Information Literacy in EFL CAI/CALL Classes: Toward Its Integration into Language Learning Activities

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Keywords: Information literacy, EFL, CAI, CALL, Life-long learning

Abstract: With the advent of information and communication technologies (ICT), CAI/CALL English classes have come to involve task-oriented and content-based activities which utilize various functions that high-speed computers and network systems offer. At the same time, learners are expected to be prepared with new kinds of literacy to use computer and network resources to their full potential—to access and retrieve information, properly evaluate what has been retrieved, and use it for the purpose of creative output. In order to achieve this goal, the components of the new literacy must be carefully defined and integrated into the processes of language teaching and learning. This paper describes one such attempt by the author. Through careful instruction the new literacy can be acquired by learners and applied beyond language classes to help them establish skills and competencies that can be employed throughout their lives.

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Introduction

In this paper I will discuss the necessity and relevance of information literacy instruction in CALL English classes. I became involved in CAI/CALL-based English classes in the early 1990s. Soon after I saw my students use computers, first as drill machines, I realized that computers were already powerful machines whose use should not be limited to drills and exercises and that learning English through computers can foster students' life-long learning skills in English and in other aspects of their lives. Since then, I have been trying to integrate information literacy skills into their English learning activities.

For nearly five years, I have been engaging in creating an information/media literacy booklet, "Information/Media Literacy Book for ESL/EFL Students," ("Literacy Book" for short) for CALL EFL students. The booklet was first published in 2000, and has been revised annually; the current version is the fourth edition. The current version is used in English classes in other colleges and graduate schools as well as at Doshisha University. This paper states the background of the creation of the booklet and clarifies theoretical and pedagogical implications of its use.

Here follows the outline of this paper. Firstly, the emergence of new kind of literacy, namely Information/Media Literacy, or otherwise, Digital/Electronic Literacy, is explained. Secondly, the need for this new kind of literacy for EFL students in their classroom situations is pointed out. Thirdly, this new literacy is defined in students' learning processes. Finally, the relevance of the "Literacy Book" is discussed. Some remarks on challenges and possibilities of this project will be added at the end of this paper.

Emergence of a new kind of literacy

We are experiencing the emergence of a new kind of literacy,

digital/electronic literacy, at the beginning of 21st century. This has been, of course, caused by the rapid development of computers and related information and communication technologies (ICT). Since the early 1990s several scholars have tried to define this new literacy in the context of education and in life. For example, Doyle (1992) defined an information literate person as one who:

- "recognises the need for information;
- recognises that accurate and complete information is the basis for intelligent decision making;
- identifies potential sources of information;
- develops successful search strategies;
- accesses sources of information, including computer-based and other technologies;
- evaluates information;
- organises information for practical application;
- integrates new information into an existing body of knowledge, and;
- uses information in critical thinking and problem solving."

Shapiro and Hughes (1996) provided a broader vision of information literacy as "a new liberal art that extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural and even philosophical context and impact." Gilster (1997, p.1) named this new literacy Digital Literacy, which he defines as "the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers." And Shetzer and Warschauer (2000) tried an electronic literacy approach to network-based language teaching.

> . . . whereas previously educators considered how to use information technology in order to teach language, it is now essential also to consider how to teach language so that learners can make effective use of information technology. Working toward both these objectives, rather than just the first one, is what distinguishes an electronic literacy

approach to network-based language teaching. (p.172)

Within this last decade there has arisen the awareness of the need for new literacy instruction in all the different stages of education. English language education is one of them. The need for the new literacy in higher education is clearly stated by Kathleen Dunn (2000).

> Developing lifelong learners is central to the mission of higher education institutions. By ensuring that individuals have the intellectual abilities of reasoning and critical thinking, and by helping them construct a framework for learning how to learn, colleges and universities provide the foundation for continued growth throughout their careers, as well as in their roles as informed citizens and members of communities. Information literacy is a key component of, and contributor to, lifelong learning.

Seeing that digital/electronic literacy is essential in contemporary life, in introducing ICT into the activities in CALL EFL classes, we notice the following: 1) ICT skills may facilitate or motivate the language learning process, 2) ICT skills may foster life-long learning skills in an independent language learner. However, we also notice that 3) required mastery of the skills may stand in the way of language learning. This is because it is often very difficult for us, language teachers, to take time to teach necessary ICT skills in the regular class hours. In order to solve this problem, we need to have some kind of assistance in teaching ICT skills in language classrooms, be it as a system or as a form of instructional manual.

Students and computers

We have to admit that in these several years, students are constantly getting more skilled to use computers and multi-media tools. To take typing, for instance, their skills have been considerably improving. Figure 1 shows the typing speed measured by the typing software MIKATYPE both in 1999 and

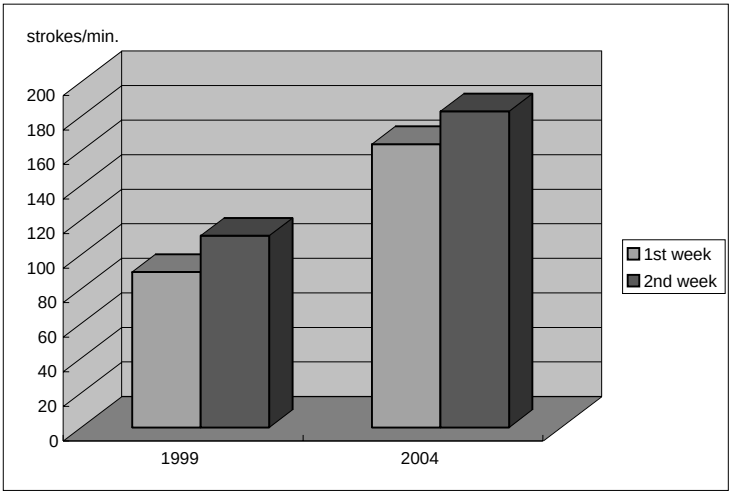

Figure 1

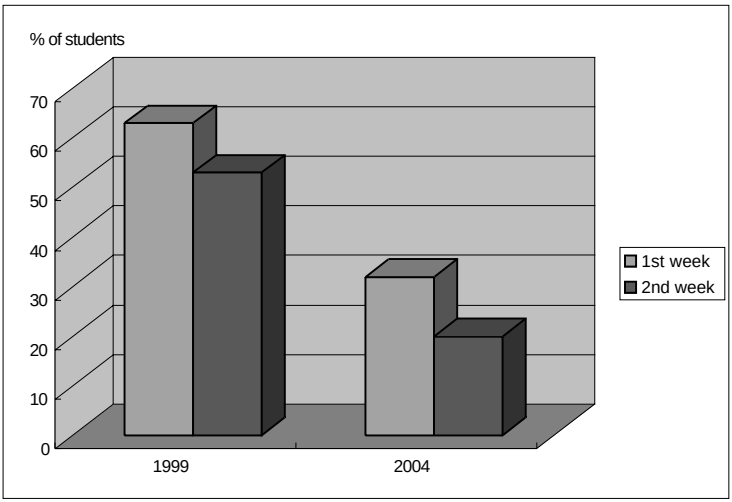

Figure 2

in 2004. This software has been used in our computer labs at Doshisha for more than 10 years. As can be seen, the initial typing speed of the students at the beginning of the spring semester has significantly increased in the last five

years. This suggests students' increased familiarity with keyboards.

Figure 2 shows another aspect of the typing skills. It shows the percentage of students who did *not* exceed the typing speed of 100 strokes per minute, which is set as the minimum required goal for the spring semester in my CALL classes, during the first two weeks of the semester. In 1999 approximately one half of the students failed to fulfill the requirement even after the second week. In 2004, the majority fulfilled the requirement at the earlier stage. This indicates that, within these five years, students have, to some extent, become skilled in the use of computers.

Indeed, students are getting more familiarized with computers, but there seems to exist a widening gap between those who feel comfortable with computers and those who are not.

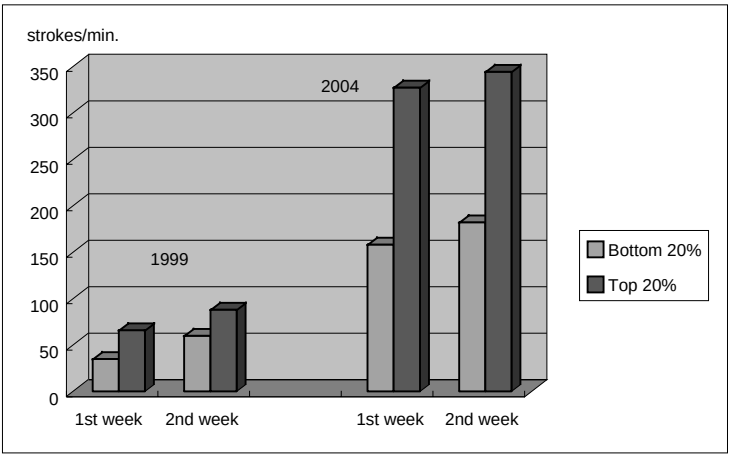

Figure 3

If we take a look at Figure 3, which shows the typing speed of top 20% and bottom 20% of the students, we notice that the gap between those students who feel comfortable with computers and those who do not is widening. That is to say, students' skills tend to be polarized. If we take top 10% and bottom 10%, the difference will be even more obvious.

Those students with lower scores tend to find it hard to adapt to the learning environment of CALL. The follow-up survey and interviews have shown that there is a widening gap between computer savvy majority and less literate minority.

Students with new gadgets

There is another side of students' IT skills. Figure 4 shows the survey result on students' IT environment and skills. The survey was conducted early in 2004. These are the questions:

1. Do you have a personal computer at home?
2. If "Yes" to No. 1, is the computer connected to the Internet?
3. If "Yes" to No.1, can you use the computer at any time you want?
4. Do you have a mobile phone?
5. Do you use a mobile phone for e-mailing?
6. Do you use a personal computer for e-mailing?
7. Do you use the campus-wide computer system to use the Internet?
8. Can you send e-mail with an attachment from computers?
9. Do you know what "FTP" is? Can you use FTP function on the Internet?
10. How often do you use personal computers?
11. Can you create a document on Microsoft Word?
12. Can you create a spreadsheet document on Microsoft Excel?
13. Have you ever used a BBS system on the Internet?
14. Have you ever used a mailing list system on the Internet?

The result reveals students' profiles. All of them have mobile phones and most are accessible to the Internet. They use mobile phones to send out e-mail. Less than half, approximately 40% of the students, use computers for e-mailing. These students know how to send attachments via e-mail. However, the majority do not use the university computer system to connect to the Internet. Roughly a third of the students use computers almost daily, but about 40% of

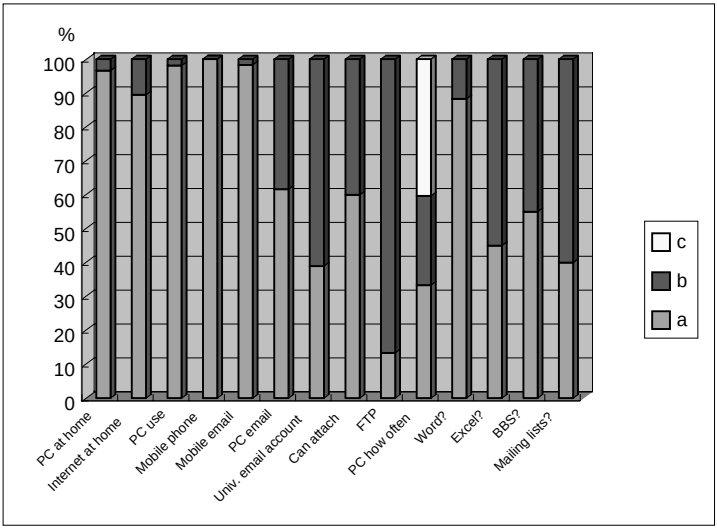

Figure 4 (For Q.10; a: less than once/week, b: 3 or 4 times/week, c: almost every day)

the students use them less than once a week. As for their software familiarity, most think that they can compose documents on Microsoft Word, but majority of them are not confident with Excel. About half of them have used BBS but as for the mailing list, majority have never used the system. One thing to be noted is that these are the students who have received a semester-long orientation on IT skills during their first year.

As mobile phones have gotten integrated more and more deeply into students' life, and as students have come to depend more and more on mobile phones for e-mail-based communication, these electronic gadgets have started to affect students' writing style. Typically, as many teachers have noticed, they send out e-mail without a title, greeting messages, concluding remarks or signature. Therefore, when we receive a message from a student from his/her mobile device, we are occasionally quite at a loss, not being able to figure out who sent this e-mail and to which class this student belongs. Moreover, the body of the e-mail is usually very brief, sometimes extremely to the point, for

example, “Won’t be able to attend your next class. Sorry.” In such cases we have to send out a reply message asking who *in the world* he/she is.

Thus mobile e-mail messages tend to be very fragmented and lack almost any punctuation marks in the body of the message. Furthermore, students try to depend on emoticons, the small graphical icons that show feelings of the sender, and not on words, to express their subtle feelings. When the students try to write documents on computers, they tend to adopt this mobile writing style in their writing of longer documents. They do not know how to form a sentence, a paragraph, not to mention a whole essay.

Need for IT support in CALL EFL classes

Observing that the majority of my students lack IT literacy/skills necessary for my CALL classes, and that some of them try to apply their mobile e-mail style to their writings, I strongly felt the need to give them basic instruction on computing and Internetworking as well as instruction in writing English, such as organizing their ideas and writing a coherent paragraph, in order for them to be fully functional in my classes. To achieve this, practical IT support outside the classroom was really necessary.

I have been teaching two CAI/CALL based classes at Doshsiha University.[1] They are called “Media English Classes”. The goal of the course is to improve students’ skills of listening, reading, and writing in English. As the teaching material, I use American TV news clips recorded as MPEG movie files and stored on CD-ROMs. My colleague and I have developed the drill/task sections of the materials. Students are given tasks before, while, and after viewing the news clips.

Before viewing the news clips, in the preparation drill, students’ knowledge of the topic is awakened in studying vocabulary lists and answering pre-viewing questions. The main part is the drill section that follows. Students are asked to do the drills while viewing the news clips. The tasks vary from

choosing the right definitions of words, filling in the gaps while listening, and true/false questions, etc. They are arranged in such a way that questions guide the students to gradual understanding of the content of the news. After the session, assignments are given in which students are asked to work on Internet search quizzes and to summarize or comment on what they have learned from the news.

The toughest part of the class work is the assignment, for which students have to do the Internet search on the related topics, evaluate the retrieved information, and write a summary or comment and send them via the Internet to their personal directories. They send their writings as word processor documents to the file server on the campus network system using FTP function.

In summary, the skills needed for this course are:

1. basic computing skills in using application software on computers, and the understanding of how the Internet works;
2. listening to news reports and understanding the English and the content;
3. searching for and retrieving relevant information on the topic from the Internet;
4. evaluating the retrieved information;
5. writing paragraphs or essays in English, and;
6. using FTP software to send the files to the server.

It is quite a challenge to teach computer/network skills while trying to direct student's attention to English learning. Students find it sometimes difficult to fulfill assigned tasks in a given period of time. When I started CALL classes, it was relatively easy to systematically improve students' IT literacy/skills while teaching English. This was a time when computers had relatively limited functions and students had little IT skills. However, it has become increasingly difficult to do so, as computers come to have more functions, as software has

become more sophisticated, and especially as students come to show quite varied IT skills as I have pointed out above.

As I realized that I had to spend substantial amount of time on the guidance of computers and network skills for these low IT achievers, I strongly felt a need to develop an IT support system for these classes.

IT literacy/skills for life-long learning

I believe that one of the most important tasks that we have to do in English class is to equip our students with the basic skills so that students become able to learn English for themselves. Improving their skills within limited class hours is very difficult. Therefore, the key to improving their English proficiency is to give them proper motivation, tools, and skills to start learning for themselves. In this context, I believe, developing their IT skills for self-learning plays a very important role.

In order to achieve this, the literacy/skills instruction in English classroom has to cover two aspects: one, to improve students' information literacy/skills in general; and two, to improve their English skills while making use of the information literacy/skills which are being learned.

Figure 5 is the initial diagram I drew when I first conceptualized the information literacy instruction in EFL classes. Three kinds of partly overlapping literacy are at work to support the learning of English. They are:

- Computer Literacy: how to use hardware and software on computers;
- Information Literacy: how to retrieve information for the network and make use of it for your own purposes, and;
- Media Literacy: how to evaluate information and select relevant information for the user.

Later on, as I observed students' learning processes, I noticed that basic English skills are a pre-requisite for other kinds of literacy. Moreover, when we decide to set life-long English learning as a final goal, we have to re-

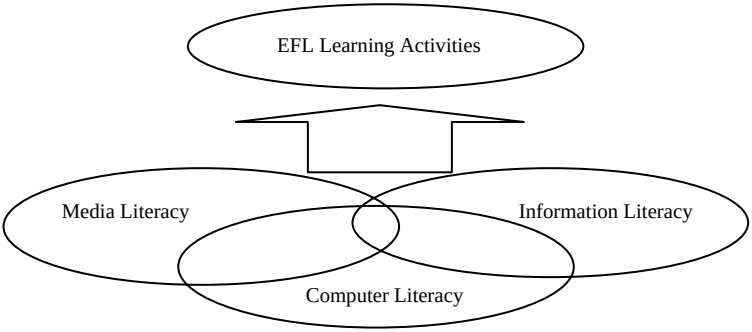

Figure 5

conceptualize the learning diagram. Moreover, the library still plays and will continue to play a very important role in students' learning experience. Furthermore, the two terms, information literacy and computer literacy, are occasionally used to refer to the skills in computing and handling information. It would be better, therefore, if the term "information literacy" were used as a kind of umbrella term to cover various kinds of literacy/skills that are needed for the students to fully function in academic situations.[2] I have added two more concepts into the diagram and modified one. The following are the literacy and skills to be acquired:

1. basic English skills
2. IT literacy/skills (including computer literacy)
3. media/library literacy (including information skills)
4. learning to learn skills/literacy[3]

The learning process is concisely illustrated in Figure 6.

Basic English skills consist of basic reading, writing, listening and speaking skills, the skills that allow students to explore their learning material and reflect on their individual approaches of gathering, assessing and utilizing information in English.[4]

IT (Information Technology) literacy is the ability to understand and use

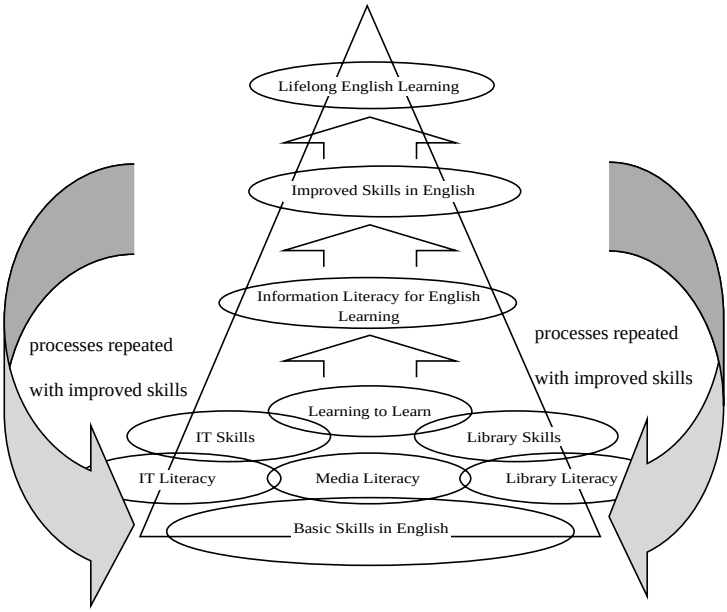

Figure 6

newly introduced and ever-changing technologies such as personal computers to their full potential,. This includes computer literacy, especially software operating literacy, which is considered to be the prerequisite of information literacy. (Bruce, 1999) However, it does not include online resources and databases, which belong to library literacy. It also does not include handling non-computer-based information sources.

Media literacy includes knowledge and skills in retrieving, assessing, analyzing, evaluating and making use of information for communication in a variety of situations and forms. In contrast to IT literacy, media literacy is not only concerned with the latest technological innovations but also regards established or conventional media, such as TV, radio and other communication media as important information resources. Media literacy holds technology on the one hand and consideration of critical thinking on the other. (Höppner,

2004)

The evaluation of information includes issues such as the ethical use of retrieved information. The skills of understanding and evaluating information are also applicable to any context that involves information. This concept is closely connected to the one of learning to learn, for in real-life situations learning is not confined within the walls of shools and libraries (Höppner, 2004).

Library literacy is the ability to efficiently navigate through a library and use its resources which contains such established media as book form references, books and journals, etc. Library literacy now includes handling online resources and databases, and extends its realm into the electronic domain.

The literacy of learning to learn focuses on learners' understanding of their learning processes and their abilities to conduct their own learning. It is to be expected that these learning processes are also carried out by everyone every day. We expect that learners, once learned to learn for themselves, will continue to learn outside of their learning institution throughout their careers in their profession and throughout their lives (Bruce, 1999).

Literacy Book and beyond

Based on these concepts, information literacy coordinated with the EFL/ESL activities has the following benefits:

1. filling the gap between literary students and less literary students;
2. allowing the allocation of more time for English learning activities in CALL classrooms;
3. ensuring essential skills in language learning, and;
4. developing necessary skills to become independent language learners.

This provided the basis of the "Literacy Book" prepared originally at the end of academic year 2000. The latest edition has 70 pages with 25 chapters and 17 Appendixes.

Although "Literacy Book" intends to help students' self-learning of information literacy and skills, when put into practical use, students still find some specific tasks difficult. FTP and corpus searches for English expressions, for example, are among the toughest. Students, when told to learn the concept and skills outside the classroom in self-learning situations, get easily lost because they are not trained in these skills at all. For some of the tasks, at the initial stage at least, there must be face-to-face or hands-on guidance. In order to do this outside of the classroom, there should be some kind of audio-visual online guidance. This could be done with streaming video services via an Internet server.

In putting the instruction online, simple web page with video clips will not suffice. A web page is indeed helpful in providing a gateway to audio-visual support, but it still is a one-way communication from teacher to students, and there will be no interaction to confirm whether or not each student has acquired enough knowledge and skills. More importantly, it is necessary for the instructor and for the learners to assess *how well* the learner has understood the concepts and mastered the skills. In order to achieve this, an effective interactive learning platform should be in order. It will have to be the e-learning platform which enables the instructor to deliver the information that students need, test their understanding in the form of various drills and activities, and collect students' assignments and feedback in a most effective manner.[5]

Conclusion

This paper observes the emergence of new kind of literacy, namely Information/Media Literacy and proposes a new kind of information literacy instruction in English language learning situations. If we could put information literacy in proper perspective in students' language learning processes, it will not only help them to become independent learners of languages, but also help

them to familiarize themselves with the underlying principles of information literacy. This will further let them get acquainted with its concepts, realize that these skills and competencies are applicable in other context of their lives, and thus they will become information literate language learners who are able to indentify, locate, evaluate and use information in a most effective manner.

Acknowledgement

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Notes

1. The activity of my CALL class has been outlined in my previous essay (Nishinoh, Yamamoto, and Okada, 2003).
2. Information literacy is used as an umbrella term in other articles and books, such as, Höppner (2004) and Doyle (1994).
3. Christine Bruce suggests five overlapping concepts to interpret information literacy (1999).
4. In conceptualizing the idea into a diagram, I am partially indebted to Höppner (2004).
5. The most promising e-learning platform by far is the open source software, MOODLE, which has been developed, chiefly by Martin Dougiamas, in an open source community. Unlike WebCT or Blackboard, MOODLE is free of charge and is supported by the world-wide learning communities. See: http://moodle.org.

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要　約

英語CALL授業と情報リテラシー：語学教育への組み込みの試み

西納春雄

コンピュータとインターネットを中心とする情報通信システムの発達に伴って、大学におけるコンピュータ援用英語教育は、もはや初期のドリル型学習を中心としたものではなく、マルチメディアとインターネットの諸機能を利用して、内容重視かつ発見型の学習を取り入れたものになってきている。それと同時に、学習者に要求される情報機器の利用技術や情報の取得と評価の技術（情報リテラシー）も高まっている。幸いなことに、近年大学生の情報リテラシーは年々向上しているが、一方で、学生間の習熟度に大きな差が見られるようになってきた。このような格差を是正し、教育の効果を上げるためには、学習者の語学学習を支援する情報リテラシーを分析し、それを語学授業のクラスに負荷をかけないように教授する工夫が必要である。本論文はそのような試みの一つを紹介する。情報リテラシーは、適切に指導されて学習者の中に定着するならば、語学学習を超えて、生涯継続する知的活動の基盤となることが期待できる。