Integrated e-learning systems can have a significant impact on English teaching in secondary education settings. With this in mind, the authors present two e-learning applications which have played significant roles in action research projects. The first is an approach to presenting content and facilitating in-class student understanding; the second is a system for facilitating teacher-student interaction. Through an enhanced e-learning environment, the high school teachers involved in the projects are now better able to 1) understand student comprehension levels and processes and 2) establish empathetic and collaborative teacher-student relationships.

1. Background: Setting the stage

Many English teachers in secondary school settings find it difficult to identify and reflect on their student’s learning processes. Barriers to reflection on action (Schön, 1987) include limited time and administrative support for data collection and discussion. A narrow perspective of ICT’s potential is another obstacle to professional development; many teachers use CALL only as a self-study tool for students (Gaynor, 2004). Tokai University’s Research Institute of Educational Development (RIED) has been developing online communication systems since 2002 (Gaynor, Suzuki & Odaira, 2002; Suzuki & Fujieda, 2004) so that junior and senior high schools can take advantage of them to promote English education. Some schools currently use the system as a tool for promoting T-S interaction, as well. This paper will outline the structure of the Classpage component, and clarify the roles and effectiveness of the ICT applications. Data collected demonstrates how ICT promotes and supports teacher-student relationships.

2. e-learning Systems: Setting up an ICT environment

The ICT environment set up by RIED for use by high schools consists of four types of servers: First is the teachers’ file-server, which enables them to share their teaching materials and data with each other. Second is the students’ file-server, where students save their materials and data in preparation for undertaking extended activities. Third is the web-server where class pages are set (Fig.1) to promote T-S interaction and cultivate student autonomy. The web-server also features a Teacher Homepage. The final component is the mail-server, used primarily for T-T interaction, both within in the English department, and with outside advisors.

3. Classpage: Supporting Learner Autonomy

Students and their teacher can access this page, using their own ID and password, both inside and outside class. The Classpages (see Fig.1) have significantly enhanced both T-S and S-S interaction as seen in the Writing Journal, cgi Questionnaires and on the BBS.
is that the students should have a target audience in mind when posting. Though linguistic accuracy is a secondary consideration, students are expected to type their message into a Word file and do a spell- and grammar-check before posting.

Topics are generally set by the teacher, with students responding by expressing their own opinions. Additionally, students are encouraged to set their own topics and post their writing. Teachers have found that with easier topics, most students write freely, though the content tends to be shallow. On the other hand, while setting relatively difficult topics results in fewer postings, students tend to think carefully about the topic and write more in order to express their thoughts precisely and in detail (see Table 1).

<table>
<thead>
<tr>
<th>Topics</th>
<th>Postings (%)</th>
<th>Words (AVG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>My Self-Introduction</td>
<td>73</td>
<td>71.3</td>
</tr>
<tr>
<td>My Favorite Color</td>
<td>86</td>
<td>37.5</td>
</tr>
<tr>
<td>My Free Time</td>
<td>80</td>
<td>62.7</td>
</tr>
<tr>
<td>For or Against Smoking</td>
<td>60</td>
<td>89.5</td>
</tr>
<tr>
<td>Similarities and Differences</td>
<td>47</td>
<td>115.4</td>
</tr>
<tr>
<td>Classifying Things</td>
<td>33</td>
<td>117.6</td>
</tr>
</tbody>
</table>

Table 1. Writing Journal Participation Rate

Student postings are easily transferred into a Word file for printing out and distributing to the students (see Fig.2). Seeing the outcome of their work in printed form helps students understand the concrete nature of their effort, and stimulates higher motivation for future activities.

3.2 cgi questionnaires: Processing student feedback

Students are required to answer both multiple choice and open-ended questions in order to clarify and reflect on 1) their learning and experiences in each lesson or project and 2) their teacher’s support throughout. By compiling and summarizing student answers, teachers are also empowered to reflect on student learning and ways to advance their own teaching practices.

The value of the cgi questionnaires lies in the teachers’ enhanced perspectives of their students’ learning. The resulting data helps teachers empathize with their students, and adjust their own future expectations of their learning.

3.3 BBS: Interacting meaningfully in / outside class

The Group Activity BBS (see Fig.3) is used by both students and teachers to keep track of their group’s progress. Through the BBS, students can also interact with their teacher about their group projects. In one project, for example, groups created pages for a guidebook. The target audience was foreign people living in Japan who would need to know important information such as emergency earthquake procedures or how to use the public transportation systems. Teachers were able to monitor each group’s progress, offering necessary advice. Because of this enhanced communication and awareness, teachers could then better adjust their teaching schedule for the next lesson.

3.4 Student work: Upgrading learner outcomes

The process of identifying and targeting an audience for their message has helped students search for and select appropriate information on the Internet. This decision-making process, in turn, has enhanced their student autonomy. Additionally, the fact that all student work (see Fig.4) is created and shared digitally, gives it a look and feel which is both more sophisticated and authentic than...
paper versions would have. Since digital files can be easily accessed and sent, students are able to get real responses from the outside world, again resulting in higher motivation for future activities.

4. Teacher Homepage: Facilitating T-T collaboration

The Teacher Homepage enables teachers to share and unify a wide range of materials (see Fig.5). In addition to uploading and accessing planning, teaching, and testing materials anywhere and anytime, the Class Journal provides a forum where they can share experience or problems.

Fig.5. Course list in Data Bank

4.1 Lesson Introduction: Sharing teaching materials, building background knowledge

Student understanding is greatly enhanced through visual aids, particularly when the language of instruction is English. When teachers truly collaborate on materials such as animated slides (see Fig.6), not only are their classes unified, but they are then able to reflect together on ways to improve both learner outcomes and their own teaching materials.

Fig.6. Sample lesson introduction materials

4.2 Class Journal: Reflecting on teaching practices

Teachers write about how students are learning in their classes and ask each other for advice about how to improve learner outcomes (see Fig.7). Reflecting on learning and teaching creates an environment where they can also share any information about challenges and successes.

Fig.7. Class Journal

5. ICT and the ZPD: Enhancing learner & teacher autonomy

The authors have created a model (see Fig.8) which attempts to show how a teacher-student collaborative relationship can be constructed (Little, 1999; Schewienhorst, 2003). Teacher roles are not deemphasized when ICT systems are introduced; rather, they are shifted from that of instructor to that of facilitator of real-world interaction, and to that of participant in the classroom community. By establishing a cycle of constant decision-making, practice and reflection, ICT promotes both learner and teacher autonomy.

Fig.8. T-S Relationship during an extended activity

6. Concluding remarks

The online communication systems presented above have been shown to support T-S communication and to promote their relationships. Students learning outcomes have improved dramatically with the help of their teachers (Sato, 2006) and with the assistance of this ICT system. As a result, the teachers have redefined their roles so that they are better supporting their students, improving their own teacher autonomy in the
Taking advantage of the ICT systems has also enabled teachers to change their habits of collaboration with each other. Teacher-teacher communication has also been enhanced by sharing the materials and discussing various relevant learning and teaching issues.

In this way, through an enhanced e-learning environment, high school teachers working with RIED’s ICT systems are now better able to 1) understand student comprehension levels and processes and 2) establish empathetic and collaborative teacher-student relationships.

References