Introduction
The English teaching program at Iwate University is very flexible with the teachers deciding their own syllabus and assessment. This leaves the entire program to the discretion of each teacher and as a result there is very little collaboration between teachers other than the occasional “What are you doing today?” This kind of program relies heavily on the experience of the teacher and the willingness of the teacher to create a program that is at par with the university’s overall goals for the student.

At that time as a part time teacher, de Boer felt that the needs of the students were far greater than a regular communication class, where the textbook are primarily focused on teaching English as a foreign language (TEFL). From prior experience at the university level, de Boer found that the students in the engineering classes were for the most part unmotivated. Student presentations at the end of the year were largely topic based, mostly to do with new technology and global warming issues. De Boer decided to change his program from that of teaching English to that of teaching the science of global warming and the issues associated with it. De Boer produced a small textbook and trialled the class during first term 2009. Ogawa, during this trial period also expressed an interest in this kind of teaching as she was also teaching global warming issues in her English classes. The authors each taught the same students in the second term so they decided to create a more robust booklet that could be used for both classes consecutively and created a syllabus that covered an entire 30 lessons, including shared assessment.

This paper will outline the program and show qualitative results that students in this type of program can benefit from teacher-teacher collaboration, in this case Native Speaker (NS) and Non-Native Speaker (NNS) collaboration at the university level and the benefits to the students in the type of content-based instruction (CBI hereafter).

English courses at Iwate University
At Iwate University, English is a compulsory subject for all first year students. They have at least one course, namely “English Communication” class with a teacher who is a ‘native speaker’ of English and another course with a teacher whose native language is Japanese. Therefore, the students have at least two different English classes a week, each time for 90 minutes. There are a total of 15 classes per course. They have different teachers in each semester. The majority of the teachers for the first year students are part-time and there is very little collaboration between teachers. In some cases, where the students have four English classes per week, there may be overlap in the content since the class content, writing syllabi, setting up assessment criteria are left entirely up to individual teachers. As far as we know, there are no general guidelines, except that in oral communication classes, the focus should be on developing students’ listening skills and in Comprehensive English classes, overall language skills should be taken into consideration.

Context
The class taught by the authors in the second semester 2009, consisted of 42 first year students majoring either in engineering
or in agriculture. It seems like although the level of this English class is intermediate, most of the students feel their English abilities are inadequate and feel incompetent in communicating in English. This may be due to the current English education system at the high school level that focuses too much on grammar translation practice. Therefore, the students are not used to using English to communicate. As noted in the introduction, it was very difficult to encourage engineering students to speak in class compared to education and literature major students. Many other teachers who teach engineering students share this same opinion. However, in the real world, engineers and scientists do communicate in their work in their related fields. De Boer and Ogawa intended to find some topics that were engaging and motivating for these students to encourage communication. They made their own materials, as no coursebook provided either the content information or the tasks that the authors felt were appropriate for the target students.

De Boer’s focus was on the study and science of global warming, with discussions on the impact, both ecologically and environmentally. Students were encouraged to discuss the topics most pertinent to their own areas of study, especially for their final report and presentations. Al Gore’s ‘An inconvenient truth’ video was also used during the course to emphasize different points. Ogawa focused more on the renewable energy side as well as the environmental impacts of different forms of energy. She supplemented her materials with the video ‘Rokkashomura Rhapsody’ a documentary of the highly controversial nuclear waste management plant in northern Japan. The materials used for this course were mostly self-created by the authors using some free Internet tools and resources such as “The Children’s University of Manchester site”, “LessonWriter” and “Instant Online Crossword Puzzle Maker”.

During the planning stage of the lessons, de Boer approached the Vice President of the University to discuss getting possible help from other professors at the university. He felt it would benefit the students if they could see Japanese scientists give presentations in English. It would help the students realise that English is not just a compulsory subject, but a medium used communicating ideas outside the classroom. The idea was to show students that professors at the university were also involved in research related to both directly and indirectly to global warming issues. Two professors from the faculty of education agreed to come to the class and do a small presentation in English on their research.

The focus of the classes was not on teaching English, but rather teaching content using English. The focus was not on form, but instead as de Boer had told his students, “I want your opinions and I want to know what you are thinking. If I don’t understand your English, I will ask you questions”. Students expressed their satisfaction in this course stating “If I focus on speaking perfect English, I won’t speak. But if I focus on my ideas, I can learn to express myself and learn to use my English.” This was very evident throughout the course as students, during group work were making more effort in using English from the start, sharing ideas in English and coming up with new ideas based on the content.

Theory of Collaboration

Although there have been reports of cooperative development between teachers in Japan (e.g., Cowie, 1996), in the authors’ personal experience collaboration between English teachers in course and syllabus development is comparatively rare at the university level in Iwate, and extremely rare in situations where part-time teachers are involved. Collaboration between teachers has a number of benefits, and can promote professional development in many ways (Cowie, 1996; Edge, 1992; Wells, 1999). While top-down implementation of a course such as this one might have a negative reception from the teachers, the two teachers in this case (de Boer and Ogawa) established a horizontal collaborative effort and based on the feedback from the students and from the professors involved, the perception is that there has been a very positive effect on the course as well as the students. To implement a programme, a solid plan is needed as shown in the following diagram from White. Yet, without knowing how the course would work and starting from a revised textbook, the teachers needed to collaborate with each other with only their personal experience at hand.

![Figure 1. The place of evaluation. (White, 1988, p. 149)](image-url)
As the syllabus needed to be seamless and fully shared between the teachers, the process of the syllabus building was just as important as the final syllabus itself. To understand the value of collaboration, a brief look at the Activity Theory (Engestrom et al., 1999; Vygotsky, 1978) will help. Activity Theory as introduced by Leont’ev (1978, cited in Engestrom et al., 1999, p.1) is based on the work of Vygotsky (1978). It helps us understand the organization of interaction with the surrounding environment.

The object in any Activity system is considered to be the focus, and this in turn yields some outcome or results. For example, one object of focus for de Boer and Ogawa was the creation of the supplementary materials for the students, and the outcome was the revised booklet. Each teacher contributed material to the booklet, allowing division of labour between the teachers.

The subject in our team’s activity system can be considered as a teacher within the community of teachers. Yet in the case of horizontal collaboration, the Activity system would change slightly, and our thinking regarding how we interact as teachers would need to be modified. In a horizontal collaboration environment, the object of our focus becomes our own professional development, our own growth within the community of the university. As a team, we become the subject, and the outcome is continuous growth, continuous development, and any materials we develop together for students. As Wells (1999) points out, similarly to Daniels et al. (2007), the horizontal collaboration that results can have an indirect but full impact on the students because the teachers themselves go through their own professional development and therefore can make themselves more effective in the classroom. To understand the effectiveness of horizontal collaboration and professional development, Vygotsky’s concept of the Zone of Proximal Development (ZPD) is helpful. Vygotsky (1978) described the zone of proximal development as “the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p.86).

With top-down implementation of a programme, teachers need not collaborate, but only implement, under the direction of a supervisor. However, collaboration between teachers produces a very different effect on development. As Rosenholtz (1986) states, “In collaborative settings, teachers acquire and develop better skills through their collective analysis, evaluation, and experimentation with new teaching strategies” (p. 518. Cited in Tharp & Gallimore, 1988, p. 25). Similarly, Wells (1999) comments as follows:

...and still today, outside the classroom, it is often in conditions where no one member of the group has a clear idea of how to proceed that many of the most significant advances in understanding are made. It seems therefore, for learning to occur in the ZPD, it is not so much a more capable other that is required as a willingness on the part of all the participants to learn with and from each other (p. 324).

In such development as seen during the implementation of this course, Wells states that the emphasis in the growing practice of teacher research is on collaboration with other teachers. This support can often help construct novel solutions that are more appropriate than those recommended by so-called experts outside of the classroom. This helps teachers transform their own identities as they take responsibility for their own learning and the learning opportunities they bring to the classroom (Chang-Wells and Wells, 1997, cited in Wells, 1999, p. 330).

**CBI Theory**

According to Grabe & Stoller (1997), content-based instruction (CBI) has been used in various language learning settings successfully since the early 1970s and when CBI is combined with other approaches such as cooperative learning, metacognitive/learning strategy instruction and extensive...
reading, it produces complementary outcomes. Lightbown & Spada (2006) state:

The advantages of content-based instruction are numerous. Motivation is increased when the material that is used for language teaching has an inherent value to the students. That is, it creates a genuine, immediate need to learn the language... Research has confirmed that students in content-based and immersion classes develop comprehension skill, vocabulary, and general communicative competence in the new language. (p. 193)

Motivation plays a significant role in language learning (Zoltan, Csizer & Nemeth 2006). Tomlinson (2003, p. 21) summarises the ideas of Krashen (1982), Wenden (1987) and Stevick (1976) by stating “What is being taught should be perceived relevant and useful”. Therefore, it can be said that when learners feel what they are learning is relevant, it gives a great motivation for using the language.

CBI is also effective when you want to promote critical thinking skills, which is crucial for scientists. Melles (2009, p. 165) thinks, “Sustained content-based instruction is an ideal environment to teach critical thinking”.

Main goal for the course

Giving a presentation on a scientific topic was one of the main goals for the course. Presentation skills are also necessary for science major students even at the undergraduate level. Presentation represents a collection and integration of a variety of linguistic and metalinguistic skills. They include reading to gain content knowledge, analysing facts, separating facts from opinions, and conveying a message using a structured argument. Metalinguistic elements such as eye contact and use of visual aids also play an important role in conveying a message to the audience.

Thornbury & Meddings (2001, p. 11) claim, “Language is not a subject — it is a medium”. This course intends to help students learn how to use English as a medium through training to develop these skills. Tomlinson (2003, p. 18) considers “The most important thing that materials have to do is to help the learner to connect the learning experience in the classroom to their own life outside the course”. I believe this is the ultimate goal of education, which is to help learners apply their knowledge and skills to the real world, outside the classroom.

Before the professors came to present, the authors met them and reviewed the PowerPoint materials that they were planning to use. Supplementary vocabulary worksheets were made and given to the students in advance so that the students had some knowledge of the topics. At the end of the course, de Boer interviewed both professors to ask them their views on this idea and to get their feedback. De Boer had prepared a number of questions (See Appendix VI) and the interview was recorded and transcribed. The professors had done a total of four presentations each (three were done in de Boer’s other classes and one was done in the de Boer-Ogawa class). Both professors expressed anxiety over doing the presentations but the overall response from both professors were very positive.

Comments from the professors

● I was nervous because I hadn’t spoken English in a long time.
● I was worried because I thought the students would not understand my slides, but when I made my slides I focused on the content and not the English.
● It is difficult to explain my research clearly in English.
● I felt it was very important to collaborate. It is important for students to understand the connection between their subjects and English.
● English is important and it was good for the students to hear their professors speak in English.
● Learning something in English is more important than just learning English.
● We will help you with these presentations again in the future and we would like to help find additional professors to assist you in your collaborative efforts.
● We really enjoyed doing presentations in your classes.

The professors agreed to do a presentation this year again and in the first semester both professors did their presentations again.

Result & Analysis of students’ evaluation of the course

Method of Analysis

A questionnaire was given to the students at the end of the course to evaluate the effects of the course. See Appendix II for the translation of the actual questionnaire. The questionnaire was given to the students in Japanese to avoid non-uniform interpretation or confusion (See Appendix I).

Description of the items on the questionnaire

1. I learned about basics of writing essays in English. (Writing in paragraphs, using the spellchecker, putting reference lists and
2. I feel more confident than before about writing essays in English following the particular English rhetoric style of developing an argument (Introduction-Body-Conclusion).

3. I feel more confident than before about giving speeches and presentations in English following the particular English rhetoric style of developing an argument (Introduction-Body-Conclusion).

4. My vocabulary relating scientific topics has increased.

5. I have more knowledge about topics such as global warming and energy issues.

6. It is helpful that topics dealt with in English Communication class and Comprehensive English class are related.

7. It is helpful to listen to the presentations by Dr K. and Dr M.

8. I can use what I learned in this class in other situations.

Results

The following tables show the students’ responses for each item. Table 1 shows the result of semester 2, 2009 and Table 2 shows the result of semester 1, 2010. There were 37 respondents in semester 2, 2009 and 31 in semester 1, 2010.

<table>
<thead>
<tr>
<th>Item</th>
<th>a. strongly agree</th>
<th>b. agree</th>
<th>c. disagree</th>
<th>d. strongly disagree</th>
<th>x. don’t know</th>
</tr>
</thead>
<tbody>
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<td>17 (46%)</td>
<td>19 (51%)</td>
<td>1 (2%)</td>
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<td>0</td>
</tr>
<tr>
<td>2</td>
<td>9 (24%)</td>
<td>23 (62%)</td>
<td>5 (14%)</td>
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<td>0</td>
</tr>
<tr>
<td>3</td>
<td>4 (11%)</td>
<td>21 (57%)</td>
<td>7 (19%)</td>
<td>1 (2%)</td>
<td>4 (11%)</td>
</tr>
<tr>
<td>4</td>
<td>3 (8%)</td>
<td>17 (46%)</td>
<td>13 (35%)</td>
<td>2 (5%)</td>
<td>2 (5%)</td>
</tr>
<tr>
<td>5</td>
<td>14 (38%)</td>
<td>21 (57%)</td>
<td>2 (5%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>11 (30%)</td>
<td>14 (38%)</td>
<td>4 (11%)</td>
<td>4 (11%)</td>
<td>4 (11%)</td>
</tr>
<tr>
<td>7</td>
<td>11 (30%)</td>
<td>18 (49%)</td>
<td>7 (19%)</td>
<td>0</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>8</td>
<td>7 (19%)</td>
<td>25 (68%)</td>
<td>4 (2%)</td>
<td>0</td>
<td>1 (2%)</td>
</tr>
</tbody>
</table>

Table 1. Students’ responses (Semester 2, 2009)

<table>
<thead>
<tr>
<th>Item</th>
<th>a. strongly agree</th>
<th>b. agree</th>
<th>c. disagree</th>
<th>d. strongly disagree</th>
<th>x. don’t know</th>
</tr>
</thead>
<tbody>
<tr>
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<td>10 (30%)</td>
<td>1 (3%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>11 (37%)</td>
<td>18 (60%)</td>
<td>0 (0%)</td>
<td>0</td>
<td>1 (3%)</td>
</tr>
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<td>6 (20%)</td>
<td>21 (70%)</td>
<td>3 (10%)</td>
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<td>0</td>
</tr>
<tr>
<td>4</td>
<td>8 (27%)</td>
<td>19 (63%)</td>
<td>2 (6%)</td>
<td>0</td>
<td>1 (3%)</td>
</tr>
<tr>
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<td>15 (50%)</td>
<td>1 (3%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>9 (30%)</td>
<td>16 (53%)</td>
<td>2 (6%)</td>
<td>2 (6%)</td>
<td>1 (3%)</td>
</tr>
<tr>
<td>7</td>
<td>7 (23%)</td>
<td>17 (57%)</td>
<td>2 (6%)</td>
<td>0</td>
<td>4 (13%)</td>
</tr>
<tr>
<td>8</td>
<td>3 (10%)</td>
<td>16 (53%)</td>
<td>8 (27%)</td>
<td>1 (3%)</td>
<td>2 (6%)</td>
</tr>
</tbody>
</table>

Table 2. Students’ responses (Semester 1, 2010)

Both sets of data show similar ratings except for items 3, 4 & 5. High ratings on item 1, 2, 5, 7 & 8 prove the effectiveness of the course. The rating on items 3: I feel more confident than before about giving speeches and presentation in English following the particular English rhetoric style of developing an argument (Introduction-Body-Conclusion) is better since more time was given to the students’ to practice and prepare for presentations in semester 1, 2010 than in semester 2, 2009. Item 4 is relating vocabulary increase. There was more focused vocabulary selection in the materials used in 2010, therefore the result of 2010 shows higher rating. The rating on item 6: It is helpful that topics dealt with in English Communication class and Comprehensive English class are related is also higher in 2010. The authors believe this is the result of collaboration between the teachers. From some of the comments given by the students on the questionnaire, positive effects are seen. (See Appendix III for the comments given by the students and the translation of the comments.). From some of the comments and also the students’ rating on Item 8 on the questionnaire, it can be said that most of the students feel what is learned in this course is applicable elsewhere, whether it is the content knowledge, practical presentation skills or English essay writing. Widdowson (1990, p. 103) claims “the effectiveness of language teaching will depend on what is being taught, other than the language, that will be recognized by the learners as a purposeful and relevant extension of their schematic horizons”. This suggests that what is learned in a language classroom should go beyond the
Conclusion and implication for future research

Future collaboration

As the program is now in its third semester and the collaboration has continued between de Boer and Ogawa, other teachers have also joined in to this kind of CBI method of teaching. The textbook has again been rewritten to include less vocabulary and more critical thinking skill type activities.

A new approach has also been taken this third semester, a Moodle structured ICT contents program is also being implemented as a new government structured project in Iwate University. De Boer is the project manager. Using the idea of video as an in class teaching resource, videos that were specific to each topic in the course were put on-line and curriculum built around it. This ICT Contents program at Iwate University is still in its infant stages, yet it is being used to promote collaboration between teachers and also promote collaboration between students outside of the regular classroom time. The collaboration that Moodle will allow will go beyond what the regular classroom would ever offer and with the part time teachers now being set up in Moodle as well, the collaboration and the overall quality of the English program can improve.

Conclusion

The analysis shows that the effect of the content-based English course created through collaboration amongst teachers. Although many teachers are busy, we are fortunate that we are surrounded by convenient technological tools that enable us to create our own materials in any way we want. Making your own materials based on your classroom context seems to be the best approach to maximize the efficacy of your teaching, because most of the textbooks are made so that they can be used in broad contexts, which does not always meet the specific needs you have for your classroom. However, English teachers are not experts of the areas of the students’ major studies. This is why collaboration amongst teachers of different fields is necessary as it will have a complimentary effect.

References


Appendix I. Original questionnaire

H21年度 英語総合Ⅱ アンケート

このアンケートはこの授業の質を高めるため、みなさんのご協力を得て行なうものです。無記名で記入してください。あてはまるものを選んで記号で答えてください。

a.強くそう思う  b.そう思う  c.そう思わない  d.全く思わない

 acknowledgements

X わからない

1. ( ) 英語でのレポートを書く際の基本的なことを覚えた。(スペルチェックをかけることや、パラグラフ、文献の引用についてなど)
2. ( ) 英語の論理展開の基本(Introduction-Body-Conclusion)に従い、英語でレポートを書くことに前より自信がついた。
3. ( ) 英語の論理展開の基本(Introduction-Body-Conclusion)に従い、プレゼンやスピーチをすることに前より自信がついた。
4. ( ) 科学的な分野に関する英単語の語彙数が前より増えた。
5. ( ) 地球温暖化やそれに関連したトピックの知識が増えた。
6. ( ) 英語総合の授業と英語コミュニケーションの授業が連動しているのは役立つ。
7. ( ) K 先生と M 先生の英語のプレゼンテーションを聞くことはためになった。
8. ( ) この授業で学んだことはほかのところでも役立つ。

その他コメントがあれば、お願いします！（これは役に立ったとか、もっとこんなのをやりたかったとか、なんでも！）

Thank you for your cooperation.
© Harumi Ogawa ©
Appendix II. Translation of the questionnaire

Comprehensive English II
Faculties of engineering and agriculture

This questionnaire will be used by the instructor to analyse the efficacy of the classroom activities. Please do not put your name. Please give your opinion about each item.

a. Strongly agree    b. Agree    c. Disagree   d. Strongly disagree   x. Don’t know

1. ( ) I learned about basics of writing essays in English. (Writing in paragraphs, using the spellchecker, putting reference lists and etc.)
2. ( ) I feel more confident than before about writing essays in English following the particular English rhetoric style of developing an argument (Introduction- Body- Conclusion).
3. ( ) I feel more confident than before about giving speeches and presentation in English following the particular English rhetoric style of developing an argument (Introduction- Body- Conclusion).
4. ( ) My vocabulary relating scientific topics has increased.
5. ( ) I have more knowledge about topics such as global warming and energy issues.
6. ( ) It is helpful that topics dealt with in English Communication class and Comprehensive English class are related.
7. ( ) It is helpful to listen to the presentations by Dr K and Dr M.
8. ( ) I can use what I learned in this class in other situations.

Any other comments?

Thank you for your cooperation.

Appendix III. Original comments given by the students (English translation given by Ogawa)

- 温暖化など、今後自分に関わってくると思われる分野の語彙や知識が増えたのがよかった。
  It was good that my knowledge and vocabulary of the field such as global warming, which is related to my major has increased.

- パワーポイントのプレゼンは楽しかったです。英語コミュニケーションと総合英語両方の課題を出すのがきつかった。
  I enjoyed PowerPoint presentations. It was hard to give assignments both for English Communication and Comprehensive English.

- 高校では習わなかったことなので、英語で論理の展開を覚えたのはよかった。
  It was very helpful to learn the English rhetoric style of developing argument as we had never learned that in high school.

- 英語だけでなく、将来他のところでも役に立ちそうなことを学べたのでよかった。（ワードやパワーポイントの使い方、英語でのレポートの書き方など）
  I could learn not only English but things which will be useful in other situations in the future. (Word and PowerPoint tools, how to write reports and so on)
● 英語で科学的なことを学ぶのは将来役に立つと思います。
I think it was good to learn scientific things in English as it will be useful in the future.

● スピーチやプレゼンの準備をする時間が前もってあったのは助かりました。
It was helpful we had time to prepare in advance for our speeches and presentations.

● 他学科の人たちと友だちになった。
I could make friends with students from other departments and faculty.

● 英語でエッセイやレポートの書き方を覚えたのはいい経験だった。絶対に将来役立つと思う。
It was a very good experience to write essays and reports in English. This will be absolutely useful in the future.

● 二人の先生方が同じ教材を使って、関わりのある授業をしてくれたので、頭に入りやすかった。
It made my learning easy because both teachers dealt with the same topic in their classes.

● プレゼンを学ぶことが出来た。テキストが一緒なのでよかった。
I learned how to give a presentation. It was good that the same textbook was used in both classes.

● 教科書が一冊だと分かりやすいし、似たような内容だと勉強しやすいと思った。
It is easier to understand if we have the same textbook and also if the taught content is similar.

Appendix VI

Interview questions for Dr. K. and Dr. M.

1. What did you think when you were first approached and asked to do a small presentation for an ‘English Communication Course’?
2. In your initial meeting with myself and Ogawa-sensei how did you feel? (reluctant, excited, nervous?)
3. What approach did you take in creating your presentation, English or content?
4. During your preparation of you slides, were you worried about the English language or were you worried about the content of your slides and whether the students would be able to understand?
5. You did this presentation to a total of 4 classes. Did you feel any different between your first presentation and your last presentation?
6. What were you expecting as a reaction from the students?
7. Were the questions from the students at the end of your presentation satisfying? Did you feel from the questions you were asked, that the students understood and appreciated your presentation?
8. Would you consider doing such a presentation again? Do you think this kind of collaboration is important between the English department and the other departments in the university?
9. Do you think that English is an important subject for students? What kind of English?
10. Do you think that learning something in English is more important for students, rather than just learning English as a subject?
11. After doing this presentation, do you feel that you might want to use more English in your own classroom?
12. Would you consider assisting these efforts into other departments? Would you consider helping out with other presentations to help other professors in the university see what the potential for this kind of collaboration can be like?
和文要旨
本論では岩手大学における2名の教員による内容中心教授法をもとにした英語の授業の成功例を紹介する。この授業の内容は学生の専攻（工学および農学）とそのコミュニケーション的な必要性に応じて、学生の動機付けを高めるように慎重に準備された。2009年の後期と2010年の前期に授業を対象とした二つのアンケートの結果に基づき、また農学部の教員でこのプロジェクトに協力した2名の教員のインタビューに基づき、この授業の有効性を分析した。