Beyond Motivation: ESL/EFL Teachers’ Perceptions of the Role of Computers

HOE KYEUNG KIM
Cleveland State University

ABSTRACT
There have been many promises about the benefits of computer-assisted language learning (CALL) in classrooms. The assumption underlying those benefits is that computers would be used in a student-centered and a constructivist learning approach, departing from a teacher-centered teaching approach. The uses of computers in the classroom, however, vary depending on the teachers’ perceptions and expectations of computers. There is little known about the ESL/EFL teachers’ teaching beliefs and perceptions about the role of computers in their classrooms. This study examined 10 ESL/EFL teachers who enrolled in both a teacher education program and an advanced certificate of educational technology program. The grounded theory method was employed to understand these teachers’ perceptions of computers in their classrooms. For data collection, each participant was interviewed for 50 minutes. The findings suggested that these teachers’ perceptions and expectations of computers favored their use as instructional tools. In spite of the recommendations in the literature of CALL, ESL/EFL teachers’ perceptions of the role of computers are limited to a supplemental and instructional tool in their language classrooms. Furthermore, teachers’ perceptions of CALL were still based on a teacher-centered teaching paradigm.

KEYWORDS
Computer-assisted Language Learning (CALL), ESL/EFL, Teachers’ Beliefs, Constructivism, Teacher-centered Instruction

INTRODUCTION
The advance of computer technology has increased the attention and expectation given to the integration of computer technology in English as a Second Language (ESL) or English as a Foreign Language (EFL) classes. In the early stage of computer-assisted language learning (CALL), only a small number of ESL/EFL classes with technologically specialized exemplary teachers were able to integrate CALL into the classroom practice. Thus, the use of CALL was limited to those who had advanced knowledge of and special interests in computer technology. With the widespread use of the internet and computers, however, the integration of CALL in ESL/EFL is now considered a common teaching practice rather than exclusively belonging to those with technological expertise. As the number of computers in classrooms and schools in the US has grown dramatically, the use of computers seems to be a necessary or sometimes required part of teaching methods regardless of teachers’ pedagogical beliefs and technological knowledge.

Although most teachers agree on the importance of integrating computer technology into their curricula, their applications of computers may vary depending on their perceptions and expectations of computers as well as their computer skills and knowledge. Several researchers claim that teachers’ beliefs about the role of technology are the most essential...
factors that determine the content and scope of their use of technology in their classrooms (Becker, 1991; Campoy, 1992; Ertmer, Addison, Lane, Ross, & Woods, 1999; Pedersen & Liu, 2003). Believing that teachers, not computers, are the essential factor for integrating computer technology, Marcinkiewicz (1993) and Miller and Olson (1994) assert the need for studying teachers and their purposes for using computers.

Considering the significant impact of teachers’ beliefs on their teaching practices, it is assumed that the teachers’ beliefs about teaching and their perceptions of computer technology affect their utilization of computers in their classrooms. Miller and Olsen (1994) and Wang (2002) claim that traditional teacher-centered teaching practices do not lead to a successful use of computers; successful use of computer technology requires an instructional change to constructivist teaching (Strommen & Lincoln, 1992; Jonassen, Peck, & Wilson, 1999) as well as student-centered instruction (Pedersen & Liu, 2003; Sandholtz, Ringstaff, & Dwyer, 1997). Compared to the amount of literature on the promises of CALL, few studies have focused on ESL/EFL teachers’ pedagogical beliefs and perceptions about the role of computers in their classrooms.

The significance of this study on ESL/EFL teachers’ perceptions of the role of computer technology is twofold. First, the findings would provide an understanding of why and how language teachers could integrate computers into their teaching practices. Since it has not been clearly identified how ESL/EFL language teachers perceive the role of computer technology, the findings would lead us to anticipate and understand their integration of CALL into classrooms. Second, the findings may facilitate the development of teacher preparation programs in the area of educational technology. Understanding teachers’ perceptions, needs, or interests regarding CALL will provide valuable input for the design and structure of teacher education programs.

The Role of the Computer in Classrooms

In early applications of CALL, the computer was viewed as a device incapable of action itself (Ahmad, Corbett, Roger, & Sussex, 1985). The computer was considered to be fully controlled by and totally dependent on the teacher. Thus, the common use of computers in classrooms was as a tutor (Taylor, 1980) or a teaching machine. For instance, computers were used for drill-and-practice purposes or for presenting materials or texts to individual students which allowed them to practice certain skills at their own pace. These ways of using computers corresponded to what Roblyer (2006) presented as direct models of using computers, such as “integrating computers to remedy identified weakness or skill deficits, to promote skill fluency or automaticity, to support self-paced instruction and to support self-paced review of concepts” (p. 48).

In response to the criticisms of a mechanistic approach to CALL, software evolved into student-oriented applications. Computers in the classroom expanded their functions to provide diverse formats of feedback on students’ performance, to accommodate their choices, and to monitor their learning. These self-learning and individualization features appeared to be conducive to student-centered teaching. Based on the comparison of using computer-based and paper-based EFL tests, Rico and Vinagre (2000) attest that the accessibility and the interactivity of CALL programs motivate students to participate in their learning.

With diverse approaches to the use of the computer and its advanced techniques, the capability of the computer has been expanded beyond many teachers’ imagination and expectations. The introduction of the internet and the use of multimedia provided both ESL/EFL teachers and students with virtually boundless uses. Not limited to the role of the teachers’
instructional tool, the use of multimedia and the internet provides students with learning tools to experience authentic learning materials and explore abundant L2 resources. In light of language teaching and learning pedagogy, the emergence of multimedia and the internet offered a tool to students in that it can expose them to authentic materials and authentic interactive experiences. Students are able to experience diverse perspectives as well as explore authentic materials through easy access, such as online newspapers and magazines (Donaldson & Köttter, 1999; Lee, 1998). Through meaningful activities, computers can enable students to engage with materials in authentic environments and to integrate various language skills and usage (Warschauer & Healey, 1998).

Compared to direct models or teacher-centered teaching, the use of computers in a student-centered approach involves active participation of students in their learning process. As Pederson and Liu (2003) note, however, the teachers’ understanding of student-centered teaching varies in terms of teacher role, collaboration, and student motivation. In light of the various definitions of student-centered teaching, I define student-centered teaching as a teaching approach that emphasizes students’ responsibility for and control of their learning process (Sandholtz et al., 1997), which goes beyond teaching to motivate students to participate in their learning.

CMC and Language Teaching
Considering that language learning requires a considerable amount of input and negotiation, computer-mediated communication (CMC), such as email, computer conferencing, online discussion, and keypals, could bring great benefits in language teaching and learning. Using CMC in the classroom could encourage student participation and communication (Kern, 1995; Warschauer, 1997) by reducing the sense of fear or intimidation (Kelm, 1992; Kronnenberg, 1994) that often occurs in face-to-face communication and by allowing more time for reflection (Abrams, 2001; Duffy, Dueber, & Hawley, 1996).

In spite of its potential in language learning, CMC tends to be interpreted within a limited scope. Generally, the implementation of computers, including CMC, is expected to facilitate and support peer work, group work, and task-based activities (Kern, 1996; Warschauer, 1995). In language learning, however, there is little understanding of the benefits of this kind of computer-assisted collaborative learning. As Crook (1994) points out, there is a need for emphasizing cognitive advantages in collaborative learning that differ from the motivational aspect of cooperative activities. The use of computers for language learning tends to highlight an increase in communication among students via computers and focuses more on the motivation aspect (Braine, 2004; Hanson-Smith, 2000; Ushioda, 2000), outweighing cognitive advantages of interaction generated during collaborative learning activities.

The limitations of computers in language teaching, such as constraints of providing feedback (Salaberry, 2000), lack of nonverbal cues (Ferrara, Brunner, & Whittemore, 1991), and language learners’ limited language (Lee, 2004), seem to reduce the value of computer use in language teaching. As a result, a dominant reason for implementing CALL seems to be limited to utilizing computers as a motivational tool for communicating with target language users or other students instead of utilizing their potential of creating optimal learning environments in which learners can participate and enhance their cognitive development.

The potential benefits of CMC and CALL need to stress that the use of computers can increase the quality of students’ communication as well as enhance their motivation to engage in their learning. For instance, using online discussion boards can promote students’ meaning-making process and enhance interaction skills to help their peers understand their
statements. The use of the internet and email makes it possible to expand the scope of students’ collaborative learning and diversify their context of interaction. Thus, learning becomes a socially mediated process that involves the individual in the construction of knowledge with others (Vygotsky, 1986). The use of computers could facilitate the implementation of a constructivist approach (Jonassen et al., 1999) and assist individual learners in constructing their knowledge and expanding their perspectives by offering communication tools.

The integration of CALL in language classrooms involves various issues of language teaching, such as pedagogical approaches, language skills, learning styles, students’ target language proficiency levels, and motivation. There are some fundamental concerns regarding the integration of CALL in language classrooms, such as whether teachers perceive that computers support their integration of meaningful and authentic communication into language-teaching curriculum (Warschauer, 1996b) or whether teachers envision CALL as a student-centered teaching practice in a constructivist paradigm.

**Use of Computers, Student-centered Teaching, and Constructivist Approaches**

As Meskill, Mossop, DiAngelo and Pasquale (2002) report, it has been believed that technologically experienced teachers tend to focus more on student learning and student empowerment than teacher instruction and student management. Although it is not clear how teachers perceive computers in their classrooms, whether teachers view computers as a tool in either a teacher-centered or a student-centered approach, the benefits of CALL are mostly associated with student-centered teaching or a constructivist teaching approach. In fact, it can be argued that an underlying assumption about effective ways of using computers is that teachers use them in a student-centered and constructivist learning approach. As Miller and Olson (1994) and Cuban (2001) point out, the use of computers was sometimes believed to transform teachers’ pedagogical practices from teacher-centered to student-centered ones.

Pedersen and Liu (2003), however, report that teachers’ notion of student-centered teaching does not necessarily support the idea that students engage in searching and exploring information or resources about learning tasks or that teachers facilitate and encourage students to be independent learners. They state that the notion of student-centered teaching varies from teacher to teacher. They summarize four different definitions of student-centered teaching based on their study of 15 science teachers: (a) students are provided with appropriate instructions and enough explanations by teachers; (b) students are actively engaged in their learning, collaborate with their peers, and are guided by teachers to overcome difficulties; (c) students collaborate with their peers to seek information and solve tasks; (d) students have ample responsibility for their learning. In their study, each teacher showed different views about student-centered teaching and attributing factors for student motivation as well. For instance, those who supported teacher control did not believe that student ownership was an essential element for student motivation.

The potential role of CALL in ESL/EFL classrooms is to enhance student participation in a constructivist learning approach. In other words, CALL would increase student interaction of the target language in the form of exchanging, discussing, and negotiating utterances and information to coconstruct their knowledge about the target language (Jonassen et al., 1999). The use of computers in constructivist learning environments helps students become independent learners by allowing them to explore and discover content to be learned on their own. As Warschauer (1997) claims, the constructivist approach addresses an important potential for how people conceptualize language education and the role that computers can play in it.
A constructivist learning approach needs to be the essence of student-centered teaching in that students interact with their environment, participate in constructing meanings, and become empowered in their own learning (Jonassen et al., 1999). The recognition of students’ needs and interests promotes their active participation by developing a feeling of relevance about their learning activities (Rodriguez, 1996). The use of computers in student-centered teaching embraces a constructivist learning approach and extends to self-structured and self-motivated processes of learning (Rico & Vinagre, 2000; Warschauer, 1996a) as well as collaborative learning through collective learning efforts among peers (Strommen & Lincoln, 1992). The use of computers in student-centered teaching can create learning environments in which students can explore information or resources and coconstruct knowledge with peers (Sandholtz et al., 1997). Wang’s (2002) study, however, confirms that many preservice teachers still prefer to integrate computers in a teacher-centered approach (e.g., utilizing computers as instructional tools).

Before discussing the benefits of computer use, a question that needs to be answered is whether ESL/EFL teachers perceive the use of computers as a means of supporting a student-centered and constructivist learning approach. In CALL classrooms, the potential use of computers needs to be examined in light of teachers’ perspectives. The purpose of this study was to explore ESL/EFL teachers’ perceptions of the role of computer technology in their classrooms. With this overarching question in mind, the following three research questions were developed:

1. How do the ESL/EFL teachers perceive the role of computer technology in their classrooms?
2. In what ways do they believe that CALL can contribute to language learning?
3. How do they expect to integrate CALL in their language classrooms?

**METHODOLOGY**

**Research Design**

A grounded theory method was used as the framework for this study. In an attempt to understand ESL/EFL teachers’ views of CALL, it was necessary to establish an analytic model based on the analysis of interview data (Strauss & Corbin, 1990). The intent of a grounded theory study is to “generate or discover an abstract analytical schema of a phenomenon that relates to a particular situation” (Creswell, 1998, p. 56). In this study, 50-minute interviews were conducted with 10 ESL/EFL teachers enrolled in both a teacher education program and an advanced certificate of educational technology (ACET) program.

**Participants**

The 10 participants were all graduate students enrolled in a teaching-English-to-speakers-of-other-languages (TESOL) program at a university in western New York. They were all pursuing the ACET certificate and shared an interest in employing computers in their future teaching practices. Most participants were in their third or fourth semester of the TESOL program and had taken at least one course in the ACET program.

Participants ranged in age from 25 to 45 years. Nine were female, and 8 were nonnative English speakers: four Koreans, one Japanese, two Taiwanese, and one Venezuelan. Nine
participants had ESL or EFL teaching experiences prior to entering the TESOL program. Their teaching experiences varied from private tutoring to teaching at public junior-high schools and colleges, and the length of their teaching experiences varied from 3 months to 28 years.

Participants’ computer knowledge was consistent in that they reported that they were comfortable in using computers for personal uses (e.g., word processing), searching the internet, and exchanging email. Eight participants reported that they had an experience of creating their own web pages. Table 1 presents demographic data listed by pseudonym.

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Age</th>
<th>Teaching experience</th>
<th>Computer skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anne</td>
<td>Female</td>
<td>44</td>
<td>20 years (ESL)</td>
<td>Word processing, internet</td>
</tr>
<tr>
<td>Pat</td>
<td>Female</td>
<td>35</td>
<td>10 years (EFL)</td>
<td>Word processing, internet, email, creating homepage</td>
</tr>
<tr>
<td>Jane</td>
<td>Female</td>
<td>30</td>
<td>3 years (EFL)</td>
<td>Word processing, internet, email, creating homepage</td>
</tr>
<tr>
<td>Jennifer</td>
<td>Female</td>
<td>23</td>
<td>1 year (EFL)</td>
<td>Word processing, internet, email, creating homepage</td>
</tr>
<tr>
<td>Matt</td>
<td>Male</td>
<td>30</td>
<td>7 years (ESL/EFL)</td>
<td>Word processing, internet, email</td>
</tr>
<tr>
<td>Mary</td>
<td>Female</td>
<td>25</td>
<td>2 years (EFL)</td>
<td>Word processing, internet, email, creating homepage</td>
</tr>
<tr>
<td>Shirley</td>
<td>Female</td>
<td>25</td>
<td>1 year (EFL)</td>
<td>Word processing, internet, email, creating homepage</td>
</tr>
<tr>
<td>Jodie</td>
<td>Female</td>
<td>30</td>
<td>3 years (ESL/EFL)</td>
<td>Word processing, internet, email, creating homepage</td>
</tr>
<tr>
<td>Christine</td>
<td>Female</td>
<td>24</td>
<td>3 months (Tutoring)</td>
<td>Word processing, internet, email, creating homepage</td>
</tr>
<tr>
<td>Julie</td>
<td>Female</td>
<td>45</td>
<td>28 years (EFL)</td>
<td>Word processing, internet, email, creating homepage</td>
</tr>
</tbody>
</table>

Data Collection
Data collection took place over one semester. Each participant was interviewed once, and each interview lasted for about 50 minutes. The interview questions were semistructured and focused on ESL/EFL teachers’ perceptions of CALL, beliefs about language teaching and pedagogy, and expectations about the use of computers in ESL/EFL classrooms (see the interview questions in the appendix to this article). During the interviews, participants described their views regarding computer technology, gave examples of the benefits of CALL, and provided descriptions of sample lessons using computers. All interviews were audiotaped and transcribed at a later date.

Data Analysis
The interview data were analyzed based on the constant comparative method (Glaser & Strauss, 1967; Strauss & Corbin, 1990), and the coding process followed the analysis of the
grounded theory (Strauss & Corbin, 1990). Any words or sentences relating to the teachers’ perceptions and expectations of the role of computers, the role of CALL and its contribution to language learning were coded, conceptualized, and categorized using the constant comparative approach until the categories were saturated. The seven codes—computers for resources, tutors, communication, presentation, writing, motivators, and optional tools—were compared, connected and categorized into three codes: computers as tools, motivators, and optional tools. These categories were connected to build a story that ends with a discursive set of theoretical propositions (Strauss & Corbin, 1990). This analysis process included highlighting, color coding, and sorting to confirm evidence of recurring patterns and categories. After categorizing and interconnecting these codes, analytical diagrams that visually represented the interrelationship of these categories were created to aid in identifying the core categories and generating a model for understanding the perceptions of ESL/EFL teachers of CALL.

To establish the trustworthiness of the findings, peer debriefings and member checks by the participants were used to support the credibility of the findings. In addition, the researcher’s logs, embedding personal experiences, and reactions were reviewed to reduce the researcher’s personal biases and assumptions in completing data analysis.

FINDINGS

Because the participants’ teaching experiences varied, the researcher expected that their perceptions and expectations concerning the role of computer technology as well as their purposes for using computer technology in their classrooms would also vary. There was, however, an emerging theme in these 10 teachers’ perceptions of computers, that is, computers as an alternative and optional tool. When the researcher asked the teachers why they wanted to use computers, eight teachers stated that a technological skill might make them more competitive candidates in the job market. To some degree, all of the teachers felt some pressure to use computers in their classrooms. Despite their concerns about an increasing social pressure to use computers in classrooms, all of the participants affirmed that a computer was an optional tool, not a mandatory tool. In order to successfully integrate computers, they emphasized a technical precondition: classrooms need to be equipped with up-to-date hardware, appropriate software, and available technical assistance. It would seem that the teachers did not view the use of computers as part of their regular and routine teaching practices. Their perceptions of the role of computers confirmed a teacher-centered use of computers (Wang, 2002) and their own differing views of student-centered teaching (Pedersen & Liu, 2003). An attempt to answer the three research questions helped the researcher understand the teachers’ perceptions better.

**Question 1. How do the ESL/EFL teachers perceive the role of computer technology in their classrooms?**

Three categories emerged from the data regarding the role of the computer: computer as a tool, computer as a motivator, and computer as an optional tool.

**Computer as a tool**

The first category of computer as a tool can be divided into resource, tutoring, communication, presentation, and writing.
Computer as a tool for resources. During the interviews, the teachers frequently mentioned that they would use computers to seek and gather useful information or resources. They agreed that the internet provided a lot of supplementary resources and information for both teaching and learning. They valued the use of the internet because it offered authentic materials and increased students’ exposure to input of the target language. Anne’s statement provides an example of using the internet as a resource.

I mean the internet, if you are using the world wide web, you can access anything you want, you can read the New York Times ... you can get all kinds of references, materials, yes, sure. I think of the internet as going out and getting things.

In spite of its function as a huge information provider, there was a degree of hesitance among the teachers for students to use the internet as a learning tool, especially with respect to their unguided surfing and access to excessive information. They believed that students’ exploring the internet would not necessarily yield effective language learning results. Emphasizing a certain degree of teacher control in students’ learning process, they preferred to designate website links or use their own websites as a reference for students. These teachers preferred using their prelinked websites instead of allowing students to use search engines to discover various resources on the internet. Their concern about wasting students’ time surfing the internet matches the statement that, “student-centered activities are more time-consuming than teacher-directed ones” (Pedersen & Liu, 2003, p. 69). The teachers’ tendency to use computers as an instructional tool, not a learning tool, confirmed what Wang (2002) refers to as a teacher-centered use of computers.

Computer as a tool for tutoring. Commonly, these teachers assumed that computers would provide students with a convenient learning tool. Their assumption about computers was derived from their understanding of “pedagogical caring,” that is, caring for students’ different needs and levels of language proficiency. The role of computers conceived by these teachers was mainly to allow students to practice certain language skills at their own pace if they needed. Jodie’s comment about the use of computers illustrates this idea:

I would use it a lot for listening. I would like to use those for listening because I think it is good ... some students are good at listening and some students have to listen to it again. That’s one of the great advantages; some students have to listen to it two or three times. So they can practice on their own pace and enhance their listening skills.

To a certain degree, their views about using the computer as a convenient tool seemed to be similar to what Taylor (1980) suggests as a tireless tutor and Roblyer (2006) describes as a direct model in terms of focusing on practice-and-drill purposes.

Computer as a tool for communication. The teachers suggested using computers for a communication tool (CMC) in language classrooms. They believed that computers could encourage students to communicate with their peers by providing them with a convenient communication tool. They all expected computers to foster meaningful and authentic interaction among students and with native speakers of the target language. Julie mentioned creating an authentic situation as an advantage of having CMC, stating, "Students can communicate, you can get into these keypals...so they are reading real messages written by somebody and answering them.”

Although computers can enhance student interaction by supporting pair or group work in classrooms, the teachers only mentioned using email as the way to promote communica-
tion outside the classroom. While seven teachers exemplified keypals as a good model of using computers, only two teachers addressed the use of computers for peer review and peer editing. The teachers seemed to focus more on increasing the quantity of communication than on developing students’ cognitive abilities through interaction. The potential benefits of using computers for communication, such as exchanging ideas and opinions (Kern, 1995; Pawan, Paulus, Yalcin, & Chang, 2003; Warschauer, 1997) to enhance students’ understanding of the target language, did not figure in the teachers’ perceptions of the usefulness of computers. In fact, when the teachers were asked about the educational value of communication and interaction in relation to the benefits of having computers in language classrooms, none of them associated their use of computers with the advantages of creating collaborative learning environments. A similar pattern emerged in the study by Pedersen and Liu (2003), “none of these teachers talked about other potential benefits of collaboration” (p. 74).

Computer as a tool for presentation. With the use of multimedia and the internet, the teachers expected benefits of presenting diverse modes of input for students. They assumed that easy access to the internet, which contains audio, graphic, video, and textual materials, would help teachers find effective teaching materials that match students’ different learning styles. They stressed the capabilities of computers to present teaching materials in diverse and individualized formats. These teachers preferred to utilize computers as an effective instruction tool rather than as a students’ learning tool. Arguably, they perceived computer technology as a tool to be used by teachers to create, present, and modify their teaching materials. Mary described how computers could be helpful in giving instruction.

If you are teaching writing ... like a brainstorming process, when it is too difficult for students to imagine what they should do. Actually you can explain them ... but if you can use a computer, you just show them ... it is so easy with computers.

The teachers’ preference for using their websites as an instructional tool confirmed their views of computers as a teacher’s tool. None of the teachers mentioned creating and using websites as students’ learning tools, such as a place for posting their ideas or hosting a collaborative group project. As a part of the instructional tools, most of the teachers planned to create and use their own websites in the future. Five teachers considered using their own websites as in-class teaching materials, and four other teachers planned to use them outside the classroom for guidance on assignments. In spite of their different purposes, their descriptions of websites were very similar in terms of design and content. The websites they mentioned were fairly structured, consisting of links to other websites for necessary information and references for either classroom activities or assignments. There seemed to be no space for online discussion or interaction activities for students. According to the teachers, the primary reason for using their own websites was to save class time and to assist students in their learning, if necessary, so that they would be less likely to get lost or distracted by aimless surfing on the internet. Instead of perceiving computers as a learning tool for discovering and exploring the information to help students to become autonomous learners, the teachers were more concerned about students’ getting lost or being distracted.

Computer as a tool for writing. All of the teachers agreed that computers were a useful tool for teaching writing skills. In fact, the most popular application of computers was word processing. They listed three ways to use computers as a writing tool: editing drafts, submitting papers, and providing feedback. They believed that computers could equip teachers with an easy tool for editing their teaching materials and for providing feedback on student work. Shirley gave an example of using computers for editing:

Like students send you their assignments, writing assignments, you can use a
caption [feature]. By using a caption, you can use different colors or fonts and they [students] can read your feedback ... they see your comments along with their original draft.

In spite of the ease and convenience of using computers in editing and writing, the teachers were cautious about students’ overuse of computers in writing. Shirley expressed her concern with excessively using computers:

I think the disadvantage is depending on computers all the time ... a computer is a tool. You can use it when you need it ... if you use a computer all the time, kids will lose the ability of composing with a pencil and a paper. I am a little bit worried about that.

Shirley’s comments revealed these teachers’ concerns about overusing computers and replacing valuable learning experiences with computers. These teachers claimed that certain things needed to be taught in a certain way without using computers. Matt’s comments confirmed this argument:

If you can do an activity without using the computer, why use computers ... I mean why you [a teacher] do chemistry and biology simulations on computers when you can do the experiment right there in classrooms. Hands-on learning is, I still think, better than using the internet.

Clearly, the teachers thought that using the computer did not necessarily create a better quality of learning experience for students than other, more traditional classroom processes.

Computer as motivator
Without exception, all of the teachers pointed out motivation as a benefit of using computers. As Warschauer’s study (1996a) suggests, the teachers strongly believed that computers motivate students to engage in their learning. Jodie clearly stated the motivation factor as her main reason for using computers: “I really think it [a computer] motivates students a lot. The younger the students are, the more natural a computer is to them.”

The teachers, however, responded differently as to how computers could specifically increase student motivation. Half the teachers associated using computers with authentic materials, authentic interaction with native speakers, and collaborative activities. Eight teachers believed that the use of computers would motivate students to participate in their learning by providing a variety of activities and different mediums. The teachers’ responses to the educational value of computers revealed that they regarded computers as a motivator in terms of versatile audio and visual devices (Rico & Vinagre, 2000), their rich media, and novel experiences (Pedersen & Liu, 2003).

Computer as optional tool
Although all of the teachers committed to use computers in their classrooms, they viewed using computers (or visiting computer labs) as an optional choice. Only four teachers stated that their major reason for using computers was their handiness, such as for writing or obtain-
ing information, whereas all the teachers said that it would be a matter of worthiness. They meant that even though using computers was not handy, they would use computers as long as they were worthwhile. The matter of worthiness, however, seemed to be arbitrary and situational in that there were no clear criteria to determine the notion of worthiness.

The teachers’ beliefs about language teaching and learning affected their perceptions and expectations of computers as well. They did not believe that computers could develop all four language skills equally. They all expected that computers, especially using the internet and multimedia, could promote students’ reading comprehension. The teachers held different opinions, however, about using computers to teach writing and listening skills: four teachers said that computers would help students improve their writing skills, and eight teachers agreed on the advantage of using computers to teach listening skills. None of them mentioned the benefit of using computers to advance speaking skills. These comments implied that the teachers’ perceptions were even more pronounced than the claim of some researchers (Becker, 1991; Campoy, 1922; Ertmer et al., 1999; Pedersen & Liu, 2003) that computers were utilized differently in different classrooms, depending on teachers’ beliefs about computers. Mary’s statement epitomized how the teachers perceived computers in their classrooms: “Well, I think we can have it [a computer], but we cannot have it too. I don’t think it will influence language class a lot.”

As all of the teachers asserted, the use of computers was optional in their classrooms; computers were secondary, supplemental tools in language classrooms, as Matt’s statement confirmed:

As a supplement, I don’t want my class to become a computer science class. It is not a keyboarding class. This is a supplement to what I am doing. I am an ESL teacher. At least, for the time being, I will never say never, but I don’t imagine that the computer is going to take over my classes and become the center of my class.

Due to the limitations of computers in language teaching (Ferrara et al., 1991; Lee, 2004; Salaberry, 2000), the teachers viewed computers as a peripheral part of their classrooms. They planned to control the content by utilizing their own homepages as course material instead of allowing students to explore the internet freely. They wanted to ensure that students were on the right track in their learning processes, believing that computers, especially access to the internet, could divert students’ learning if not properly controlled. In addition, the limitation of computers in developing four language skills reinforced their tendency towards teacher-centered practices in CALL. Shirley commented that, “There is something computers cannot replace ... I sometimes want my students to come back as a whole as a class without a computer ... and listen to each other.”

Interestingly enough, these teachers’ definitions of certain terms related to the role of computers were somewhat different from those discussed in the literature. For instance, their use of the term tool for tutoring could well be interpreted as less a teacher in that computers are not as interactive, flexible, or intelligent as human teachers. Therefore, their idea of the term tutor is more advanced than that of the traditional sense of tutor in CALL, that is, drill-and-practice programs. The teachers’ view of computer as tool was more constrained than the one normally applied to both teachers and students. In these teachers’ case, their notion of tool did not necessarily lead to student empowerment in the learning process. The teachers’ idea of computer as motivator was limited to the effects of audio and visual stimuli to draw students’ attention to specific aspects of language, not to stimulate them to discuss, write, or develop their cognitive abilities (Jonassen et al., 1999; Warschauer, 1996b). Apparently, the
differences in definitions, representations, and applications of those terms were derived from their pedagogical beliefs and language teaching practices, indicating the gap between their teacher-centered approach and a constructivist learning approach.

An analysis of the relationship among these three categories was also undertaken. Compared to the two categories, *motivator* and *option*, the first category—*computer as tool*—narrowly and specifically defined the use of computers. Based on this analysis, Figure 1 was developed. As seen in Figure 1, the two categories, *motivator* and *option* limited the other five ways of using computers as a tool. In sum, these teachers viewed computers as a motivator and their applications as limited, which led to their use of the computer as a limited tool.

**Figure 1**
The Impact of the ESL/EFL Teachers’ Limited Views on the Role of Computers

**Question 2. In what way do the teachers believe that CALL can contribute to language learning?**

All of the teachers stated that the use of computers could be beneficial to language learning. For the second research question, they responded that CALL could support student-centered teaching and increase student motivation. They added that computers allowed students to choose their own learning materials based on their own interests, to adjust their learning speed, and to practice more exercises if needed. By doing so, the teachers believed that students would have more control over learning materials and learning processes and eventually become independent learners. Arguably, their assumptions about the benefits of CALL were based on their view of student-centeredness, which was limited to “pedagogical caring.” Jodie’s priority in her teaching practice confirmed their cares about students: “So it has to be for the students no matter what you do. It has to be not for the sake of technology itself. It has to enhance meaningful learning.”

In spite of their notion of student-centered learning, the teachers could not associate the use of computers with fostering student-centered learning activities in the sense of
students’ empowerment in their learning. Their idea of student-centered teaching was limited to pedagogical caring, not extended to creating a constructivist learning environment in which tools are provided for meaning making, exploring, critical thinking, and collaborating (Jonassen et al., 1999). The main reason for their use of computers came from their values about catering to different students’ learning styles, needs, and interests. When the researcher asked the teachers about their purpose in using computers, they all said that they would use computers to increase student motivation. As the other teachers did, Christine anticipated that students would be motivated through interaction: “That must be fun for students to talk to people who are in America. If they are learning English, I think, that it will be a really good motivation to write in English.”

The purposes of the teachers’ computer use were slightly different from what many CALL supporters and the constructivists believe the role of computers is supposed to be. Seemingly, these teachers’ visions of CALL focused solely on student motivation without the involvement of expanding interactive and collaborative learning activities. Their idea of motivation was not related to student ownership of the learning process and discovering knowledge, but “to the delivery medium and the sheer novelty of the experience” (Pedersen & Liu, 2003, p. 70). The teachers’ interpretation of student-centered learning simply meant providing more fun and interesting materials and activities than in traditional classrooms. Their ideas of student-centered learning, interactive learning, and collaborative learning were not rooted in a constructivist paradigm. This argument became clear when they used motivation interchangeably with students’ enjoyment or fun and disconnected from a constructivist learning approach.

The disengagement between a constructivist learning approach and computer as motivator demonstrated the teachers’ limited views about the role of computers. Even though they agreed that CALL created a student-centered learning environment and motivated students to learn, they only acknowledged motivation as a benefit of using computers. Failing to link an application of computers with fostering student empowerment and constructivist learning manifested the teachers’ narrow vision of student-centered teaching and their teacher-centered tendency. This tendency was shown consistently among the teachers. Julie stated her view about the relationship between a teacher and computers:

My use of technology would be just an aid to what I am doing or an aid ... a way of facilitating what I have to, whatever my objectives are for the course. I would never put technology as a center of my course. It is just an aid. That’s how I see technology. And it is a tool to deliver better whatever I want to deliver to my students.

Their lack of understanding of the importance of using computers in a constructivist paradigm led them to restrict computer use to that of an optional tool. This explained why the teachers’ views about the role of computers were limited, upholding a teacher-centered approach. As Miller and Olson (1994) argue, the lack of innovative integration was related more to teachers’ preexisting conceptions of teaching practices than to their lack of technological knowledge.

**Question 3. How do the teachers expect to integrate CALL in their language classrooms?**

There was a consistency in the teachers’ views on how to use computer technology. They were planning to use the computer actively, but slowly and in a controlled manner (see Figure 2).
The teachers’ idea of integrating computers in their classrooms was limited and restricted in terms of controlling time, frequency, and content. Mary elaborated her restricted use of computers on the time and frequency:

If I want to do it, I will set up rules, all kinds of rules, like number 1, number 2... that they need to follow. I will have a time limit like ‘Okay, in 10 minutes they can surf on the web first or in this site first and get the information they want’. Without time pressure they may surf all day without getting any information. At the beginning, I will kind of limit their freedom and give them some pressure. And I will give them a very narrow task.

Mary’s comment shows how meticulously these teachers planned to control the use of computers. Like Mary, all of the teachers had a clear idea of how they would use computers, both in terms of content and time. Believing that computers could not develop all four language skills evenly, the teachers determined to use computers in a limited and selective way. They did not wish to use computers in their classrooms all the time, nor even on an everyday basis. Anne stated that “I didn’t think it is something you needed to use every day. But it is something that can help them with a lot of practice, for example, the TOEFL Sampler.”

In spite of the recommendation of an integrative application of CALL (Warschauer & Healey, 1998) and constructivist ways of using computers (Jonassen et al., 1999), the teachers’ perceptions of CALL were narrowly constrained. Their applications of CALL seemed to contradict the basic notions of an integrative application; that is, using a variety of technological tools in an ongoing process of language learning instead of visiting a computer lab on a once-a-week basis for isolated exercises (Warschauer & Healey). Based on their perceptions of computers, the teachers’ application of computer technology was constrained in terms of time, frequency, content, language skill, and context.
CONCLUSIONS

As shown in the findings discussed here, the teachers’ views of computer technology revealed considerable teacher-centeredness. Their views of the role of the computer were limited to considering it as a supplemental teacher’s tool. There were similarities among the teachers’ perceptions of the role of computers: computers as a resource, a tool for tutoring, communication, presentation and writing, a motivator, and an optional tool. The views they held in common showed that their perceptions and expectations of computers favored their use as an instructional tool, not as a learning tool for students. As Wang’s (2002) study suggests, the teachers’ choices of computer use were more teacher centered than student centered. Similar to the findings of Pedersen and Liu (2003), the teachers’ understanding of student-centered teaching did not mean student empowerment in their learning, nor did it indicate that the teachers envision the use of computers in a constructivist approach.

From these findings, three implications can be drawn. First, contrary to the expectations and recommendations of educators and researchers, the teachers’ perceptions of the role of computer technology were limited to its use as a supplemental and instructional tool in their language classrooms. Their use of computers was selective, controlled, and conditional, which led them to use computers as teachers’ tools. The fact that the teachers overlooked students’ internal learning processes in relation to their use of computers indicates their failure to utilize computers in a constructivist approach. Computers can create a student-centered learning environment by empowering students to control their own learning process (Jonassen et al., 1999) and by fostering collaborative and interactive learning. The teachers’ diverse definitions of student-centered teaching and their difficulty in envisioning computer use in a constructivist approach shed light on the significance of teacher education programs (Wang, 2002). Teacher education programs need not only to provide both preservice and inservice teachers with effective applications of computers, but also demonstrate educational benefits of computer use in a constructivist paradigm.

Second, teachers’ perceptions of CALL were still based on the teacher-centered teaching paradigm. As Wang (2002) argues, the teachers’ perceptions of computer use showed a strong preference for teacher-centeredness. In spite of the fact that current language teaching approaches have shifted from teacher centered to student centered, the teachers’ perceptions and expectations of CALL have not yet changed, nor, consequently, influenced their perceptions about the role of computers. Computers in classrooms are often not used to full potential because teachers uphold a traditional teacher-centered teaching methodology. In maximizing the benefits of using computers, ESL/EFL teachers need to be familiar with utilizing computers as a powerful and potential medium, both as teaching and learning tools. To meet these ends, it is recommended that teachers receive professional guidance in using computers in a constructivist learning paradigm that stresses students’ cognitive development and empowers students in their learning process. Language teachers need to consider how to utilize computers in ways to develop students’ cognitive abilities, enable them to explore their learning process, and help them discover content knowledge instead of directing student learning in CALL.

Third, failure to redefine the role of teachers and the role of computers in a constructivist learning environment will likely result in a controlled use of computer technology as well as restrictions of their potential use. When teachers are flexible in their role as teachers, they can expand their use of computers. For extensive use of computers, teachers need to modify their teacher-centered teaching beliefs and their perceptions of computers. Furthermore, teachers need to redefine the notion of student-centered teaching and its educational value. As Pedersen and Liu (2003) show, teachers’ integration of computers in a student-centered teaching approach are affected by their beliefs about effective practices. After all, teachers play a crucial role in integrating computers in the classroom.
The limitation of this study was the unbalanced ratios of ESL and EFL teachers among the participants. Due to the nature of enrollment in the TESOL program, the participants’ teaching backgrounds and experiences were not homogeneous. Teachers’ previous teaching experiences and their teaching context undoubtedly influence their expectations and perceptions of computers. Considering contextual differences between ESL and EFL classrooms, such as curriculum and institutional settings, ESL and EFL teachers’ beliefs about language teaching might be different. In general, the curricula of EFL classrooms tend to be more constrained and test oriented than those of ESL classrooms.

For further research, two studies are suggested: a study on how ESL/EFL teachers could integrate CALL in order to yield constructivist learning environments and a study on how the role of teachers needs to be redefined in CALL classrooms.

NOTE

1 The ACET program is designed for students who wish to enhance their understanding of and proficiency in the use of educational technology. This certificate program focuses on three main issues: social and psychological issues involved in using technology in educational settings, the use of computer-based technologies in the student’s particular area of programmatic interest, and the design and development of new computer-based materials.

REFERENCES


**APPENDIX**

Interview Questions

**General Information**

1. Would you tell me about your computer skills? Could you name the computer software programs that you can use?

2. Have you taken any courses related to computers? If any, what are the names of the courses?

**Experience of Teaching**

3. Would you tell me about your ESL/EFL teaching experience briefly?

**Experience of Using Computers**

4. Have you used computers in your teaching? How did you use computers in your teaching, if you have?
Using Computers in Language Teaching

5. What do you think of the roles of computers in language teaching?

6. What are the benefits of using computers in language teaching?

7. Are you planning to use computers in your teaching in the future? If yes, how are you going to use computers in your classroom?

8. Can you give me some examples of how you are going to use computers in your teaching?

AUTHOR’S BIODATA

Dr. Hoe Kyeung Kim is Assistant Professor of TESOL at Cleveland State University, Ohio. Her research interests include teacher education, educational technology, second language acquisition, culture and identity, and the practice of constructivism.

AUTHOR’S ADDRESS

Hoe Kyeung Kim, Ph.D.
Cleveland State University
2121 Euclid Ave. RT. 1343
Cleveland OH 44115
Phone: 216 523 7122
Fax: 216 687 5379
Email: h.k.kim64@csuohio.edu