3%83%BC%E3%83%8B%E3%83%B3%E3%82%B0

Arum, R., & Roksa, J. (2012). *Academically adrift: Limited learning on college campuses*. Chicago, IL: University of Chicago Press.

Azer, S. A., Guerrero, A. P., & Walsh, A. (2013). Enhancing learning approaches: Practical tips for students and teachers. *Medical Teacher, 35,* 433–443. https://doi.org/10.3109/0142159X.2013.775413

Barkley, E. F. (2009). *Student engagement techniques: A handbook for college professors*. San Francisco, CA: Jossey-Bass.

Beattie, V. B., Collins, B., & McInnes, B. (1997). Deep and surface learning: A simple or simplistic dichotomy? *Accounting Education, 6*(1), 1–12. https://doi.org/10.1080/096392897331587

Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university* (3rd ed.). Berkshire: SRHE and Open University Press.

Black, P., McCormick, R., James, M., & Pedder, D. (2006). Learning how to learn and assessment for learning: A theoretical inquiry. *Research Papers in Education, 21,* 119–132. https://doi.org/10.1080/02671520600615612

Bonwell, C. C., & Eison, J. A. (1991). *Active learning: Creating excitement in the classroom*. San Francisco, CA: Jossey-Bass.

Bromley, P. (2013). Active learning strategies for diverse learning styles: Simulations are only one method. *PS: Political Science & Politics, 46,* 818–822. https://doi.org/10.1017/S1049096513001145

Carey, P. (2013). Student engagement: stakeholder perspectives on course representation in university governance. *Studies in Higher Education, 38,* 1290–1304. https://doi.org/10.1080/03075079.2011.621022

Central Council for Education. (2012). *Qualitative transformation of undergraduate education*. Retrieved January 20, 2016, from http://www.mext.go.jp/component/b_menu/shingi/toushin/__icsFiles/afieldfile/2012/10/04/1325048_1.pdf

Chi, M. T. H., & Wylie, R. (2014). The ICAP framework: Linking cognitive engagement to active learning outcomes. *Educational Psychologist, 49,* 219–243. https://doi.org/10.1080/00461520.2014.965823

Clare, B. (2007). Promoting deep learning: A teaching, learning and assessment endeavour. *Social Work Education, 26,* 433–446. https://doi.org/10.1080/02615470601118571

Creten, H., Lens, W., & Simons, J. (2001). The role of perceived instrumentality in student motivation. In A. Efklides, J. Kuhl, & R. M. Sorrentio (Eds.), *Trends and prospects in motivation research* (pp. 37–45). Amsterdam: Springer Netherlands.

Dale, E. (1969). *Audiovisual methods in teaching*. New York, NY: Dryden Press.

Dancer, D., & Kamvounias, P. (2005). Student involvement in assessment: a project designed to assess class participation fairly and reliably. *Assessment & Evaluation in Higher Education, 30,* 445–454. https://doi.org/10.1080/02602930500099235

Deakin Crick, R. D. (2007). Learning how to learn: The dynamic assessment of learning power. *Curriculum Journal, 18*, 135–153. https://doi.org/10.1080/09585170701445947

Drew, V., & Mackie, L. (2011). Extending the constructs of active learning: Implications for teachers' pedagogy and practice. *Curriculum Journal, 22*, 451–467. https://doi.org/10.1080/09585176.2011.627204

Dyer, J., Gregersen, H., & Christensen, C. M. (2011). *The innovator's DNA: Mastering the five skills of disruptive innovators*. Cambridge, MA: Harvard Business School Press.

Fink, L. D. (2003). *Creating significant learning experiences: An integrated approach to designing college courses*. San Francisco, CA: Jossey-Bass.

Ford, M. J. (2010). Critique in academic disciplines and active learning of academic content. *Cambridge Journal of Education, 40*, 265–280. https://doi.org/10.1080/0305764X.2010.502885

Gibbs, R., & Poskitt, J. (2010). *Student engagement in the middle years of schooling (Years 7–10): A literature review*. Wellington: Ministry of Education.

Gokhan, A. (2013). The effect of project-based learning on students' motivation. *International Journal of Academic Research, 5*, 82–86.

Graeff, T. R. (2010). Strategic teaching for active learning. *Marketing Education Review, 20*, 265–278. https://doi.org/10.2753/MER1052-8008200307

Grauerholz, L. (2001). Teaching holistically to achieve deep learning. *College Teaching, 49*, 44–50. https://doi.org/10.1080/87567550109595845

Hand, L., Sanderson, P., & O'Neil, M. (1996). Fostering deep and active learning through assessment. *Accounting Education, 5*, 103–119. https://doi.org/10.1080/09639289600000013

Harrison, R. (2010). Learner managed learning: Managing to learn or learning to manage? *International Journal of Lifelong Education, 19*, 312–321.

Healey, M., Pawson, E., & Solem, M. (2012). *Active learning and student engagement: International perspectives and practices in geography in higher education*. New York, NY: Routledge.

Hopper, S. B. (2014). Bringing the world to the classroom through videoconferencing and project-based learning. *TechTrends, 58*, 78–89. https://doi.org/10.1007/s11528-014-0755-4

Hsieh, T. (2014). Motivation matters? The relationship among different types of learning motivation, engagement behaviors and learning outcomes of undergraduate students in Taiwan. *Higher Education, 68*, 417–433. https://doi.org/10.1007/s10734-014-9720-6

Illeris, K. (2014). Transformative learning re-defined: As changes in elements of the identity. *International Journal of Lifelong Education, 33*, 573–586. https://doi.org/10.1080/02601370.2014.917128

Ito, H. (2014). Shaping the first-year experience: Assessment of the vision planning seminar at Nagoya University of commerce and business. *International Journal of Higher Education, 3*(3), 1–9.

Ito, H., & Kawazoe, N. (2015). Active learning for creating innovators. *International Journal of Higher Education, 4*, 81–91.

Joyce, W. B. (1999). On the free-rider problem in cooperative learning. *Journal of Education for Business, 74*, 271–274. https://doi.org/10.1080/08832329909601696

Kane, L. (2004). Educators, learners, and active learning methodologies. *International Journal of Lifelong Education, 23*, 275–286. https://doi.org/10.1080/0260/37042000229237

Kawaijuku. (2011). *Why do students grow through active learning?* Tokyo: Toshin-do.

Kember, D., & Leung, D. Y. P. (2005). The influence of active learning experiences on the development of graduate capabilities. *Studies in Higher Education, 30*, 155–170. https://doi.org/10.1080/03075070500043127

Laverie, D. A. (2006). In-class active cooperative learning: A way to build knowledge and skills in marketing courses. *Marketing Education Review, 16*, 59–76. https://doi.org/10.1080/10528008.2006.11488960

Lee, J.-S. (2014). The relationship between student engagement and academic performance: Is it a Myth or reality? *The Journal of Educational Research, 107*, 177–185. https://doi.org/10.1080/00220671.2013.807491

Lee, P. (2005). Students' personality type and attitudes toward classroom participation. In *Proceedings of the CATESOL State Conference 2005*. Los Angeles: California State University.

Magennis, S., & Farrell, A. (2005). Teaching and learning activities: Expanding the repertoire to support student learning. In G. O'Neill, S. Moore, & B. McMullin. *Emerging issues in the practice of university learning and teaching* (pp. 45–54). Dublin: All Ireland Society for Higher Education/Higher Education Authority.

Martin, A. (2007). Examining a multidimensional model of student motivation and engagement using a construct validation approach. *British Journal of Educational Psychology, 77*, 413–440. https://doi.org/10.1348/000709906X118036

Matsushita, K. (2015). Invitation to deep active learning. In K. Matushita (Ed.), *Deep active learning: Deepening higher learning* (pp. 1–27). Tokyo: Keiso-Shobo.

McQueen, H., & Webber, J. (2013). What is an effective learner? A comparison of further education students' views with a theoretical construction of effective learners. *Journal of Further and Higher Education, 37*, 715–735. https://doi.org/10.1080/0309877X.2012.684040

Mizokami, S. (2014). *Active learning and the transition of teaching/learning paradigm*. Tokyo: Toshindo.

Mizokami, S. (2015). Deep active learning from a perspective of active learning theory. In K. Matushita (Ed.), *Deep active learning: Deepening higher learning* (pp. 31–51). Keiso-Shobo: Tokyo.

Molenda, M. (2003). Cone of experience. In A. Kovalchick & K. Dawson (Eds.), *Educational technology: An encyclopedia* (pp. 161–163). Santa Barbara, CA: ABC-Clio.

Mullen, E. T. (2012). Teaching an engaged analysis class through active learning. *PRIMUS, 22*, 186–200. https://doi.org/10.1080/10511970.2010.497957

Nagata, T., & Hayashi, K. (2016). *Practical designs for active learning: Liberal arts education at the University of Tokyo*. Tokyo: University of Tokyo Press.

Nakai, T. (2015). *Active learning*. Tokyo: Tamagawa University Press.

Newmann, F., & Wehlage, G. (1993). Five standards of authentic instruction. *Educational Leadership, 50*, 8–12.

Ní Raghallaigh, M., & Cunniffe, R. (2013). Creating a safe climate for active learning and student engagement' an example from an introductory social work module. *Teaching in Higher Education, 18*, 93–105. https://doi.org/10.1080/13562517.2012.694103

Nishikawa, J. (2015). *Introduction to active learning*. Tokyo: Meiji Tosyo Syuppan.

Okano, K., & Ishikawa, H. (2013). Education reform in Tokuyama University and the method of active learning. *Journal of Tokuyama University Economics Society, 77*, 37–56.

Oros, A. L. (2007). Let's debate: Active learning encourages student participation and critical thinking. *Journal of Political Science Education, 3*, 293–311. https://doi.org/10.1080/15512160701558273

Perez, J. E., Garcia, J., Muñez, I., Alonso, A. S., & Puche, P. L. (2010). Cooperative learning vs. project-based learning: A practical case. *IEEE EDUCON Education Engineering 2010. The Future of Global Learning Engineering Education* April 14-16, 2009, Madrid, Spain.

Peters, R. A. (2011). Enhancing academic achievement by identifying and minimizing the impediments to active learning? *Public Administration Quarterly, 35*, 466–493.

Power, J. (2012, May 15–17). Active learning and the development of employability skills for apparel students. In *The 88th Textile Institute World Conference*, Selangor.

Prince, M. (2004). Does active learning work? A review of the research. *Journal of Engineering Education, 93*, 223–231. https://doi.org/10.1002/jee.2004.93.issue-3

Ramsden, P. (1992). *Learning to teach in higher education.* London: Routledge. https://doi.org/10.4324/9780203413937

Ravindran, B., Greene, B. A., & Debacker, T. K. (2005). Predicting preservice teachers' cognitive engagement with goals and epistemological beliefs. *The Journal of Educational Research, 98*, 222–233.

Revell, A., & Wainwright, E. (2009). What makes lectures 'unmissable'? Insights into teaching excellence and active learning. *Journal of Geography in Higher Education, 33*, 209–223. https://doi.org/10.1080/03098260802276771

Sedaghat, M., Abedin, A., Hejazi, E., & Hassanabadi, H. (2011). Motivation, cognitive engagement, and academic achievement. *Procedia – Social and Behavioral Sciences, 15*, 2406–2410. https://doi.org/10.1016/j.sbspro.2011.04.117

Simpson, O. (2008). Motivating learners in open and distance learning: Do we need a new theory of learner support? *Open Learning: The Journal of Open and Distance Learning, 23*, 159–170. https://doi.org/10.1080/02680510802419979

Smart, K. L., Witt, C., & Scott, J. P. (2012). Toward learner-centered teaching: An inductive approach. *Business Communication Quarterly, 75*, 392–403. https://doi.org/10.1177/1080569912459752

Smiley, W., & Anderson, R. (2011). Measuring students' cognitive engagement on assessment tests: "A confirmatory factor analysis of the short form of the cognitive engagement scale". *Research and Practice in Assessment, 6*, 17–28.

Smith, K. A., Sheppard, S. D., Johnson, D. W., & Johnson, R. T. (2005). Pedagogies of engagement: Classroom-based practices. *Journal of Engineering, 94*, 87–101.

Snyder, K. D. (2003). Ropes, poles, and space: Active learning in business education. *Active Learning in Higher Education, 4*, 159–167.

Sugiyama, S., & Tsuji, Y. (2014). The effectiveness of active learning. *Otaru University of Commerce Academic Collections, 127*, 61–74.

Sunaga, K. (2010). Several understandings and practical tasks of active learning: Focusing on the concept of activeness. *Journal of Kansai University Higher Education Research, 1*, 1–11.

Swaray, R. (2012). An evaluation of a group project designed to reduce free-riding and promote active learning. *Assessment & Evaluation in Higher Education, 37*, 285–292. https://doi.org/10.1080/02602938.2010.531246

Tangney, S. (2014). Student-centred learning: A humanist perspective. *Teaching in Higher Education, 19*, 266–275. https://doi.org/10.1080/13562517.2013.860099

Taniguchi, T. (2013). Evaluation of problem-solving type active learning. *Journal of Japanese Studies of Engineering Education, 61*, 10–13.

Tomono, S. (2013). Active learning leading to deep learning. *Career Guidance, 45*, 1–3.

Tsuchimochi, G. H. (2016). Evolving active learning. *Syutaiteki manabi, 4*, 46–67.

Turner, J. C., & Patrick, H. (2004). Motivational influences on student participation in classroom learning activities. *Teachers College Record, 106*, 1759–1785. https://doi.org/10.1111/tcre.2004.106.issue-9

Turner, M., & Baskerville, R. (2013). The experience of deep learning by accounting students. *Accounting Education, 22*, 582–604. https://doi.org/10.1080/09639284.2013.847323

Wagner, T. (2012). *Creating innovators: The making of young people who will change the world.* New York, NY: Scribner.

Watkins, C., Carnell, E., & Lodge, C. (2007). *Effective learning in classrooms.* London: Sage Publications. https://doi.org/10.4135/9781446211472

Wilson, T., & Colby, S. (2007). Teaching for deep learning. *The Clearing House, 80*, 205–209.

Wimpenny, K., & Savin-Baden, M. (2013). Alienation, agency and authenticity: A synthesis of the literature on student engagement. *Teaching in Higher Education, 18*, 311–326. https://doi.org/10.1080/13562517.2012.725223

Zepke, N. (2014). Student engagement research in higher education: Questioning an academic orthodoxy. *Teaching in Higher Education, 19*, 697–708. https://doi.org/10.1080/13562517.2014.901956