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# Professional Development: Fostering Integrative Knowledge and Pedagogy of Japanese Language Teachers through e-Portfolio

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*The main objective of this project is to promote teacher collaboration for new curriculum development and assessment for Japanese language education, and for reporting their practices and exchange of ideas. In order to promote professional communication between Japanese language teachers and professionals in teacher education, the author organized virtual learning communities, utilizing two different sites: a Moodle-based website and an e-portfolio system. In using these sites, fifteen participants and four mentors tried to report their daily activities and share knowledge for the improvement of domestic overseas language learning. Through such collaboration on the Web, a model was proposed for fielding small inquiry communities of project participants in order to improve their practice and challenge programs to improve their students' learning environments and their teaching and management skills. This article reports on a year-long study of Japanese language teacher inquiry groups.*

**Keywords:** Pedagogy of Investigation, E-portfolio, Teacher Collaboration, Teacher research, Action research teaming

## Introduction

The push for integrative and lifelong learning is accompanied by the need for greater accountability in organizations and institutions across the world. In the context of teacher development, teachers are expected to learn about their own profession by studying their own experience through systematic inquiry. The issue of professional development is receiving increased attention as teachers at all levels are realizing the centrality of teachers to school reform

and improvement (Burbank & Kauchak, 2003).

Through formalized teacher education, universities have provided various institutional programs for developing academic staff members: the development of the teaching portfolio, collaborative sharing between pre-service and in-service teachers, and the strategic use of experts such as educational consultants and teaching fellows. Within this broad context of educational reform, fostering teaching excellence is realized through professional development activities that promote dialogue, connection, and inquiry among teachers. Teacher educators believe that such efforts promote reflective actions by engaging teachers in the pursuit of authentic questions, data collection, and the reporting of outcomes (Burbank & Kauchak, 2003).

In response to these challenges, higher educational institutions are expanding considerable resources on developing new curricula, assessments, and technologies to foster integrative learning (Huber & Hutchings, 2005). With regard to teacher education for pre-service and in-service teachers, these trials are characterized by a pedagogy of investigation (Lampert & Ball, 1999) that overcomes the disconnection between the acquired knowledge from university coursework and applied knowledge in the classroom. This concept not only requires knowing the disciplinary community in which teachers work, but also sharing the goals, challenges, resources, and problem solving in that community. Such collaborations enable sharing and knowledge building to take place with colleagues in a context in which their efforts have the most impact—in teaching and learning within a discipline. In addition, Kennedy (1999) noted that without situated knowledge, novice teachers may be unable to recognize situations that require their academic knowledge. To understand the pedagogy of investigation, the concept of "knowing in community" is critical. Through such collaborations, teachers create opportunities to share and build knowledge with colleagues in a context where their efforts will have the most impact: embedded in teaching and learning in a discipline. Wenger (1999) discussed the fact that the establishment of a "community of practice" in professional settings promotes reflective gatherings on individual teaching issues as well as general questions of teaching practice. These activities are based on some consensus about what constitutes teaching excellence and on providing those conducting the reviews with good evidence on which to base their judgment.

In Japan, collaborative inquiry as professional development has been a

successful aspect of the nation's approach to teacher learning. Teacher research groups are a component of the Japanese approach to professional learning called *Jyugyo kenkyu* or "lesson study" (Fernandez Yoshida, 2004). By engaging in "lesson study," teachers feel connected to each other and to a body of knowledge that they generate, share, and continuously refine. It is a highly worthwhile activity, which allows teachers to come together to develop their pedagogical knowledge and skills. Crockett (2002) characterized it as a recursive cycle consisting of four general stages: (1) identifying teaching and learning problems, (2) lesson planning, (3) reflecting on the lesson taught, and (4) assessing the lesson's student work products.

Despite the growing trend for teacher inquiry groups, little attention has been paid to what specific activities generate inquiry and the kind of learning that such inquiry might support. . This is because the research on teaching research remains focused on the individual classroom, and there is a tendency for research findings to be perceived as either inconsistent or contradictory (Kennedy, 1997). Therefore, strategies to develop collaborative research capabilities are needed.

## E-Portfolio for Fostering Collaborative Knowledge Sharing

Recently, some leaders at higher education institutions have begun to provide OpenCourseWare (OCW), which enables free sharing of lecture notes, exams, and other resources. By networking, such convenient environments will support the building of a teaching community, which is a community of educators committed to pedagogical inquiry and innovation that comes together to exchange ideas about teaching and learning (Kahn, 2004). Most importantly, by placing a knowledge-sharing system on the web, a faculty member takes a crucial step towards making his or her teaching public and available for others to comment on and learn from (Iiyoshi & Kumar, 2008).

In this context, Information Communication Technology (ICT) can create learning workspaces for teachers and teacher educators by offering close, concrete, and inside information about teaching and learning (Lampert & Ball, 1999). In order to optimize professional development practices, it is essential to foster scholarly teaching and the systematic and critical examination of how learning in each discipline can be improved (Taylor, 2010). According to Swales (1990), engagement in a discipline requires not only shared

knowledge of the subject matter but also shared goals, methods of inquiry, and communication styles. In such a context, the most effective method is based on real-world practice, which enables faculty members to examine their own practices, reflect on their methods, and socialize their ideas.

Hatch, Bass, Iiyoshi, and Pointer-Mace (2004) also emphasized that many scholars are excited about electronic media's capability for "publishing" rich representations of teaching and learning, including solutions to course design and classroom problems as well as examples of student work. In addition, electronic communication and repositories make it easier to consult colleagues about teaching problems and to find resources developed by colleagues for their own teaching (Huber & Hutchings, 2005). This indicates the importance of e-portfolios that support the development of new modes of collaboration and sharing, such as teaching circles and project groups, and new forms of presentation, such as course portfolios and pedagogical colloquia (Huber & Hutchings, 2005).

Technologically, e-portfolios are increasingly seen as ideal tools for helping teachers advance the practice of integration, create meaning from their learning, and develop digital identities (Bhika, Francis, & Miller, 2013). Fostering teaching and learning excellence that strengthens dialogue, collaboration, and research is best realized through teacher development.

This trend, called "electronic teaching portfolios", can enhance the ability of teaching portfolios to provide rich presentations of college teaching and learning. A teaching portfolio is a collection of materials that document teaching performance (Seldin, 2004) by bringing together information about a teacher's most significant teaching accomplishments.

Examples of projects that have all explored alternative genres to enable scholars of teaching and learning to document their work online in ways not possible in regular print are the Peer Review of Teaching Project headquartered at the University of Nebraska, the College Lesson Study Project at the University of Wisconsin La Crosse, and the Carnegie Foundation's Knowledge Media Laboratory (KML). The KML encourages viewers of their galleries to view online portfolios to find ideas to improve their teaching, and to use the portfolios as "launching points for discussions and reflections, peer review of teaching and learning, collaborative inquiries, and further investigations" (Huber & Hutchings, 2005).

This study investigated Japanese language teachers' methods for confronting and solving problems in pursuit of consensus at a distance. It primarily promotes teacher collaboration for new curriculum development and assessment in Japanese language education, based on teachers' reporting practices and exchange of ideas with each other. Through such collaboration, a model was developed to field small inquiry communities of faculty members to improve their practice as professional language teachers. To promote professional communication between Japanese language teachers and professionals in teacher education, the author developed two different communication websites: a Moodle-based learning website and an e-portfolio system (Kato, 2013).

## Teacher Research and Professional Development

Teacher professional development has taken place in isolation and has been dependent upon input from outside experts through district in-service opportunities or from administrative mandates (Burbank & Kauchak, 2003). While suggestions for research-based activities may be well intended, their impact is often limited.

One reason is that teachers take a passive role in classroom research. They find it difficult to implement ideas that are conceptually and practically far removed from their classrooms. Therefore, traditional research is not conducive to helping teachers change their approach and improve their teaching skills. Another reason is that the majority of research follows a scientific model where the process of gathering evidence is based upon rigid, formal rules of sciences that are currently being questioned (Cochran-Smith & Lytle, 1993). Moving teachers from the passive role to the active one requires opportunities to be made available for teachers to raise questions about theory and practice, and evaluate their teaching through systematic inquiry. The impact of this approach is the fundamental recognition of teachers as active empowered decision makers who are valid producers of knowledge. However, Ball (1996) pointed out that effective teacher collaboration focuses on structure and uses a variety of tools to encourage reflective and collaborative practices in professional development. It is not clear what activities might support teachers' inquiry, critical reflection, and new understanding about their teaching (Crockett, 2002).

The goal of this study was to analyze the components influencing the collaborative process through qualitative and quantitative data from teachers. The author conducted two trials designed to provide teachers with autonomy and active participation in teacher research.

The first study focused on developing a collaborative space for teacher learning by analyzing the qualitative data of participants. In the second study, the author redesigned different activities to address the need for effective teacher partnership on the Web systems.

In this paper, the author investigated how to conduct collaborative teacher research through the e-portfolio, and what specific activities generate critical reflection within inquiry groups on the Web. The author designed the following four different activities to encourage effective teacher partnership: (1) self-study of e-learning contents, (2) e-portfolio development, (3) communication with peers and mentors, and (4) project-based learning, which were implemented and integrated via the systems to promote reflective feedback and teacher collaboration.

The purpose of this article is to focus on teachers' interactions that served as objects of inquiry using a Moodle-based website and an e-portfolio. The study also assessed the utility and effectiveness of the systems for identifying problems experienced by Japanese language teachers in Japan and abroad as well as potential system improvements.

## System Development for Teacher Learning

The purpose of this article is to focus on teacher collaboration promoted by four key activities mentioned above: (1) e-learning contents, (2) e-portfolio, (3) communication with peers and mentors, and (4) project-based learning on the Web. To promote professional communication between Japanese language teachers and professionals, the author developed two different communication websites: a Moodle-based learning website and an e-portfolio system, which integrated the four different activities in this project.

The Moodle website (https://lms.katoyukari.net/) is designed to provide two functions: (1) e-learning contents and (2) communication with peers and mentors through a discussion forum, a course, a voting system, and

questionnaires to support and encourage the exchange of ideas. This project aimed to provide teachers with online collaborative space based on Moodle that is necessary for and relevant to their teaching and learning improvement, as shown in Figure 1. In this space, members are gathered for discussion sessions led by professionals as a mentor. After the topic has been presented to the participants, they can inquire or discuss the scope of the topic. Like many of the traditional means of professional development, collaborative methods provide teachers with opportunities to interact professionally on topics.

On the other side, the e-portfolio (https://sns.katoyukari.net/) serves as a repository of reflective activities for participants and mentors and as a personalized learning space. In Figure 2, the e-portfolio is a collection of electronic evidence assembled and managed by a participant, usually on the Web. Such electronic evidence may include inputted text, electronic files, images, multimedia, blog entries, and hyperlinks. It also allows for the building in of reflective activities for participants and mentors, which works as a personalized learning space. This e-portfolio uses open source software called Mahara. Based on Mahara, content and layout can be personalized to create multiple views that meet the specific, differing, or changing requirements of the users. This ties in with one of the key tenets of reflection on teaching activities and learning events through blog functions and the creation of diaries. This portfolio is also used as an evidence base to discuss the topic that was posed on the Moodle site.

This Mahara website is designed to promote two functions: (1) an e-portfolio for reflection and (2) project-based learning by collaborative discussion and activities among participants. The goal of this site is thus to introduce participants to the e-portfolio as not only a technology, but more importantly as a tool to foster integrative pedagogy.


**Figure 1.** *Screenshot of Moodle*

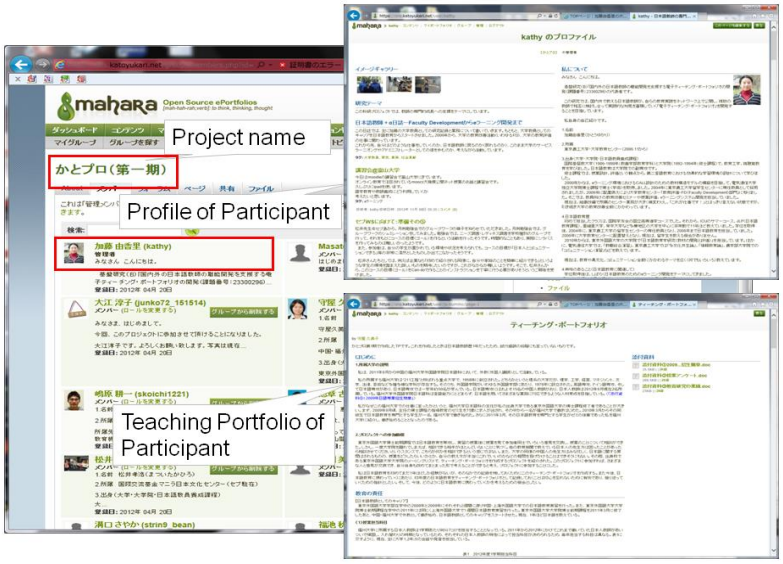


**Figure 2.** *Screenshot of Mahara*

During the collaborative work on the use of systems, participants were expected to critique their own practices and make comments on those of

others. Mentors also ensured that engagement with other participants, teaching experiences, and learning outcomes took place through the virtual environments. The use of such convenient environments for networking will support the building of a "teaching community", which can provide a means for teachers to demonstrate and clarify their understanding, using their own and others' experiences to gain their place as contributing members of the teaching profession (Ball & Cohen 1999). The author and her colleagues were especially interested in exploring the benefits for the participants of a virtual "community of practice"

## The Evaluation Study of the First Trial

This evaluation study continued our ongoing inquiry into the effective promotion of reflective feedback and teacher collaboration by using a Moodle-based website and an e-portfolio from April to September 2012. Through the use of these facilities participants were expected to compare their thought processes and opinions, which are core activities for the professional development of in-service teachers. The study assessed the utility and effectiveness of the systems for identifying problems experienced by Japanese language teachers in Japan and abroad, as well as potential system improvements. The first study focused on the following three questions:

(1) Why do you want to participate in this project (an online teacher-learning system with e-portfolio)?
(2) How do participants communicate with other participants and mentors?
(3) Do participants have any suggestions for developing the collaborative space for teacher learning?

### Teacher Inquiry Group

Each participant in this project taught some Japanese language courses during the length of this inquiry. Their teaching experience ranged from about six months to 13 years. Three junior teachers (A, B, C) working overseas and six senior teachers (D, E, F, G, H, I) working in Japan reported and reflected on their own practices over six months. Four mentors were also involved in this project, as shown in Table 1. The junior teachers who had just finished their master's course and not obtained enough teaching experience got full-time

positions at language centers in universities and educational institutions overseas. The senior teachers had various domestic and overseas teaching experiences. One teacher was an instructional designer (L) from the Educational Development Centre (faculty developer), who designed and coordinated this project. Two of them (J, K) were experienced Japanese language teachers who could guide participants to reflect upon what they had learned from their experience and how it impacted their overall development as Japanese language teachers. The other mentor specializing in computer science worked as an adviser for system development.

**Table 1.** *Profiles of 13 Participants (Apr.–Sep. 2012)*

| Participants | Employment Position (Institution, Region) | An Academic Degree | Teaching Experiences (region) | Age |
|---|---|---|---|---|
| A | Lecturer (University in China) | M. A. (Japanese Language Education) | Less than one year (China) | Twenties |
| B | Lecturer (University in China) | M. A. (Japanese Language Education) | Less than one year (China) | Twenties |
| C | Lecturer (Department of Education in NZ) | M. A. (Japanese Language Education) | Less than one year (NZ) | Twenties |
| D | Part-time Lecturer (University in Japan) | M. A. (Japanese Language Education) | 6 years (Thailand, Taiwan, Japan) | Thirties |
| E | Lecturer (University in Japan) | M. A. (Japanese Language Education) | 7 years (Thailand, Japan) | Thirties |
| F | Part-time Lecturer (University in Japan) | M. A. (Japanese Language Education) | 7 years (Japan) | Thirties |
| G | Lecturer (Japan Foundation, Philippines) | M. A. (Japanese Language Education) | 8 years (Thailand, Philippines) | Thirties |
| H | Associate Professor (University in Japan) | M. A. (Japanese Language Education) | 10 years (Dominica) | Thirties |
| I | Part-time Lecturer (University in Japan) | M. A. (Asia Studies) | 13 years (U.S. Japan) | Forties |
| J (Mentor) | Part-time Lecturer (High School in Japan) | M. A. (Japanese Language) | 13 years (Korea, Japan) | Forties |
| K (Mentor) | Lecturer (University in Japan) | M. A. (Japanese Language Education) | 10 years (Japan) | Thirties |
| L (Mentor) | Associate Professor (University in Japan) | Ph. D. (Major: Media Studies,; Minor :Japanese Language Education ) | 13 years (Japan) | Forties |
| M (Mentor) | Assistant Professor (University in Japan) | Dr. of Eng. (Information Sciences) | 2 years (Japan, no language teaching experience ) | Thirties |

### Data Source and Analysis

Given the exploratory nature of this project, the author used multiple methods to collect data to gain a broad understanding of the ways in which Japanese language teachers confront and solve problems. The author used qualitative data analysis to investigate the participants' conception of the project and the functionality and utility of the systems. Focus group interviews were facilitated with six participants and four mentors, which covered issues concerning the participants' conception of the project and the functionality and utility of the systems. The focus group meeting of 3 August 2012 was digitally recorded and the recording was transcribed prior to data analysis. In accordance with the nature of a semi-structured focus group interview, the interviewers obtained detailed responses by requesting that participants elaborate on emerging topics.

The practical activities in the e-portfolio and learning management system over six months (Apr.–Oct. 2012) revealed the following four points: (1) participants did not have sufficient opportunities to communicate with each other; (2) younger teachers were hesitant about expressing their ideas and opinions to senior participants; (3) continuing discussions among participants were needed to build and sustain a community of practitioners; and (4) the e-teaching portfolio was an effective tool for focusing on and analyzing their own practice (Kato, 2013).

The findings showed that communication between participants was insufficient, even though they were highly motivated. Based on observations and data analysis, the author intends to enhance the educational aspects of this system by developing and implementing solutions to the specific problems, thus continuously refining both the information technology and supporting activities for teacher collaboration (Kato, 2013).

## The Evaluation Study of the Second Trial

This evaluation study continued the ongoing inquiry into how to promote reflective feedback and teachers' collaboration by using a Moodle-based website and an e-portfolio with a greater diversity of participants, as shown in Table 2. Based on the first trial, in the second period (Nov. 2012–May 2013) participants were divided into eight sub-groups and collaboratively conducted

project work for student exchange and planned a seminar for local teachers through websites. Effective implementation was facilitated by continuing to keep in touch with each other, finding the latest resources, and sharing their own experiences.

The second study focused on the following two questions:

(1) How do participants engage in their own teacher learning on the Web?

(2) What kind of activities promotes professional communication about practice?

**Table 2.** *Profiles of 6 New Participants (Nov. 2012–May 2012)*

| Participants | Employment Position (Institution, Region) | Academic Degree | Teaching Experiences (region) | Age |
|---|---|---|---|---|
| N | Lecturer (University in Serbia) | M. A. (Japanese Language Education) | 4 years (China) | Twenties |
| O | Lecturer (University in Thailand) | M. A. (Japanese Language Education) | 2 years (China) | Twenties |
| P | Lecturer (University in Russia) | M. A. (Japanese Language Education) | Less than one year (Russia) | Twenties |
| Q | Ph.D. Student, Part-time Lecturer (University in Japan) | M. A. (Japanese Language Education) | 10 years (Thailand, Japan) | Thirties |
| R | Lecturer (University in Japan) | M. A. (Japanese Language Education) | 7 years (Mongolia, Japan) | Thirties |
| S | Associate Professor (University in Japan) | M. A. (Japanese Language Education) | 15 years (Philippines, Japan) | Fifties |

## Data Source and Analysis

The practical activities carried out using the e-portfolio and the learning management system for the first period (Apr.–Oct. 2012) and the second period (Nov. 2012–May 2013) are shown in Table 3. The findings reveal that communication in the second period was greater and more active than in the first. Based on observations and data analysis, the author will enhance the facilities for inquiry, reflection, and integration as key ingredients for using e-portfolio.

**Table 3.** *Activities of Sub-Groups on e-Portfolio*

| Group | Purpose of Activities | No. Participants | No. Forums | No. Postings |
|---|---|---|---|---|
| The First Period | Mentor-Driven Notice | 13 | 1 | 28 |
| The Second Period | | 18 | 1 | 4 |
| Writing/Reading (A) | Collaboration and Discussion about Writing/Reading | 4 | 1 | 10 |
| Writing/Reading (B) | | 3 | 1 | 7 |
| Material/Content (A) | Collaboration and Discussion about Material/Content Development | 3 | 1 | 4 |
| Material/Content (B) | | 3 | 1 | 1 |
| Communication (A) | Collaboration and Discussion about Student Exchange Activities | 4 | 2 | 76 |
| Communication (B) | | 3 | 1 | 6 |
| Communication (C) | | 3 | 1 | 4 |
| Challenge | New Trials | 18 | 2 | 45 |

Concerning the first research question of the second trial, small group activities in the second period facilitated participants' ongoing access to their social learning and personal development. In particular, there was active participation and discussion in two sub-groups: Communication (A) and Challenge.

In the first period, the author used Moodle (LMS) and tried to facilitate collaborative learning among participants, which is mentor-driven with her ownership. However, the majority of participants stated that communication was inhibited due to hesitation and fear of expressing their opinions and ideas to unfamiliar members. The following quotation illustrates a prospective Japanese teacher's view on the use of e-portfolio at a distance:

> *I got some comments from mentors. But I expected more comments and discussions. In my diary on Mahara, I wrote about my daily life but did not ask questions. I just reported generally, so I did not focus on one topic and on actual problems. The participants who got many comments from mentors reported on their work in respect to one topic (for example writing) and asked for comments in their dailies.*
> (Male, 20s, teaching in New Zealand by overseas aid program in the first trail)

On the other hand, the participants in the second period tried to use the same systems as effective communication tools for professional discussion in concrete tasks or artifacts of practice. The participants in Communication (A) were three junior teachers (A, N, O) who were working overseas. They

conducted project work for their student exchange using live video broadcasts. The following quotations illustrate an active teacher's viewpoint on the use of e-portfolio at a distance:

> *I would love the opportunity to collaborate on another teaches. This project is so valuable for me. Absolutely, in fact I will!*
> (Female, 20s, teaching in China, a member of Communication (A) in the second period)

> *I uploaded lecture video for creating live video and the report of class activities on the e-Portfolio. Please check it.*
> (Female, 20s, teaching in Thailand, a member of Communication (A) in the second period)

For one participant (G), who planned a seminar for local non-native teachers in the Philippines, collaboration on the Web provided opportunities to explore his own ideas about Japanese teacher education through the process of discussing his ideas with other teachers.

> *Without my team's help and willingness to discuss the possibilities and implications of this project,*
> *I could not have got great ideas of my seminar for non-native Japanese teachers. I cannot say*
> *enough about the importance of teacher collaboration on the Web.*
> (Male, 30s, teaching in the Philippines, a member of Challenge in the second period)

Concerning the second research question, the organizing small inquiry groups in the second period, which were participant-driven, facilitated the active use of e-portfolio, as shown in Table 3. The total number of postings was 28 in the first period. On the other hand, Communication (A) group had 76 postings and Challenge group also had 45 postings. These two groups used real artifacts, events, and tasks, which open up comparative perspectives on practice among participants. In the real context, teachers shared common ground on which individual teachers compared their work, explored alternatives and investigated courses of action.

# Conclusion

This project aimed to provide teachers with an online collaborative space based on Moodle that is both necessary and relevant to their teaching and learning improvement. Through use of both the Moodle-based website and the e-portfolio system, the author hopes to construct a "teaching commons", a community of educators and practitioners committed to pedagogical inquiry and innovation.

Practical activities in an e-portfolio and learning management system for six months (Apr.–Oct. 2012) revealed the following four points: (1) participants did not have sufficient opportunities to communicate with each other; (2) young teachers were hesitant about expressing their ideas and opinions to senior participants; (3) continuing discussion among participants was needed to build and sustain a community of practitioners; and (4) e-teaching portfolio was an effective tool for focusing on and analyzing their own practice.

Based on this practice, in the second period (Nov. 2012–May 2013), participants were divided into eight sub-groups and they collaboratively conducted project work concerning student exchange and planned a seminar for local teachers through websites. Through the organizing of small inquiry groups, which were participant-driven, participants' ongoing access to their social learning and personal development was facilitated. In particular, there was active participation and discussion in two sub-groups: Communication (A) and Challenge. These two groups enabled teachers to approach concreted phenomena of practice on an equal footing.

As the work continues, the author aims to enhance the educational aspects of this approach by developing and implementing various solutions to specific problems based on observations and data analysis. For future studies, the author is currently developing a database of e-teaching portfolios capable of supporting the work of teaching practitioners. She will continue to make efforts to refine both the collaborative style and the supporting activities for the professional development of Japanese language teachers.

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