Five Ways in Which Language Teachers Can Develop Problem-Solving Skills for International Students

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国際学部学生の問題解決能力

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Abstract :
As a response to the rapidly globalizing academic and professional world community, the demands of university study at any level are becoming increasingly more rigorous with each passing year. For students with specific plans to study or work abroad the demands are far more intense, as there are cultural phenomena in place within Japan that may inadvertently obstruct or inhibit understanding of some values affixed within Western academic and professional circles. The role of language teachers should not be marginalized in this area, as there are many opportunities for them to help students develop not only the language proficiency needed to succeed beyond their home culture, but to help them to become problem solvers who actively participate in serving the global community. This paper explores five specific ways in which language teachers may help students develop their problem solving skills with a focus upon both language skills and and intellectual power.

要旨：学問とビジネスの両分野で急速に国際化が進む中、大学における学習に求められるものは、あらゆるレベルにおいて年々増大している。日本では、欧米の学問・ビジネス分野に根付く価値観の理解を図らずも妨げうる文化的現象が見られることから、留学や海外での就職を具体的に目指す学生が習得すべきスキルは非常に多い。語学教員は、学生が自国の文化を超えて成功するのに必要な語学力を向上させるだけでなく、問題解決の力を養い、国際社会に積極的に貢献する人物となるための支援をすることができる。そのため、語学教員がこの領域において担う役割は、過小評価されるべきでない。本論文では、語学力および知的能力に焦点を当て、語学教員が学生の問題解決能力を高める支援をするための 5 つの具体的方法を探る。

Key words：problem solving, critical thinking, consciousness raising, initiative, international studies

I : Introduction : Problem Solving and Culture Gaps

For students with ambitions to study or work abroad, the development and use of independent problem solving skills is vital. The observable behavior normally associated with problem solving may be described as the following :

1. Taking initiative and risk

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2. Brainstorming possible ideas and solutions
3. Espousing and maintaining an objective point of view throughout the problem solving process
4. Questioning assumptions (thinking critically)
5. Using intellectual effort to hypothesize possible actions and solutions (while discarding ineffective ones)
6. Taking action to produce new and useful results

Problems, in the broad sense, can be anything ranging from figuring out grammar complexities and usage in an English lesson to completing multifaceted logistical real-world tasks, as in the kind which are done on a daily basis in professions of all stripes. Though typically it is the former that language teachers are generally concerned with, the latter should be of equal concern to language teachers of international students.

The practice of problem solving would be challenging for a university graduate of *any* culture joining international academic or business contexts, as Western universities and companies carry with them an implied, central belief in the value of an individual's intellectual effort and the problem solving ability that this effort yields. This contrasts deeply with the tendency towards reducing risks and adhering to group consensus for decision making within Japanese contexts. Along these lines there are additional cultural phenomena within Japan that could potentially obstruct the readiness with which students with international ambitions may employ the behaviors involved with problem solving in global academic and business settings. For this reason, particular challenges may lie ahead for international students.

The cultural phenomenon of collectivism (Trompenaars, 1997) presents one such challenge. In cultures with a considerable tendency towards valuing group thought and action, the burden of solving problems may be left up to or dependent upon a general consensus, more so than dissenting ideas or proposals initiated by its individuals. Global academia and business cultures (particularly Western ones) respect singular initiative ; a person who avoids dissent and chooses to agree for the sake of agreement will experience problems in international contexts. There is a risk that a sharp, young Japanese mind could be misrepresented as unfocused, unmotivated, or apathetic when automatically or unconsciously adhering to these collectivist tendencies.

Uncertainty avoidance, a culture's degree of discomfort with uncertain situations or potential for risk (Hofstede, 2001 ; 2005), presents another challenge. The practice of postponing decisions or leaving them open-ended and intentionally unresolved is not uncommon in Japan, particularly in business settings. Avoiding uncertain outcomes is useful in Japanese circles in that it provides a feeling of security in the present situation, as well as trust in past decisions and set policy. For this reason it plays a considerable role in the Japanese decision making process. In global academia and business, taking no action for fear that an unexpected outcome awaits is not regarded as a valid option. A commitment to a definitive answer followed by action is expected ; an indefinite *maybe* is unheard of among Western academics and businesspeople. Those who take non-committal approaches to problems in adherence to their home culture will be in advertently regarded as inept or incompetent. In this way, uncertainty avoidance may inhibit individual initiative and the practice of problem solving as a whole. In addition, the process of trial and error (hypothesizing) may be

stunted ; there can be no trial when there is a deep discomfort with error.

In hierarchical Japan, where a power distance is normally maintained between superiors and subordinates (Hofstede, 2001 ; 2005), approaching superiors and initiating feedback *up* the chain of command is not readily done ; unsolicited comments are normally expected to travel *downwards.* While studying abroad, international students in Western countries will need to occasionally approach their professors to request help, insight, or deadline extensions for assignments. What's more, it is becoming increasingly common for global company managers to directly approach subordinates in the hope of receiving candid opinions on policy and conditions. How effective, complete, or forthcoming would responses to these situations be from students who might have been exposed almost exclusively to a classroom environment in which initiative, risk taking, and problem solving were neither valued nor rewarded?

In light of these potential challenges it may be said that the opportunity to engage in activities that foster the development of these cognitive skills should represent a substantial part of any curriculum that hopes to send its students outside of their home culture, particularly if that home culture tends to value group consensus over initiative, safety over risk, and hierarchy over transparency. Problem solving activities may help to equip students with the cognitive tools needed to adapt to global institutions and achieve within them. These activities can be considered essential to international studies insofar as educators believe that the central role of these studies is to equip students with the tools necessary to succeed outside of Japan. The role of language teachers in this area should not be marginalized, as there already exist things they may do which will at the very least contribute to an atmosphere that values initiative, deep and multi-faceted thought, and pursuit of solutions. The following are five ways that language teachers may do so.

II : Five Ways to Develop Problem Solving Skills

1. ***Design task-based and content-based lessons that define language learning as a communicative undertaking.*** Language classes in public secondary education have long been known to employ a disproportionate amount of two approaches that may limit broad, critical thinking. One is rote vocabulary memorization, which seeks exact L1-to-L2 correspondence of single-word meanings. Another is grammar translation, an activity which seeks a similar result for L1 and L2 grammar forms at the sentence level. The majority of criticism of these approaches centers around the notion that they limit the potential for students to develop skills in the communication of meaning, as they seem to define language learning as the pursuit of accuracy above all else. Consequently, students develop a mindset which believes there is only one correct answer to each question or problem. That much of Japanese high school study is for the purpose of scoring high on standardized tests does much to reinforce this idea.

By designing task-based and content-based lessons that allow for various outcomes, tasks will not only broaden students' understanding and encourage variations in ways that meanings may be conveyed, but begin to mimic the unpredictability of real-world tasks. These tasks of varying length and difficulty are heavily contextualized. They demand the use of initiative, trial and error (hypothesizing), intellectual effort, and rich language use. These may be done in groups, with linguistic and affective support from the teacher. Groups may report on the process by which they arrived at their outcomes, thereby reinforcing explicit (metacognitive) knowledge of their own problem solving

skills.

• Task : Students redesign the layout of their classroom tools, fixtures, and furniture in a way that that reflects the atmosphere and mood of their particular class and classwork. Possible content : Electronic products, interior design, architecture, education.

• Task : Students are given fictional profiles of candidates for a job, and as a hiring panel meet to rank and choose the best candidates. Possible content : Global employment, job hunting, job interviews, resumes, career, professional development.

• Task : Students create multimedia public service announcements or health or safety warnings that are meant to improve campus life and awareness of health issues. Possible content : Commercials, presentation design and skills, public speaking, disease, preventive medicine, health education.

• Task : Students develop and design a new study area, major, or university department from the ground up, complete with course outlines and and goals. Possible content : education paradigm, university education, language education.

• Task : Students devise an English communication contest with specific criteria and tasks, along with a system of assessment. They then choose contestants and judges and hold the contest. Possible content : language proficiency, language education, speeches, presentations.

2. ***Do Consciousness-Raising activities.*** C-R can be defined, essentially, as the teacher-guided, student-driven solving of linguistic "problems". It is meant to make students intellectual experts on the behavior of language as they gaining explicit knowledge of the L2. It is expected that this practice will "pay valuable dividends" later (Willis&Willis, 1996), as explicit knowledge becomes implicit (working) knowledge and as more opportunities for meaningful input and use arise (Ellis, 1991). In short, C-R holds that language is learned the way other forms of knowledge are learned and therefore the cognitive processes involved are the very same. C-R and its theoretical underpinnings suggest that insofar as mental processing is concerned, there is no difference between attempting to solve, for example, a real-life or realistic logistical problem (such as the task-based and content-based examples listed above) and the problem of deducing the difference in meaning and use between lexical items, such as the adjectives *popular, common,* and *famous.* Cognitive processes take place in the same fashion within both of these examples of problem solving, and therefore both activities would provide similar benefits to the learner (Ellis, 1998). C-R activities related to language learning can be categorized as such (Willis&Willis, 1996) :

a. Identify/consolidate : Students are asked to search a set of data to identify a particular pattern or usage and the language forms associated with it.
b. Classify (semantic ; structural) : Students are required to work with a set of data and sort it according to similarities and differences based on formal or semantic criteria.
c. Hypothesis building/checking : Students are given (or asked to make) a generalization about

language and asked to check this against more language data.

d. Cross-language exploration : Students are encouraged to find similarities and differences between patternings in their own language and patternings in English.
e. Reconstuction/deconstruction : Students are required to manipulate language in ways which reveal underlying patterns.
f. Recall : Students are required to recall and reconstruct elements of a text. The purpose of the recall is to highlight significant features of the text.
g. Reference training : Students need to learn to use reference works – dictionaries, grammars and study guides.

3. ***Bring critical thinking questions to lessons that are useful beyond the classroom.*** Critical thinking is essentially the practice of reasoning, reflecting, and questioning others' or one's own assumptions about problems or issues of interest for the purpose of solving problems or achieving goals. The ability to think critically is often equated with the ability to "think outside of the box". The "box" can be considered any domain wherein thought, approaches, and solutions are limited to the conventional or what has been perceived as "tried-and-true". For teachers and students, realizing that the classroom itself can also be a constraint opens up the possibility for two valuable things to take place. First, students will begin to see their language education as a part of their lives in which important issues are discussed. Second, they will begin to apply the language they acquire to solving meaningful problems in their lives. Beginning lessons with meaningful questions will help to close the gap between language knowledge and use, as well as shatter the wall between classroom and real-world experiences.

At the start of a task-based lesson on creating an action plan for self-improvement, these discussion questions may be asked :

- What have you been meaning to improve about yourself, but haven't yet?
- What's stopping you from doing it?
- What will it take to overcome these obstacles?

- What motivates people?
- Does it come from one's own mind, or can motivation be taught?
- What motivates you to do things?

At the start of a task-based lesson on creating an action plan for job-hunting after university study, these discussion questions may be asked :

- What is the purpose of a job interview?
- Have you ever had an interview?
- What kind of questions were asked?

- How important are first impressions?

- What can you learn about people during a first impression?
- What kind of qualities would you want a potential employer to know about you?

4. ***Define, practice, and encourage brainstorming.*** Experienced language teachers are familiar with the experience of dead silence among students during group or pair work, especially when they have been asked to brainstorm for ideas. This may be the result of two things : students may be quite literally brainstorming (deeply thinking as they prepare answers for sharing), or simply avoiding the uncertainty of offering incomplete ideas. Either way, unfamiliarity or discomfort with spontaneous initiative will prove to be detrimental to performance in global academic or professional settings. Brainstorming, often the first step in problem solving tasks, is verbal. It values the volume of shared ideas over quality, and emphasizes rapid idea sharing over completeness. It presupposes that ideas are to be developed by teamwork, not predetermined to completion before being unveiled. Lists are created, grouped, and categorized ; entries are kept or discarded as necessary. By designating the first part of group tasks for brainstorming, teachers may help students to become more accustomed to the tentative and chaotic nature of coming up with original ideas. By explicitly defining brainstorming as the infancy of a solution and not its core element, teachers will do much to strengthen students' mental agility and readiness to take initiative. In addition, they may begin to break away from the constraint of avoiding the uncertain.

5. ***Teach to the whole learner.*** The brain is an exceedingly complex and misunderstood organ. Whereas our common understanding of its "division of labor" used to be something akin to the notion that *reason is processed on the left side and emotion on the right,* we now know that this isn't correct. Certainly, within the hemispheres there are located centers for particular functions, but research in this area has shown that when there is damage to all or part of one hemisphere, the other hemisphere may take on some of the work to compensate for the capacity loss (Ornstein, 1997). And so whereas we cannot assign individual mental processes to pinpointed spots within the brain, we can locate the epicenters of certain types of processing distributed outward––overlapping with other epicenters. For instance, Broca's Area and Wernicke's Area, both located in the left hemisphere, are responsible for speech patterns and sound-meaning, respectively. We now know that it is not the individual functions of these two areas that processes language, but the strength of the network of neurons and synapses built between them that does so (Childs, 2003). In light of this, it may be an oversimplification to assign mental processing types to specific areas of the brain. However it helps to know where the epicenters of certain processing types are originated, as well as what these types are in order to understand how we think. Informed teachers may do their students a valuable service by becoming informed about processing types, so that they may begin to teach to the whole learner.

These are generally considered to be processed by the left-hemisphere :

- Text
- Exact computations
- Literal meanings
- Grammar

• Syntax

These are generally considered to be processed by the right-hemisphere :

• Context
• Estimation
• Making inferences
• Getting the gist ; summarizing
• Metaphor ; wordplay

Upon reading these lists, teachers may discover two things, one intriguing and one alarming. First, it is intriguing to know that it is the left hemisphere which handles the bottom-up bits and pieces of mental processing while the right hemisphere links these with the world in a meaningful way. Second, it is alarming to realize that one of these two sets of mental processes has been disproportionately focused upon within public education in the years leading up to that first year in college. The left hemisphere processing types seem to be a list of what many high school graduates appear to be intuitively good at, while they are lacking in some right-hemisphere-based skills. Teachers may help to balance out this disparity by implementing right-hemisphere-focused elements to tasks ; these are ones that provide learners with an opportunity to experience language as a way of meaningfully linking themselves to the world, an event commonly known as "seeing the big picture". Teachers may give more attention to the neglected right hemisphere by beginning tasks with schema-building (context-setting) activities, asking more inferential questions (as opposed to referential), defining summarizing as distinct from explaining, including opportunities to summarize in speaking and writing, and including words and collocations with multiple meanings and usages within texts.These may help students use more of their mental capacities, generally making the application of original ideas in problem solving activities more forthcoming.

III : Looking Forward : Transforming Education

The above represents just a few of the ways in which teachers may utilize each class to awaken some of the hidden capacities of students. In a culture that views controlled, standardized assessment as the measuring stick for academic success, there is much that teachers may do to bring about classroom conditions and proceedings in which there is respect given to the learner as an intellectual being. Those teachers who shape curricula are in unique positions to transform higher education into a venue wherein learners are considered not simply knowers of information, but intellectual beings. When students are addressed, guided, and taught accordingly, they may truly become global citizens and agents of positive change on a larger--perhaps international--scale.

References

Childs, M. (2003). A sensible theory of language learning. *The Practical Linguist. The Daily Yomiuri,* April 11, 2003, p.14.

Ellis, N. (1998). Emergentism, connectionism and language learning. *Language Learning,* 48, 631–664.

Ellis, R. (1991). Grammar Teaching : Practice or Consciousness-Raising? In Richards, J. C. and Renendya W. A. (eds.), *Methodology in Language Teaching : An Anthology of Current Practice.* Cambridge University Press : Cambridge.

Hofstede, G. (2001). *Culture's Consequences : comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Thousand Oaks, CA : SAGE Publications.

Hofstede, G. (2005). *Cultures and organizations : software of the mind* (Revised and expanded 2nd ed.). New York : McGraw-Hill.

Ornstein, R. (1997). *The right mind : making sense of the hemispheres.* Harcourt Brace : San Diego.

Trompenaars, F. & Hampden-Turner, C. (1997). *Riding the Waves of Culture : Understanding Cultural Diversity in Business* (Second Edition) London : Nicholas Brealey.

Willis, D. & Willis, J. (1996). *Consciousness-raising activities.* In Dave and Jane Willis (eds.), Challenge and Change in Language Teaching. Macmillan.