# A Study on Modeling of e-Facilitating Behavior in Moderation Method
## — A Case of Practicum in Pre-service Teacher Training —

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During the development of coursework that employs e-Learning at Pre-service Teacher Training, it is important for us to pay attention to the roles of not only "coordination (particularly with respect to the management of schedule)" but also "facilitation (particularly regarding guiding and counseling students)" in addition to "face-to-face coursework." Pre-service students desire to learn to relate the teacher's dialog and advice to their own practical observations and dialog. Furthermore, they would like to receive pedagogical and psychological support at each step during coursework. The performance of two roles—coordination and facilitation—is termed as "moderation." This paper attempts to identify the practice of online facilitation within the purview of the moderation method in Pre-service Teacher Training. We share basic data and attempt to discuss the useful findings concerning e-moderating methods through interviews of four moderators, use of questionnaires to survey pre-service students, and analysis of the moderators' and students' posts on BBS.

*Key words* : e-Learning, Distance Education, Distributed Learning, Teacher Education, Faculty Development

## 1. INTRODUCTION

It is known that apart from instructions, mentoring also plays an important role in coursework (ref. Figure 1). Therefore, certain courses employ a course mentor or a mentor
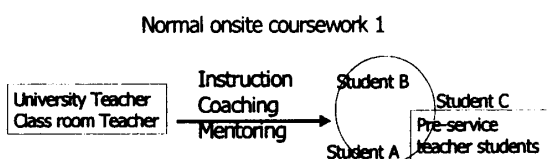
Normal onsite coursework 1



Fig. 1. Format of normal onsite coursework 1
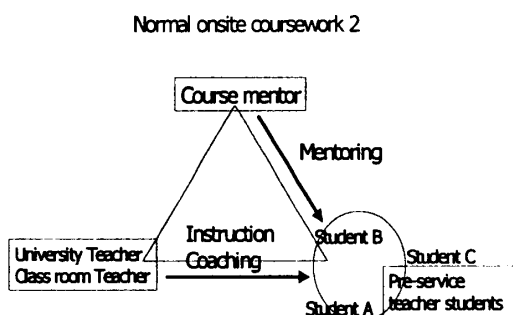
Normal onsite coursework 2



Fig. 2. Format of normal onsite coursework 2

teacher (ref. Figure 2) (Ward, West and Isaak, 2002). Wang and Odell (2002) clarify the roles that mentoring has played in teacher training.

This role is not an exception to e-Learning and coursework using ICT (Information Communication Technology) . Rather, when we design, manage, and implement the e-Learning coursework, we might have to pay particular attention to the types of pedagogical practices carried out during e-Learning as compared to onsite coursework or classroom teaching.

The reason is that the online coursework is based on text rather than face-to-face situation. It is not easy for the teacher and instructor to anticipate the student's needs and to understand a student's mental situation through online text. Therefore, the online course manager is required to consider the pedagogical practices in order to sustain the students' interest in learning.

Previous studies have been concerned with designing the curriculum and the development of the interface and system. Researches have also identified the problem concerning the IT skills of the teachers or educators. However, the research on the pedagogical practices of teachers or

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educators is limited (Moore 2003, Saba 2003, Anderson 2003, Wolcott 2003).

Salmon (2000) is one example of a study that is considered noteworthy in the field of research on pedagogical practices. This study uses the concept of "e-moderating" and presents a stepwise explanation of the models related to the moderator's role and action in the Open University coursework. According to Salmon, an e-moderator plays two roles, 1) program coordinator (including the role of technical advisor) and 2) facilitator (including the role of mentor and guide). Although these concepts and models are useful in the field of teacher training, limited practical research is available.

In other words, although we can find practical research about coordination (Aune 2002), we seldom find such practical research regarding e-facilitation per se in the field of teacher training. It is important for us to pay attention to the role of not only "coordination (particularly regarding the management of schedule and providing information regarding the IT programs and operations)" but also "facilitation (particularly regarding guiding and mentoring of students)." This is a problem worthy of investigation.

The interest in "e-moderating" has only recently surfaced in the field of teacher training.

Abramson (2004) and McLellan, Stansfield, and Connolly (2004) made significant observations in their studies regarding e-moderation or e-facilitation methods. They pointed out key behaviors and the importance of narrative analysis in comparison to writing. However, the note does not provide us with the means of clarifying the relationship between key behavior and the timing to post it. In consideration of pedagogical practices, it is necessary to identify the relationship between key behaviors and timing. This is another problem that merits investigation.

In summary, we identified two problems for investigation in this paper. First, it is important to focus on e-moderation, particularly e-facilitation within the field of teacher training. Second, identifying the relationship between key behavior and its time of determination is of significance.

Thus, this study attempts to explore the methods of effective online moderation as pedagogical practices (referred to as e-moderation method) in the field of teacher training.

## 2. THE STUDY

### 2.1. Objective

In this study, we focus on the practicum in the field of teacher training. The reason is that both
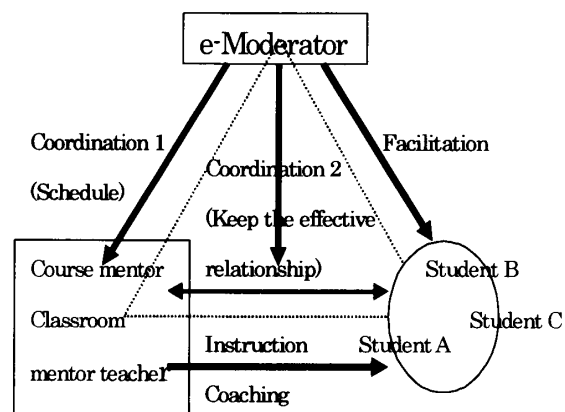


Fig. 3. the role of e-Moderator

the university teachers and classroom teachers use the practicum to provide instructions and to coach the students; thus, the pre-service students often find this coursework complicated.

We also focus on the facilitating behavior within the purview of the e-moderation method to support the pre-service students' learning process by using ICT. This is because we often encounter the following situation when managing the coursework at Pre-service Teacher Training (ref. Figure 3).

Assuming the role of e-Moderator, we attempt to support the practicum through coordination and facilitation. However, we often tend to pay attention to coordination because of the necessity of managing the practicum. It should be noted that pre-service students desire psychological support and guidance from the e-Moderator.

In other words, it is difficult for pre-service students to combine their learning from university teachers and classroom teachers with their own knowledge, actions, and beliefs. Although pre-service students can learn from a classroom teacher, it is not easy for them to acquire the professional knowledge and action embedded in
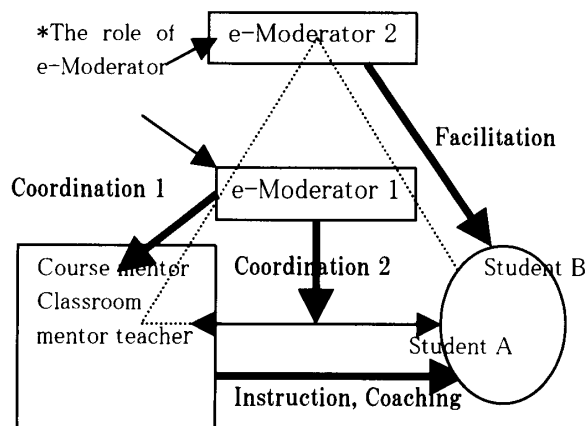


Fig. 4. setting of this study

the practice. They would like to obtain support in order to relate the teacher's advice with their thoughts regarding the result of observations.

For this, we focused on the facilitation in this study and set up e-Moderator 1 and e-Moderator 2 (ref. Figure 4).

Subsequently, we drew attention to the facilitation using BBS. We refer to this as "online facilitation" or e-facilitating behavior.

Finally, we clarify the method of online facilitation from the standpoint of e-Moderator 2 in Practicum.

However, in order to clarify the method of online facilitation, it is essential to determine the moderator in a given condition and setting.

A schoolteacher might serve as an expert facilitator for the pre-service student online because she/he can provide onsite coaching. Teachers other than classroom mentors might be better suited for the role of e-Moderator 2. Moreover, graduate students are similar in age to the undergraduate students or the pre-service students. It might be easy for a graduate student to understand a pre-service student's needs. Thus, a graduate student might also serve as a good e-Moderator. A setting involving both a schoolteacher and a graduate student might be ideal.

Therefore, to begin, we prepared the setting to evaluate who is more suitable for e-Moderator 2—a schoolteacher or a graduate student. We also prepared the setting to evaluate which is more suitable for the e-Moderator 2 setting—the presence of one or two e-moderators. In order to identify the optimal moderator setting, we decided to study a BBS with the highest number of active discussions, since it would prove to be an optimal setting in this case.

On the basis of the above-mentioned procedure, we attempted to generalize the model of e-facilitating behavior from the optimal setting.

In summary, our aim is to identify a model of e-facilitating behavior on BBS in practicum. In order to achieve this, the research objective in this study was to develop the first model of e-facilitating behavior from the optimal moderator setting.

## 2.2. Method
### 2.2.1. Research Setting

We appointed four e-moderators for three groups (A, B, C) attending the practicum (ref. Table 1). Pre-service students were divided into three Groups. These students visited a primary

Table. 1.  Arrangement of Group and Moderator

|  | A group | B group | C group |
|---|---|---|---|
| Total number | 25 | 25 | 24 |
| Female | 20 | 21 | 14 |
| male | 5 | 4 | 10 |
| Moderator | M1, G1 | M2 | G2 |

school every Thursday morning from May 8 through July 6, 2003 in order to observe the different grades. Before participating in the classroom, they were given a short lecture and information on children's appearances by a leading classroom teacher. Then, each group member participated in a different class at the same grade for the purpose of observation. For instance, when Group A participated in math class in Grade 4, Group B participated in science class in Grade 4. After observation, each group member attended a meeting with the classroom teacher. They then returned to the University and wrote their thoughts on the BBS of each group by the following Wednesday morning. Each Group visited a different classroom seven times (From Grade 1 through Grade 6 and special needs class). Moreover, each group had nearly the same interest in teaching and the same IT skill level. Additionally, since members of each Group were chosen randomly by the host schoolteacher, it was a homogeneous set-up.

### 2.2.2. Research Object

We took a moderator as the research object. The first moderator was female and Grade 1 in the Masters course (M1). The second was female and Grade 2 in the Masters course (M2). The third was male and a schoolteacher with experience as a classroom mentor (G1). Finally, the fourth (G2) had the same qualifications as G1. M1 and G1 owed responsibility to Group A. M2 owed responsibility to Group B. Furthermore, G2 belonged to Group C. They read the students' writing on the BBS and replied to them in the same medium during the practicum.

### 2.2.3. Research Procedure

First, we prepared a framework of comments and stipulated a common condition for the e-moderators. This was done to clarify the moderator's role of facilitation (mentoring and guiding etc.) (ref. Table 2).

Second, we attempted to analyze each e-moderator's writing behavior on the BBS through two sessions (First session and Second session) by considering parameters, such as time

Table 2.  Framework of comments for moderators

| Acceptance |
| --- |
| 1) Comments about reducing the student's anxiety regarding writing on the BBS |
| 2) Comments about reducing the student's anxiety with regard to participating in the classroom |
| **Reflection** |
| 3) Comments about reflection on what the student observed that day |
| 4) Comments about reflecting on their own past experiences at school |
| **Connection** |
| 5) Comments about paying attention to the writing of other students |
| 6) Comments about participating in discussion |
| 7) Comments about connecting observations with the contents of coursework in the University |
| 8) Comments about making individual assignments clear with respect to teaching practice |



"Welcome back...By the way, did the children seem happy? At every occasion a child's growth reflects the developmental stage, time, physical situation, etc. A child who appears not to be listening to the story unexpectedly displays good behavior. Please view the students and class from a broad perspective, beyond your own concept and experiences with respect to the class. In doing so, you will be able to gain several insights. Please keep a careful eye, the next time (translated by author)."

Figure. 5.  Moderator's comment style in first session

of occurrence, type of situation, person it was addressed to, and the nature and the number of words used.

Third, we collected data from the students' writings on BBS and analyzed them by counting the number of posts and the number of references and by interpreting the meaning of the text.

Finally, we collected the interview data from four e-moderators from four sessions and attempted to interpret their change in disposition, feelings, and thoughts (ref. Table 3).

### 2.3. Results

Each e-moderator read the student's posts and replied to each student during the first session (May 8–June 14) (ref. Figure 5).

Students read the moderator's responses to their posts and felt relieved. They wrote down their thoughts on the BBS and read other students' posts. However, students seldom read the moderators' responses to the other students because each student was satisfied with the moderator's reply to her/his own questions. Table 4 shows the mean of the number of references that students made while reading the posts on the BBS.

In other words, students read the other student's posts to obtain some ideas on how to post their own writing on the BBS. Further, they read the moderator's responses to obtain answers to their questions. Inter-student discussion seldom occurred on the BBS. For instance, there were only two threads of posts from the students to the moderators in Group A and Group C. Only Group B produced some discussions between the students and e-moderator (M2) or among students. There were 16 threads of posts from the students to the moderator and 22 threads from students to students by June 6.

During the second session (June 15–July 12), each e-moderator began to modify the manner in which they reply and provide advice. Each e-moderator selected similar posts by students and began to indicate common points drawn from the students' writing as a topic for Group

Table. 3.  Data Collection

|  | 1.About data collection by contents analysis |
| --- | --- |
| First session | 8th May  –  14th June |
| Second session | 15th June  –  12th July |
|  | 2.About data collection by Interview |
| 22th April | Interview to each e-moderator by face to face |
| 12th May | Interview to each e-moderator by e-mail |
| 26th May | Interview to each e-moderator by e-mail |
| 14th June | Moderator Meeting |
| 22th July | Interview to each e-moderator by face to face |

Table. 4.  Number of reference in the first half

|  | 8th May  –14th June (in the first half) | Number of reference |
| --- | --- | --- |
| A group | To the student's comment | 11. 5 |
|  | To moderator M1 | 4. 7 |
|  | To moderator G1 | 6. 6 |
| B group | To the student's comment | 13. 9 |
|  | To moderator M2 | 6. 4 |
| C group | To the student's comment | 10 |
|  | To moderator G2 | 4. 4 |

discussion.

Communication among the students on BBS occurred in this manner in each Group (ref. Table 5). Each moderator's posts were referred to by the students (ref. Figure 6).

Referring to the framework of comments, four e-moderators attempted to make students reflect on what they had observed in the classroom and combine it with their thoughts and experiences by July 19.

As a result, Group B showed the most active discussions on BBS, for which M2 was responsible (ref. Table 6).

Although Group C was the highest in terms of depth of threads (the means of number of posts within one thread), this was a result of the counterbalance of the average. In other words, Group C had a total of only eight threads with more than three posts. This is reflected in the figure. Further, pre-service students belonging to Group B showed greater satisfaction with their moderator than did other groups (ref. Table 7).



Figure. 6.   Moderator's comment style in latter session

With regard to the science class, please allow me cite E's writing: "The teacher's advice 'Become an actor,' at the study committee was highly impressive." Please elaborate further on the concept of "Teacher = actor" a little more elaborately. Moreover, could F and B express their opinions on ideas regarding this? What does everyone think about this? (translated by author)

Table. 5.   Number of reference in the latter half

| | 15<sup>th</sup> June-12<sup>th</sup> July (in the latter half) | Number of reference |
|---|---|---|
| A group | To the student's comment | 10. 7 |
| | To moderator M1 | 13. 9 |
| | To moderator G1 | 13. 2 |
| B group | To the student's comment | 16. 1 |
| | To moderator M2 | 14. 4 |
| C group | To the student's comment | 9 |
| | To moderator G2 | 15. 2 |

Table. 6.   Result of writing by each Group

| | A group | B group | C group |
|---|---|---|---|
| Total number of writing | 438 | 633 | 424 |
| student's writing | 225 | 382 | 249 |
| e-Moderator's writing | M1:128 G1:85 | 251 | 175 |
| number of connection more than 3 writing | 6 | 74 | 8 |
| means of depth | 4 | 3.7 | 5.4 |

Table. 7.   Usefulness of Moderator's advices

| | Total | Yes | sometimes | No | deficit |
|---|---|---|---|---|---|
| Total | 74 100.0% | 50 67.6% | 17 23.0% | 4 5.4% | 3 4.1% |
| A group | 25 33.8% | 16 21.6% | 7 9.5% | 1 1.4% | 1 1.4% |
| B group | 25 33.8% | 21 28.4% | 3 4.1% | 1 1.4% | 0 0.0% |
| C group | 24 32.4% | 13 17.6% | 7 9.5% | 2 2.7% | 2 2.7% |

From the results of Tables 4, 5, 6, and 7, we could find that Group B recorded the most active discussions on the BBS.

## 3. FINDINGS

From the above results, we identified Group B as the best setting in this study. Subsequently, we attempted to generalize the facilitating behavior of moderator M2.

How did M2 exhibit facilitating behavior on the BBS? How was it different from M1, G1, and G2?

We explored this from the interview log of each moderator and from the text log maintained by each moderator on the BBS.

Firstly, we tried to clarify what each moderator paid attention to during the session and which expressions each moderator used to facilitate pre-service students from interview log. The reason was to clarify the differences of online facilitation through the moderators' perspectives.

According to the interview log (ref. Table 8), M1 highlighted the elimination of the students' anxiety. Moreover, she considered the "Removal of anxiety and uneasiness," to be an important aspect of the moderator's role. In other words, M1 endeavored to play the role of a mentor.

Further, G1 and G2 stressed the guidance of the pre-service students by a teacher. Reflecting on the overall experience, G1 said, "It was difficult for me to deal with them," and he considered the "Setting of the discussion," to be an important role of a moderator. Reflecting overall, G2 said, "I cared about the student and the teacher a lot," and considered "Providing

Table. 8.    Summary of Moderator's Interview

| | M1 | G1 | M2 | G2 |
|---|---|---|---|---|
| Overall reflections | I was confused since the replies from students were few. But I think that I was able to eliminate the students' anxiety a little. | I could know the students only from their writings. It was difficult for me to deal with them because I did not meet them directly. | I thought I was able to accomplish significant progress with the students; however, though it might be not suitable for every group member. | I felt that the student was very serious. I was rather concerned about the student and the teacher during this activity. |
| The "Acceptance" component of framework (What comments did you provide to the student?) | "I used to be in the same position. Please remain confident." | "You have made a valid point. It is actually so. | "Do not worry. Take it easy. I will provide advice whenever needed." | "Your observation regarding this is good." |
| The "Reflection" component of the framework | "What do you think of it? Have you ever experienced it?" | "Could you draw attention to other points? What are your thoughts on such an idea?" | "To what was the teacher paying attention? Why was this so? If you were the teacher, how would you act?" | "I was so in the past. Do you have the similar experiences?" |
| The "Connection" component of the framework | "Etsuko's writing is similar to yours. Do read it." | "Try to think about this, by relating it to that." | "What do you think about this from the perspective of your specialization?" | "Some wrote so. I think of it like this. How about you?" |
| What is important? | Eliminate anxiety and uneasiness | Manage the discussion according to one's own different experiences. | Work together. Find a good point and pay a compliment. Keep questioning and provide support to go ahead. | Grasp the gist of student's thoughts. Provide advice that enlivens the discussion from various perspectives. |

advice," to be the important role of a moderator. In other words, G1 and G2 attempted to play the role of a guide.

However, M2 primarily focused on working together with students. She stressed on the students' thoughts and contexts. M2 valued discussions on the actual problem with the pre-service students. Overall, M2 said, "I was able to achieve significant progress with the students," and considered "working together," to be the important role of Moderator. In other words, M2 tried to play the role of both mentor and guide.

We defined the role of the moderator as involving coordination and facilitation. In this study, we set up moderators and focused on facilitation. Therefore, M1, M2, G1, and G2 attempted to play the same roles as Moderator. However, facilitation had plural roles, such as mentoring and guiding, etc. In other words, the moderator's concerns and customs reflected the different roles of facilitation and it produced a different facilitating behavior by each moderator.

In summary, M2 performed the role of a moderator involving mentoring and guiding, throughout. It was evident from the active BBS that the moderator worked together with the pre-service students, playing the role of both mentor and guide.

Secondly, from the text log on the BBS, we attempted to clarify how the moderator replied to the pre-service students at each step of the comment frame (ref. Table 2). This was because we clarified the behavior that M2 actually used to facilitate pre-service students on BBS. Thus, we attempted to generalize the facilitating behavior of M2 in greater detail.

> Acceptance
> 1) Comments about reducing the students' anxiety regarding writing on the BBS.

① M2 referred to the students by name when writing her comments on the BBS (ref. re26 (1)). M1, G1, and G2 did likewise. M2 and M1 posted immediate responses within two days. However,

G1 and G2 sometimes delayed their replies to the end of week. References to the students' names continued from the initial term to the latter term. The posting of immediate responses continued from the initial term to late mid-term.

(Key behavior: Refer by name)

(Key behavior: Provide immediate response)

> 26 re(1): 2003/4/30 20:26 M2- cap027-179.kcn.ne.jp-18 hit(s)
> It appears that you are feeling a little uneasy about taking charge of a sixth grader. However, Kitamura, you should set a target such as "I want to learn here" and make your goal clear from the beginning. I think you are wonderful. Please continue to feel this way and observe the class. You will succeed. (translated by author)

> Acceptance
> 2) Comments about reducing student's anxiety regarding participating in a classroom.

② M2 received the student's writing and indicated the good points. M2 gave the student a simple question, such as A or B, to make the student identify his/her own position regarding the written content (ref. 161re(1)). From the initial to the mid term, the moderators received a student's writing and often indicated good points. However, this trend faded from the mid-term to the latter term.

M1, G1, and G2 also received the students' writings and indicated the good points. However, M1, G1, and G2 did not provide the pre-service students with a chance to reply to the moderator, although M2 gave the students a simple question, such as A or B.

(Key behavior: Receive) (Key behavior: Make them identify their own position)

> 161 re(1): 2003/5/14 21:04 M2-cap028-137.kcn.ne.jp-13 hit(s)
> I think you observed the class from various perspectives. A lot of possibilities were fathomed from Naoe's polite observation. You write, "An individual's activity seemed to be independent." Do you think this to be positive or negative? (translated by author)

③ M2 was also considerate in matters relating to the health of the students. She expressed concern over the physical and mental well-being of the students and sympathized with their feelings on the BBS (ref. 187re). These behaviors were frequently observed in the initial term and they continued to the mid term.

M1 sometimes conveyed sympathy through words such as "I used to be in the same position. Please remain confident." (ref. Table 8) . However, M1 was unconcerned with private matters such as health condition. We could not confirm whether G1 and G2 indulged in such facilitating behavior.

(Key behavior: Sympathize)

> 187 re(1):2003/5/17 14:58 M2-cap020-011.kcn.ne.jp-14 hit(s)
> How about your physical condition? Avoid overworking if you are not too well.

> I thought, "What you have reported this time is excellent." There has been considerable improvement in the points that you have been raising as compared to the last time. How do you evaluate it by yourself? There seem to have been several discoveries with regard to observation.
> I ask you one question concerning the discovery. Do you know there are various levels as for the "listening" activity? (translated by author)

> Reflection
> 3) Comments about reflecting on what they had observed that day
> 4) Comments about reflecting on their own experiences at school.

④ M2 not only attempted to highlight the positive aspects of a student's writing but also motivated them to take the next step. She attempted to infuse in the students a sense of satisfaction and confidence (ref. 204re(1)). These behaviors continued from the initial to the mid term.

G1 and G2 did likewise. However, M1 did not give concrete and practical advice to pre-service students, although M1 motivated the student on the BBS. (Key behavior: Motivate)

> 204 re(1): 2003/5/20(火)16:11 M2-192.168.114.14-16 hit(s)
> The current report is polite. I am proud of you. Please keep this up. In particular, your consideration regarding education for children with special needs was prudent. (translated by Author)

> Connection
> 5) Comments that make students pay attention to other student's writings
> 6) Comments that make them discuss

⑤ M2 attempted to make students pay attention to the writings of the other. This behavior was observed from the beginning to the mid-term. Then, M2 made the students express their own feelings and thoughts by using short phrases when the students posted it on the BBS. This behavior was found to continue from the mid-term to the latter stage.

M1, G1, and G2 acted similarly. However, when M2 allowed pre-service students to refer to the writings and titles of other students, she always indicated it using concrete words (referring by name etc.) (ref. 362)

(Key behavior: Make them pay attention to the comments of others) (Key behavior: Make them express their own thoughts through short phrases)

> 362 2003/6/16(月)09:20 M2-cap021-067.kcn.ne.jp-48 hit(s)
> Could an interesting title be devised when writing on the BBS? An interesting title on the BBS draws attention.
> For instance, Matsubara, Matsumoto, Kobayashi, and Saeki post an interesting title. Let's think of a title and actively discuss it with each other. (translated by Author)

⑥ M2 immediately apologized to students upon realizing any personal misunderstanding of what

students wrote. She focused on forming a reliable relationship with the students (ref. 325re(3)). M2 was very concerned about making the atmosphere conducive to student to discuss with the moderator and other students. Such facilitating behavior was not observed in the writings on the BBS by M1, G1, and G2. Moreover, these behaviors were exhibited particularly from the beginning to the mid term.

(Key behavior: Make them reflect on the community on the BBS)

> 325 re(3):2003/5/31 13:36  M2-cap026-097.kcn.ne.jp-14 hit(s)
> I'm sorry, Matsumoto. My words seem to have been insufficient to convey what I meant. I understood that you assigned value to "Support" rather than "Guidance" for the role of a teacher. I asked you to confirm whether my interpretation was correct. I would not say, "Your idea is not good." I'm sorry to invite misunderstanding. (translated by Author)

⑦ M2 often cited the writing of various student' in her writing and attempted to increase awareness of each other among students. M2 attempted to form a community on the BBS. M2 also posted and offered a common topic to everyone (ref. 370). As a result, six leading students emerged from among the Group B members. The leaders posed some questions to other students instead of M2. The leader students began discussions among students.

G2 began facilitating behavior such as forming a community from the mid-term. As a result, we could find a pre-community in Group C. However, M1 and G1 did not exhibit this behavior on the BBS.

M1, G1, and G2 started offering a common topic to everyone from the mid-term onward.

Behavior such as forming a community was often found in the initial term and continued to mid-term. The behavior of offering a common subject to everyone was observed from the mid-term to the latter term.

(Key behavior: Make them reflect on the community on the BBS) (Key behavior: Offer a common subject)

> 370 2003/6/17  16:23  M2-192.168.115.71-21 hit(s)
> Kato and Kobayashi is learning well. You should certainly be conscious of the importance of the lesson plan. By the way, Sato asks, " Should the lesson plan be written for each lesson or not?, Matsumoto, Kitamura and Saeki have an interesting and honest comment about this. This dilemma is expressed in Naoe's post. I want to hear the voice of other members.(translated by Author)

> Connection
> 7) Comments about connecting observations with the contents of coursework in the University
> 8) Comments about making individual assignments clear with respect to teaching practice

⑧ M2 offered not only common subjects but also problems corresponding to individuals. This

behavior was observed in the mid-term. M2 attempted to make students aware of their own area of specialization (ref. 642). This behavior was found in the mid-term and continued to the latter term.

On inquiry by a student, M1 assigned the student a problem corresponding to her area of specialization. However, G1 did not apply such behavior to other students. G2 exhibited this behavior on a few occasions toward the end of the second session.

With regard to making students conscious of their own area of specialization, we could not find this in the facilitating behavior of M1, G1, and G2.

(Key behavior: Offer a problem corresponding to the individual) (Key behavior: Make them aware of their area of specialization)

> 642 2003/7/15 09:20  M2-cap026-121.kcn.ne.jp-23 hit(s)
> From this report, I could understand the various phases of Kato's thinking and interests. I could grasp the scientific thought from it. From the viewpoint of your area of specialization, what stance would you take about the question in Kitamura's writing, Kato ? Additionally, have you already read Matsubara's writing? What do you think the term "width" means, Kato? You will surely think about the usage of words that are different from Matsubara. Is this correct? (translated by Author)

From the above analyses, we could consider Table 9 to be findings regarding the key facilitating behavior, which is generalized from the writing of M2 on BBS.

Table. 9.   12 Key behavior

| Framework | Number | Key behavior |
|---|---|---|
| Accept | 1) | Refer to students by name |
| | | Provide immediate response |
| | 2) | Receive |
| | | Make them identify their own position |
| | | Sympathize |
| Reflection | 3)&4) | Motivate |
| Connection | 5)&6) | Make them pay attention to other's comments |
| | | Make them express their own thoughts through short phrases |
| | | Make them reflect on the community on BBS |
| | | Offer the common subject |
| | 7)&8) | Offer problem corresponding to individuals |
| | | Make them aware of their area of specialization |

## 4. CONCLUSIONS

This study aimed to identify the model of e-facilitating behavior on the BBS in practicum. In

order to approach to this goal, as the research objective, we tried to produce the first model of e-facilitating behavior from the optimal moderator setting.

We chose Group B in this study in order to determine the optimal setting on BBS. This is because Group B showed the most active discussions on the BBS. Subsequently, we tried to generalize the facilitation behavior of M2.

From the result of the exploration from the interview log of each Moderator, we could determine that it was important for us to pay attention to "working together." It was important for us to play the full role of facilitation, such as mentoring and guiding, etc.

Subsequently, we used the text log on BBS and attempted to clarify how the moderator replied to the pre-service students at each comment frame step. We generalized the key facilitation behavior at each step of comment frame as findings. Further, we identified the time at which the moderator posted it on BBS.

Finally, from the above findings, we attempt to produce the first model of e-facilitating behavior on the BBS in practicum, which reveals the relationship between key behavior and the timing of its accomplishment.

In Figure 7, the vertical line shows the framework of the moderator's comments. This is different from the original framework of comments (Acceptance, Reflection, and Connection), on which this study was based. When we discussed the framework of comments with moderators during the session, they stated that it was difficult for moderator to distinguish between reflection and connection. Therefore, we decided to modify the category concerning the comment framework. The new category is as follows: "Relief, Reflection, and Application."

Relief involves implementation of the framework including the key facilitation behaviors that provide psychological relief to a student's mind and provide motivation to the student

Reflection involves implementation of key facilitating behaviors that make students pay attention to their own writing or that of others. These behaviors guide the students to participate actively on the discussions on the BBS.

Application involves implementation of the framework including the key facilitation behaviors that guide the students to discuss in order to familiarize themselves with other students and makes the students reflect on the topic more deeply. On the basis of the new categories, we modified the order of the 12 key behaviors.

The horizontal line in Figure 7 shows the time when the e-moderator exhibits the facilitating behavior to the students.

In summary, to support effective e-facilitation, we identified the three major components of the framework (Relief, Reflection, and Application),

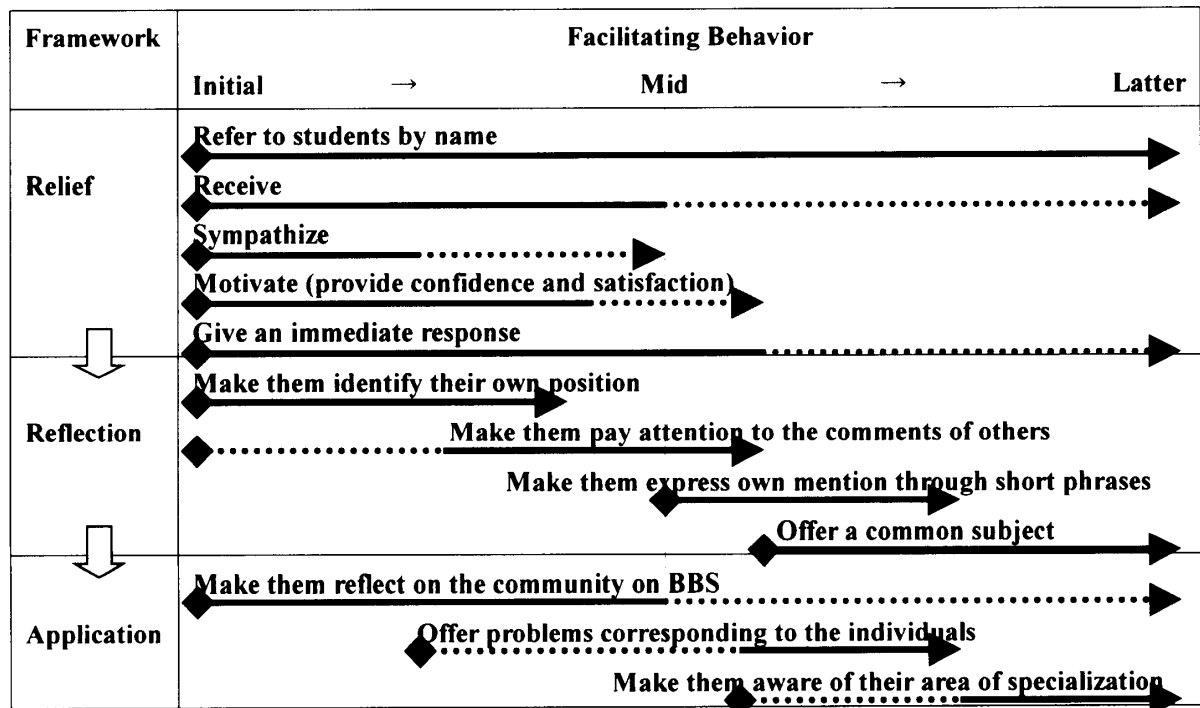| Framework | Facilitating Behavior | | |
|---|---|---|---|
| | Initial → | Mid → | Latter |
| **Relief** | Refer to students by name | | |
| | Receive | | |
| | Sympathize | | |
| | Motivate (provide confidence and satisfaction) | | |
| | Give an immediate response | | |
| **Reflection** | Make them identify their own position | | |
| | Make them pay attention to the comments of others | | |
| | Make them express own mention through short phrases | | |
| | Offer a common subject | | |
| **Application** | Make them reflect on the community on BBS | | |
| | Offer problems corresponding to the individuals | | |
| | Make them aware of their area of specialization | | |

Fig. 7. The Model of e-facilitating behavior

twelve key actions within the three components, and the adaptive timing at which each comment should be provided to the students.

This is the first model. We attempted to find the data in practicum and developed this model. However, a few studies have explored the relationship between the key facilitating behavior and the time at which the moderator should post on the BBS. In this regard, the findings in our study are original.

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