

What Can We Learn by Comparing Teacher Education in Japan and England?

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日英の教員養成の比較から何が学べるか

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Abstract: With a focus on initial teacher education, the authors, who have been collaborating with researchers at Oxford Brookes University (OBU), write about initial teacher training from their different perspectives as researchers in teacher training at Kyoto University of Education (KUE). In Part 1, Mizuyama discusses overcoming sociological complexity to develop teacher autonomy in Japan. In Part 2, Murakami focuses on connecting theory to practice to transform the artisan culture in teacher apprenticeships. In Part 3, Nishii contrasted teacher training at OBU and KUE, revealing important and valuable differences between Oxford's long-term individualized model and Kyoto's short-term group-oriented model. In Part 4, Obermeier concludes the paper, pointing to the need to establish a clear system for fostering the development of reflective practitioners in teacher training.

Key Words: teacher development, teacher training, comparative education research

抄録: 日本の教員は、学級経営、教科指導、生徒の主体的学習参加の促進のいずれの側面においても、高い自己効力感を持つ教員の割合が、参加国平均を大きく下回る。そこで、教員養成に焦点化して英国 Oxford Brookes 大学と京都教育大学の共同研究に参加している4名が、それぞれの専門の立場から「日英の教員養成の比較から何が学べるか」を考察した。水山は教員養成において準拠的な思考と批判的な思考の両立が、村上は実習における経験依存性の克服が、西井は評価システムの改善が必要であることを述べ、最後に Obermeier が「内省」を視点に全体を総括した。

索引語: 教員養成, 教育実習, 比較教育, 日英比較

1. Self-efficacy and Autonomy in Initial Teacher Education

This paper explains the findings from a joint research project with Oxford Brookes University (OBU) in Great Britain, which the authors visited to observe and discuss methods for initial teacher training. Focusing on initial teacher education, the authors address the topic from their different perspectives as researchers at Kyoto University of Education (KUE). The purpose of the research was to gain insights to support the development of effective teacher education by comparing and contrasting practices in the two countries.

The Current Situation for Teachers and Children

A recent survey by Japan's Ministry of Education on adolescents around age 15 in Korea, China, US, and Japan (MEXT, 2014) reveals a distinguishing trend. Japan's young people stand out for having lower feelings of self-efficacy than youths in other countries. In Table 1 below, the low percentage of Japanese 15-year olds who feel a high sense of self-efficacy stands out when compared to much higher percentages in the US, China, and Korea. Also, although Japanese adolescents feel abstractly that one should participate actively in society and politics (Survey Question 1), they have little confidence in their ability to do so (Survey Question 2):

Table 1

	Japan	USA	China	Korea
<i>Survey question 1: Should adolescents participate actively in society and politics?</i>				
Totally agree	6.2	41.2	38.0	18.9
Agree	30.8	35.0	44.6	51.6
Disagree	46.2	17.5	16.0	24.7
Completely disagree	15.3	4.5	1.1	4.5
<i>Survey question 2: Do you feel confident in your ability to bring about change in society?</i>				
Totally agree	6.5	16.9	19.6	11.4
Agree	23.6	52.9	43.1	57.0
Disagree	49.8	19.5	28.3	25.5
Completely disagree	18.5	6.8	8.4	5.5

Furthermore, results from the same study show that the percentage of Japanese young people who feel confident in their ability to bring about change in society is much lower than their counterparts in those three countries. These low feelings of self-efficacy among Japan's young people correspond to a similar trend among

Japanese teachers with regard to their professional self-efficacy. A recent comparison by the Japanese Ministry of Education to results of the OECD international survey on teaching environments (TALIS, 2013) shows that Japanese teachers have comparatively little faith in their abilities to manage classes, teach subjects, and foster learner autonomy in their classrooms (MEXT, 2013). Figure 1 shows the results of this comparison regarding Japanese teachers' perception of their ability to foster different aspects of autonomous learning. Teachers surveyed showed much lower confidence than European counterparts in their ability to foster critical thinking, develop learners' confidence in their ability to study, raise interest in subjects taught, and develop learners' self-assessment capabilities.

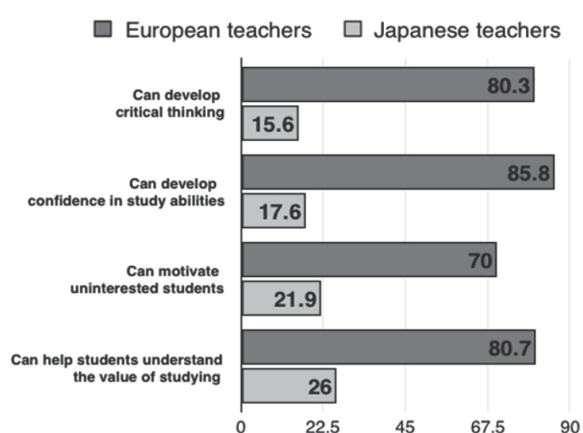


Figure 1. Comparison of Japanese and European teachers' confidence in their ability to develop student autonomy.

These studies reveal two disturbing trends. First, the results show the doubts Japanese teachers have in their ability to foster quality learning in their classrooms. As a result, the fact that the young people who learn in these classrooms feel low self-efficacy and have low confidence in their ability to participate positively in society is not surprising. With teachers who have little confidence in their ability to foster autonomous learning, one wonders what exactly is being learned in schools.

The Classroom Reality

From a perspective of children's citizenship, Tanabashi (2010) compared the results of the International Association for the Evaluation of Educational Achievement (IEA) with results of a similar survey in Japan. Results showed that Japanese learners hold a similar conception to their counterparts in other countries when they convey their image of the ideal classroom environment. As Figure 2 below shows, learners in Japan and other countries were in agreement about the following key elements of good teaching: (a.) During class the teacher should present an issue and many different opinions regarding it. (b.) It is necessary for students to develop their own viewpoints and opinions regarding various issues. (c.) Regarding political and societal issues, teachers must be able to discuss issues with people who hold a variety of opinions. (d.) During class, the teacher should encourage students to express their opinions and show their respect for stated opinions.

On the other hand, with regard to the following two items on the survey, Japanese students' evaluations were lower than the global trend: (d.) In class, I feel I can unreservedly express my opinions regarding societal and political issues. (e.) In class, even if my opinion is different that of other students, I feel free to express my opinion without reserve.

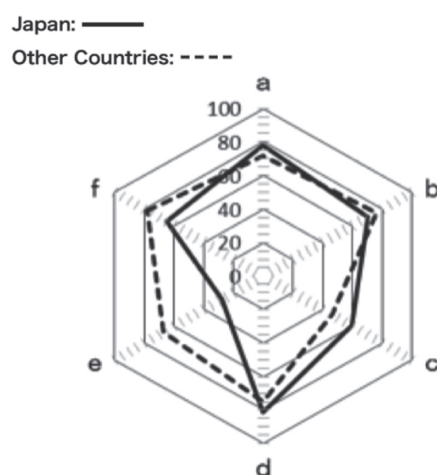


Figure 2. Comparison between Japanese students and their counterparts in other countries regarding feelings about classroom atmosphere.

From these results, Tanabashi (2014) concludes, “Japanese children feel that they can think independently, and their teachers respect diverse ideas, and cultivate a democratic environment wherein open debate and discussion of different opinions is encouraged.” However on the other hand, in contradiction with such feelings, these same children feel that it is difficult to state their own differing opinions in class to the teacher and also to other students. In light of such results, it seems that teachers are actually regulating their classes in a domineering manner and learning is not proceeding in a democratic way. In sum, in Japanese classrooms there is a contrast between appearances and reality. Although teachers and students sustain the appearance that their classrooms are democratic environments in which the teacher fosters respect for the expression of diverse opinions, in reality students do not sense that such respect from their teachers is sincere.

Although teachers rationally understand the importance of fostering autonomy, in truth this is a feebly based notion. Since teachers have little confidence in their ability to teach in a way that supports autonomous learning, at best they ironically end up teaching the abstract ideal of autonomy in an authoritative way. Students see through this contradiction and hold back their trust. Unfortunately, teachers are unaware of this lack of trust. In reality, the current situation in Japanese secondary education does not promote teacher or learner autonomy.

Conformity, Critical Thinking, and Autonomy

Regarding the issue of classroom autonomy from a perspective of cultural differences, the lack of self-efficacy and self-assessment ability may be rooted deeply in the Japanese mentality. The four authors of this paper investigated whether this was not only an issue that revealed itself between teachers and students within classrooms, but whether it is also embodied within the context of initial teacher education between teacher trainees and their mentors. The authors considered initial teacher education in this way with hope that new understandings would reveal insights that would help overcome the apparent lack of autonomy in Japanese classrooms.

The remedy for teachers feeling a lack of autonomy would be to maintain a frame of reference for considering issues within their practice. Such a frame of reference could come from experience with an individual teacher they learned from, a teaching colleague, or from books or articles about pedagogical theory that they have read. With such a framework from which to consider their practice, teachers gain a kind of authority for answers when faced with problems. However, if such a framework is accepted uncritically, the danger of the development of rigid thinking and unjustified compliance to false authority is very real. If this happens, ineffective practices could continue or even worsen. In such a light, the necessity for the development of the habit of critical thinking among teachers becomes clear. From a strong axis of critical thinking, teachers can proactively consider teachers they have learned from, colleagues’ ideas about teaching, and pedagogical

theory they have read. They can consider their teaching with flexibility and autonomy. However in reality, maintaining a habit of critical thinking alongside a firm frame of reference is very difficult – one or the other is often deemphasized. Further confounding this difficulty, a frame of reference for regarding critical thinking is also necessary.

The above argument for the necessity of balancing adherence to a frame of reference with critical thinking when considering initial teacher training may be considered an important finding of this research. An appropriate term for this balance may be *teaching autonomy*, and is a valuable insight from this joint research project with Oxford Brookes University.

In considering the point of view regarding autonomy described above, how should teacher education in Japan be considered? In fact, until now, autonomous practice has already had a large amount of attention. This has been called the ability for teachers to *stand independently*. Unfortunately, however, it is not a concept that has been closely examined. Teacher mentors in the context of teacher training often attempt to develop copies of themselves, and other teacher mentors have attempted to develop trainees who even exceed themselves. When considering the true meaning of the ability for teachers to stand independently, developing a mentoring system in which a reliable frame of reference is balanced with critical thinking is essential for the relationship between teacher mentors and pre-service teacher trainees. Such are essential conditions under which initial teachers can learn to provide children growing up in today's modern world with teaching that will develop their sense of self-efficacy.

2. Theory and Practice in Japan's Education: Present Conditions and Future Prospects

Recently, within an atmosphere of increasing sophistication in teacher training, the importance of the connection between theory and practice is asserted to be essential for assuring the development of qualified and proficient teachers. Although international evaluation standards such as PISA have rated the Japanese educational results highly, Japan's highly competitive educational environment is deep rooted in complexity and among Japan's educational specialists and professionals serious thinking about the true cultivation of academic ability remains in a state of stagnation.

What is commonly accepted as academic ability is actually simply the development abilities that are easily measured on paper tests. While most citizens of Japan feel that academic achievement means getting into good universities and getting good jobs, universities are in a position to stand removed from such a mundane notion of learning. Furthermore, key words such as *education for zestful living* (Ministry of Education), *literacy* (PISA), *human strength* (Japanese Cabinet), and *competence* (OECD) are becoming more commonly known. Within such an educational atmosphere in Japan, a big barrier to establishing a strong connection between theory and practice is teachers' over-reliance on experience. In this section, the issue will be discussed with regard to findings from the recently completed Teacher Development Sophistication Super School at Kyoto University of Education, a 3-year project funded by the Ministry of Education.

Over-reliance on Experience in Japanese Education

Although on the surface the post-modern era promotes the ethos of strongly connecting practice to theory, we learned that this is not the case from our university's recent research project on initial teacher training. By executing a disciplined clarification through videotaping and analyzing mentoring processes in teacher training, we brought the current consciousness of our institution out into the open. Mizuyama (2014) outlined the project's basis within a representative framework of post-modern consciousness (e.g., Honda, 2005). After extracting video footage of numerous initial teachers engaged in training and analyzing it with a qualitative methodology, Murakami (2014) found that two dominating themes were being conveyed: (1) strategies and skills for teaching lessons, and (2) the personal character and competencies required of teachers. With regard to (1), mentors need to convey knowledge and specific skills to trainees. For (2), new habits and abilities should be developed. To develop their effectiveness as teachers, trainees make efforts to change themselves with regard to these two conceptual domains. However, the mentors that are guiding trainees through these processes rely too heavily on the intuitively inducting from experience. Therefore, it was revealed that the teacher training process does not entail gauging practice against the rigors of theory, but is rather a much less disciplined process of following subjective experience.

An important finding of this research project was the direct realization that our mentoring system does not benefit as much as it should from disciplined scrutiny based on the tenets of post-modernism. Considering teacher training in Japan from the perspective of the situation for our university, it can be said that the vast majority of knowledge about teaching is built on abundant, fragmented, experiences that have been tacitly accepted and left unanalyzed. Of course, this body of experiential knowledge has much to offer teacher trainees who must carry out careers, but the prevailing lack of self-analysis and self-consciousness among teachers in actual classrooms is disturbing.

Reflecting on his own experience as a high school science teacher from 1984 to 1999, Murakami (2012) realizes that his career has been situated within a tidal wave of change. Direct experience has been the basis of understanding within the business of everyday practice. Although he was told that the modern era is over and we are now moving into the post-modern era, he does not feel he has done much self-analysis but rather has come through with only a vague awareness of the changing era. Direct contact with students and young people has more strongly brought him into contact with the realities new era than any intellectual conceptualizations of the change. Interestingly, while aware of teacher's over-reliance on direct experience he did not think it was enough of a problem that he should confront it explicitly. However, after observing teacher training and mentoring systems in Europe, he realized that the atmosphere within Japan's teacher education is problematic. He came to understand that the over-reliance on experience he saw in Japan's teacher training had deep cultural roots in Japans' strong tradition of artisanship. He summarized the problems of the typical teacher in Japan as follows: refuses to imitate others; does not learn pedagogical theory; does not develop a personal pedagogical theory; feels supervision is intrusive; wishes to practice in isolation; is overly concerned with colleagues regard of oneself; shows off one's own stock of knowledge.

Enhancing Connections between Theory and Practice

Prior to the research mentioned above, the over-reliance on experience and cultural roots of Japan's artisan tradition had not been considered within discussions of improving the quality and skills of teachers. However, this issue was shown to be highly important when considering initial teacher training, which is the vital first step of a teaching career: When the mentors responsible for instructing initial teachers are over-reliant on experience, teacher training becomes an arena for subjective artisanship rather than an institution for the systematic development of a critically informed science of teaching. Students and initial teachers are currently simply being forced to adjust to the system rather than learning tools with which they can develop their practice.

With the deleterious nature of subjective over-reliance on experience thus understood, the necessity to overcome this problem by developing a systematic mentoring process became clear. Such a systematic process is not only essential for undergraduate students before they begin teaching, but also for current teachers in the formative stages of their careers. To meet the demands of the post-modern global society, teachers will need a firm foundation that qualitatively connects theory to practice, and initial teacher training is where this connection must be established.

Another element of the project was to conduct a survey of teacher training in Finland, Holland and Great Britain. In these settings it became clear that strong connections between theory and practice have been established, and the most immediate challenge toward improving teacher training in Japan would be to enhance its theoretical dimension. As a result, in 2013, the integration and use of a third party intervention analysis tool was developed and was used by mentors and trainees in a preliminary trial attempt. Results of this initial trial revealed a severe weakness with regard to reflective practice. Recognizing the need for both connecting theory to practice as well as enhancing the reflective aspect of teacher training, an analysis tool based on Korthagen's (2001) model was developed.

The Significance of the Analysis Tool

Through implementation of the analysis tool, two key components of teacher development were made clearly visible for all involved: (1) strategies and skills necessary for teaching lessons, and (2) the personal character and competencies required of teachers. These components became the focus of analysis for mentors and trainees as both parties referred the aspects of teacher development using the analysis tool. The first page was in detailed checklist form, and the second page used highly intuitive and accessible radar charts (see Appendix). The analysis tool was published in the project's web site and provided a key basis for navigating the mentoring process. This explicit guide became a tangible compass for student teachers to use to develop their teaching competency, leadership, and capacity for reflection. Three features of the analysis tool are summarized as follows: (1) Teacher trainees and initial teachers can analyze their lessons with a high level of precision; (2) Together with teaching skills and strategies, the qualities, competencies, intuitions, sensitivities, interests, and concerns of teacher trainees became visible. (3) Commonly weak with regard to reflection and self-analysis, teacher trainees can be encouraged in these processes using an analysis tool such as this.

In this way, a mentoring system that takes advantage of an analysis tool provides an attractive awareness of the processes of lesson-analysis and self-assessment that was previously sparse in Japanese teacher education. At the same time, the development of connections to teaching theory is also expected.

3. A Comparison of Teacher Training at KUE and OBU

Of the European teacher training universities surveyed during the Sophistication Project mentioned above, the deepest research collaboration was developed with Oxford Brookes University (OBU) in the United Kingdom. In this section, a systematic comparison of the teacher training processes there and at Kyoto University of Education (KUE) will be conducted in hopes of finding benefits for the present situation within the Japanese system.

Teacher Training at KUE

At KUE's teacher training site schools, the large number of trainees assigned to one classroom limits the ability for mentors to work with trainees one on one. This issue is problematic in some ways, and furthermore the brief one-month period of the practice teaching experience also limits the depth of introspection trainees can do. However, this brief time limit also brings intensity and many other benefits if the mentoring is carried out in a way that enhances teamwork and collaboration among the trainees. While the number of individual practice lessons that each trainee teaches is limited, by working systematically through teaching, model lessons, reflections, and meetings each trainee has the opportunity to gain valuable insights by thinking "what would I do in this situation" while observing a peer teach. Approached with this attitude, trainees can learn and reflect abundantly on teaching by engaging in observation, discussion, and considerations of the teaching of their peers.

Teacher Training at OBU

At OBU, trainees learn individually in full-year internships in which they spend much more time working alone on site. The site school has the option of hiring the trainee, so there is clear motivation for both the school and the trainee to make the most of the teacher training experience. The trainees return to their university for classes and reflection once a week, which encourages the building of a strong long-term relationship with their university. Furthermore, the university mentor provides the natural presence of a third party in the mentoring process, allowing for a dynamic triangulation between mentor, on-site adviser, and the trainee.

Key Findings for KUE from Observations of Teacher Training at OBU

The collaboration with OBU pointed to potential areas of for developing the teacher training at KUE. First, and most apparent was the need for improvement of the assessment of teacher training. Second, OBU provided a model on which KUE could base the transformation of the current teacher training system by possibly lengthening the on-site training period and developing a more rigorous environment for third party intervention by university mentors into the process. Third, the problematic nature of the current system of teacher training at KUE resulting within the relationship between on-site advisors was revealed. And fourth, the importance of rigorously observing the mentoring process from a number of perspectives became obvious. Considering these issues for enhancing the relationship between the university and the site schools, clear steps for improving the mentoring system in place were found. In the remainder of this section, the focus will shift to the assessment of teacher training in a comparison of assessment policies at OBU and KUE.

Assessment of Teacher Training at OBU

Assessing teacher trainees at OBU is done by referring to an assessment sheet that both teacher advisor and trainee use throughout the meeting. The trainee receives clear points on which to focus self-evaluation. This process clarifies the trainee's strengths and weaknesses and makes them convincingly understandable. The trainee can then work with these toward improving subsequent lessons. On the assessment sheet there can be evaluation points for teaching as well as focal points determined by the team of trainees. The process would necessitate guidance for more careful gathering of evidence than is currently being conducted.

Contents of the Guidance Criteria

There are 8 criteria for guidance, each containing the following 3 components: goals and important questions, evaluation, and evidence. For example, regarding *Guidance Criteria 1: Stimulates the students and motivates them to work hard*, these are listed as follows:

Goals: (1) Develops strong trust with students; (2) Develops a stimulating and motivating environment; (3) Affords goals for children from various backgrounds, abilities, and temperaments to develop their strengths; (4) Demonstrates a positive attitude and strong values

Important Questions: (1) Does the mentee provide a strong model for children through interactions and teaching? (2) How are activities and efforts rooted in to the lesson's purpose? (3) Do children feel assured and safe in an atmosphere conducive to learn?

Evaluation: (1) Needs work (heavily assisted by advisor); (2) Acceptable (can sometimes teach independently); (3) Good (should be encouraged to teach independently); (4) Very Good (can confidently become a full-fledged teacher)

Evidence: Grounds for explaining achievement of the different levels of evaluation.

The remaining 8 Guidance Criteria (GC 2-8), here listed briefly, cover other important aspects of teacher development. **GC2:** Promoting student growth and achievement; **GC3:** Present strong subject knowledge; **GC4:** Planning and implementation of a structured lesson; **GC5:** Adapting teaching to students' strengths and needs; **GC6:** Accurate and effective assessment; **GC7:** Ensuring an environment conducive to learning; **GC8:** Fulfilling broader professional responsibilities.

Assessment of Teacher Trainees at KUE

At KUE, trainees are segregated and assessed separately according to their university majors. The assessment is not presented to the trainee until after the training is completed, and is mostly used by the site school to determine grades. Meetings between on-site advisors and trainees are often conducted, however evaluation of teaching during practice is never explicitly stated to trainees. Trainees simply receive grades but often do not develop clear understanding of what issues they need to overcome. Also, the criteria their teaching

was evaluated by is not explained. These unclear explanation of goals and evaluation criteria sometimes results in complaints and appeals from trainees who do not understand the basis for grades they received. There are, however, some criteria for evaluating lessons.

At KUE, similar criteria are set for guiding teacher trainees. The criteria address lesson design, lesson implementation, lesson evaluation, teaching individual students, leading the group of learners, motivating students individually and within the group, work ethics and competencies, desire to improve, and interest in education and commitment to the teaching profession.

These criteria are evaluated at 4 levels of grades: (S) Can do well; (A) Can do ; (B) Can do adequately; (C) Needs assistance. With regard to explaining these grades to the trainees, only in the event of giving the lowest grade of (C), is the reason for grade explained. This feedback is a stark contrast to the highly intensive feedback that teachers seem to receive at OBU.

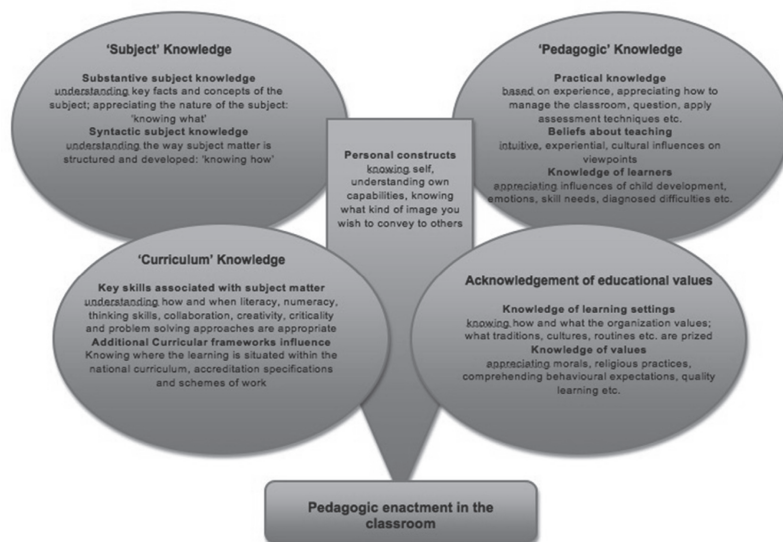
4. Towards Improvement of the Reflection Processes in Teacher Training at KUE

Mead (2014) introduces the proceedings of the 2013 symposium in which delegates from Kyoto University of Education (KUE) visited the School of Education at Oxford Brookes University (OBU) in England: “Set in the context of the impact of globalization on education, the symposium focused on the strengths and weaknesses of initial teacher education in England and Japan with particular attention paid to how professional values and pedagogical knowledge for the twenty-first century are to be addressed by teacher educators.” In the current paper, four participants from the 2013 symposium focus on ideas to apply to teacher education at KUE, and themes that have been emphasized are educational values development, pedagogical theory, and practical application through a mentoring system. In the conclusion of this paper, the importance of considering these themes with an emphasis on rigorous reflection will be put forth as a valuable endeavor from which colleagues from both the Japanese and English perspectives can benefit.

Dewey (1933) outlined two fundamental categories of teacher behavior: routine action and reflective action. Professional development for teachers involves the refinement of both of these in an ongoing cyclical process. As teachers carry out routines in teaching and then reflect on the outcomes of what they taught, they are then better informed and grounded with regard to what to try next. The next lesson will be an improvement in some ways but also raise further issues that require reflection. McGregor (2011) stresses the importance of teachers developing their practice through rigorous reflection involves monitoring, evaluating, and revising through evidence-based enquiry. She outlines seven key characteristics of reflective practice (p. 7): (1) having an active focus on the aims and consequences of teaching; (2) taking a cyclical approach to regularly monitoring, evaluating, and revisiting practice; (3) using evidence to make judgments about success and how to progress; (4) retaining open-mindedness, responsibility, and whole-heartedness; (5) basing developing pedagogy on insights from research as well as judgments from evaluating own practice; (7) engaging with colleagues through collaboration and dialogue to improve professional learning and professional fulfillment; (8) redeveloping practice by creatively integrating external frameworks and models of practice. Reflective practice is thus a highly systematic process of observing one’s practice objectively, taking action, and integrating new

understandings.

McGregor (2007) further guides the reader to consider what one should be reflective on, and in the figure below outlines four fundamental aspects that one needs to attend to in order to develop their effectiveness



as a teacher. Subject knowledge, curriculum knowledge, pedagogic knowledge, and educational values are all essential components that are integrated into the personal constructs and identity of the teacher. Subsequently, through everyday teaching activity, these personal constructs and identity are enacted in the classroom.

Figure 3. Simple Schematic adaptation of Shulman's model of teacher development (from Shulman 1987, 1992; Higgins and Leat 2001; McGregor 2007, as cited in McGregor 2011).

With regard to the enterprise of initial teacher education, reflection on pedagogic knowledge and educational values is particularly interesting when comparing differences in the models and methods embraced by OBU and KUE. The teacher training system at OBU is one in which the teacher trainees engage in year-long individualized teaching practicums at close to 100 schools in the surrounding area. The schools in which OBU students train are independent and autonomous institutions. In contrast, at KUE, the main teaching practicum is carried out in large cohorts of students for short periods of time at one of the 7 schools attached to the university. To respond to its initial teacher-training student's needs, OBU has developed a sophisticated system for individualized mentorship and self-reflection. KUE has likewise developed a sophisticated system within its own institution wherein small groups of teacher trainees work together in groups observing and implementing lessons.

Researchers from the two universities have much to learn from each other as they continue to develop and implement mentoring systems to suit their own institutional needs, constraints, and demands. In particular, pedagogic knowledge and educational values are two focal points for reflection that are broad enough to be embraced by practitioners from different subject areas for initial teacher education in the two cultures.

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Appendix: Analysis Sheet 1 and Radar Charts

Analysis Charts		
Date	School, Grade Level	Course Name
Name		
— Planning and Strategy Analysis Chart —		
— Qualities and Skills Required of Teaching Professionals Analysis Chart —		

Analysis Sheet 1 : Checklist for teacher planning and strategies		
Date	School, Grade Level	Course Name
Name		
1. Classroom management ☐ Can grasp students' conditions ☐ Can ask appropriate questions ☐ Can promote students active learning ☐ Can thoroughly understand students' thinking ☐ Can adapt to unexpected situations ()	2. Teaching skills ☐ Writes neatly on the blackboard in a well-organized way ☐ Looks at the class when talking ☐ Speaks in a way that reaches the whole class ☐ Comprehends each individual student's opinions ☐ Adjusts talking points accordingly with circumstances ()	
3. Subject knowledge and skills ☐ Uses terminology properly ☐ Has acquired the subject's necessary skills (e.g., experimentation, observation, practical techniques) ☐ Connects lesson contents to other aspects of the subject ☐ Can make multiple interpretations of class and subject contents ☐ Appropriately uses teaching materials and gives directions ()	4. Reflection ☐ Can clearly explain his/her lesson's strengths and weaknesses ☐ Can reflect on how well students understand and improve teaching methods accordingly ☐ Can reflect on his/her questions and comments and improve them ☐ Can make use of reflections on word choices and explanations and make changes henceforth ☐ Reflects during lesson preparation and plans accordingly ()	
5. Guidance and support ☐ Sets attainable goals and helps students achieve them through assignments, activities, questions, and comments ☐ Responsively integrates student opinions into the progress of the lesson ☐ Unfolds lessons with a sense of rhythm and pace ☐ Asks questions that are easy for students to consider ☐ Interacts with students to support them through stumbling blocks ☐ Develops lessons with consideration of students thought processes ()	6. Understanding students ☐ Predicts students responses to questions ☐ Observes interaction between self and students and advances learning ☐ Positively develops and establishes relationship with students ☐ Understands students distinguishing traits and preferences ☐ Understands each students' position within the class and its peer groups ☐ Understands the atmosphere of the class ()	
7. Attracting attention ☐ Keeps the class' attention focused on the speaker ☐ Effectively displays objects, models, and demonstrations ☐ Discussions connections between class contents, daily life, and society ☐ Gives examples that stimulate interest ☐ Speaks and carries oneself like a performer ☐ Speaks in a way that makes students want to hear more ()		

Note: Analysis Sheet 2, corresponding to the qualities and skills section of the radar chart was omitted.