

## **A Case Study of Improving Instruction by Utilizing Online Instruction Diagnosis Item Pool**

Mi-Ja SHIM  
Yonsei University  
Korea

One of the main factors that determine the quality of instruction is the teaching ability of the instructor administering the class. To evaluate teaching ability, methods such as peer review, student feedback, and teaching portfolio can be used. Among these, because feedback from the students is directly associated with how well the students feel they have learned, it is essential to improving instruction and teaching ability. The principal aim of instruction evaluation lies in the evaluation of instructor's qualification and the improvement of instruction quality by enhancing professionalism. However, the mandatory instruction evaluations currently being carried out at the term's end in universities today have limitations in improving instruction in terms of its evaluation items and times. To improve the quality of instruction and raise teaching abilities, instruction evaluations should not stop at simply being carried out but also be utilized as useful data for students and teachers. In other words, they need to be used to develop teaching and improve instruction for teachers, and consequently, should also exert a positive influence on students' scholastic achievements and learning ability. The most important thing in evaluation is the acquisition of accurate information and how to utilize it to improve instruction. The online instruction diagnosis item pool is a more realistic feedback device developed to improve instruction quality. The instruction diagnosis item pool is a cafeteria-like collection of hundreds of feedback questions provided to enable instructors to diagnose their instruction through self-diagnosis or students' feedback, and the instructors can directly select the questions that are appropriate to the special characteristics of their instruction voluntarily make use of them whenever they are needed. The current study, in order to find out if the online instruction diagnosis item pool is truly useful in reforming and improving instruction, conducted pre and post tests using 256 undergraduate students from Y university as subjects, and studied the effects of student feedback on instructions. Results showed that the implementation of instruction diagnosis improved students' responsibility regarding their classes, and students had positive opinions regarding the usefulness of online instruction diagnosis item pool in instruction evaluation. Also, after instruction diagnosis, analyzing the results through consultations with education development specialists, and then establishing and carrying out instruction reforms were shown to be more effective. In order to utilize the instruction diagnostic system more effectively, from planning the execution of instruction diagnosis to analyzing the results, consulting, and deciding how those results could be utilized to instruction, a systematic strategy is needed. In addition, professors and students need to develop a more active sense of ownership in order to elevate the level of their instruction.

*Keywords: student feedback, instruction diagnosis item pool, teaching effectiveness*

---

\* Center for Teaching and Learning, Yonsei University  
mjshim@yonsei.ac.kr

## **Introduction**

Recently, many universities have been putting a lot of effort into the qualitative enhancement of education in response to a sense of crisis brought on by rapid changes in the educational environment and in preparation for the age of unlimited competition. As part of these efforts, most universities are placing their focus on improving instruction quality. There are many ways to attain the goal of improving instruction quality, but the most essential factor may be to improve the ability of the instructor in charge of the class, and instruction evaluation as a method to induce such a result is attracting more attention. Instruction evaluation is becoming an important tool by which instructors stimulate their interest and enthusiasm regarding instruction and students recognize the importance of class participation. The feedback provided by the direct beneficiaries of instruction, the students, is important information and material to the instructor for improving instruction, and it is the aim of instruction evaluations to induce instructors to improve the efficiency and effectiveness of instruction based on these data.

However, for instruction evaluation to become a tool for improving instruction, educational potential, and the core abilities of instructors, appropriate and reliable tools by which information required for evaluation can be accurately collected must be developed in tandem with efforts to seek methods by which evaluation results can be effectively applied to evaluation goals. That is, instruction evaluations should not stop at simply being carried out, but also be used as valuable material for the benefit of both learners and instructors. It is most crucial that the collected data be used for developing the teaching and improving the instructing capacity of instructors, and ultimately, they must also have a positive effect on students' learning achievements and learning capabilities. For that, instructors need to have a mindset of actively utilizing instruction diagnosis for qualitative enhancement of themselves and improvement of their instruction.

Instruction evaluations currently being used have several limitations. Specifically, the evaluation items are inadequately classified to reflect the individual characteristics of each class, and thus are limited in acquiring detailed class feedback. Also, in case instruction evaluations are utilized for the purpose of feedback for improving instruction, since instruction evaluations are currently being carried out one to two weeks before classes end each term, it is impossible to collect timely and practical information for instruction during the term. The online instruction diagnosis item pool system was developed as a more

practical feedback device for improving instruction, one that overcomes the limitations of current instruction evaluations. The instruction diagnosis item pool is a cafeteria-like collection of hundreds of questions that instructors can use to diagnose their instruction activities either through student feedback or self-diagnosis. Instructors can select those items that fit the special characteristics of their classes, present them to students at any desired time during the term, and receive immediate feedback regarding their instruction. Many universities in the United States are carrying out evaluations regarding teaching effectiveness during the term. Stanford University's mid quarter evaluation, Yale's mid-term evaluation, Harvard's early evaluations, Berkeley's fast feedback, University of Chicago's mid quarter student feedback, University of Michigan's midterm student feedback, and Purdue's cafeteria items are prime examples. Instructors' diagnosis of their own instruction to find out how well they are teaching, which aspects of their instruction students would like to see changed, and then making an effort to change according to such findings are very meaningful activities for improving instruction.

This study verified through experiment how effective the online instruction diagnosis item pool system, which was developed in order to provide practical and detailed information for the reform and qualitative improvement of instruction, was in improving instruction. The aim of the study also lies in exploring the possibilities of the system in being utilized as a useful tool to supplement the current instruction evaluation policies.

## **Theoretical Background**

### The aim of instruction evaluation

Scholars have divergent opinions regarding the aim of instruction evaluation, but they converge on the idea that instruction evaluations generally have the objective of providing solutions for improving instruction quality by collecting and analyzing data for the evaluation of instructors' teaching abilities and the development of professionalism (Braskamp, Brandenburg, & Ory, 1984).

Braskamp et al.(1984) explains the aim of instruction evaluation from the perspective of educational duty and professionalism. Evaluations from the perspective of educational duty must focus on the teaching qualifications of the instructor in question, while evaluations

from the perspective of educational professionalism must focus on collecting and analyzing information potentially helpful in the improvement of instructors' professionalism, providing associated solutions for reforms. It is therefore suggested that the type, technique, analysis, and utilization of the collected information can vary according to the purpose of evaluation. Especially, the ability of evaluations that have as their purpose the improvement of instruction quality to provide extremely detailed and diagnostic information is emphasized.

The possible effects of such goals for instruction evaluation are as follows:

#### Teaching method reforms

The principal difference between instructors who progress and those who do not is related to the collection of data regarding their respective teaching methods and the exhibition of their efforts to change their methods according to those data for each instruction(Fink, 1999).

#### Verification of accomplishment of class objectives

Instruction evaluations can be used to verify how many of the class objectives have been achieved by students, and the results can be applied to the instruction process.

#### Records of teaching methods

Instruction evaluations are also a way of recording teaching methods. Instructors are sometimes required to demonstrate their teaching abilities to their department heads or future employers. Instruction evaluations are a good way for instructors to inform personnel managers of their teaching methods in case the managers need to collect data for personnel decisions.

#### Educational research

Educational processes and supplementary plans to increase educational effect can be devised using instruction evaluation data as basic material.

### Types of instruction evaluation

There are various methods of measuring the effectiveness of instructors, such as self-

diagnosis, recording and analyzing instruction, peer review, and feedback from students. The characteristics of each method are as follows:

#### Self diagnosis by instructor

The quality of instruction can be enhanced by the efforts of the instructors themselves. The instructors' critical and introspective examination of their knowledge and experience is a critical factor of their self-development. Self-diagnosis is advantageous in that one can know the results immediately after the diagnosis, apply the diagnosis at any time, and directly use the results to adjust the instruction being carried out. However, because the diagnosis is performed by oneself, there can be bias or errors in interpretation.

#### Audio and video recordings

By audio or video recording a class, one can evaluate one's instruction from an objective perspective. No matter how many times instructors may evaluate the instructions of other instructors, those evaluations cannot match the value of evaluating their own instruction. The information acquired through audio and video recordings is accurate and objective material that displays instructors' actions and words as they are.

#### Students' test results

Although tests are used to evaluate students' academic achievement, they are also important material in evaluating the quality of instruction. Students' scores reflect how effectively a instructor has taught, thus providing crucial data in the evaluation of the instructor's effectiveness.

#### Evaluations by outside observers

Fellow instructors, school administrators, professional evaluators and students' parents can provide an outside observer's evaluation of the instruction. Although outside evaluators have the advantage of more objective judgment, their one-time visit limits their ability to totally understand the instruction circumstances.

#### Feedback from students

Feedback from the students themselves are the best source of information regarding the immediate effects of the teaching and learning processes(Fink, 1999; Mckeachie, 1999).

Table 1. Advantages and limitations of evaluator groups

Source	Objectivity	Reliability	Validity	Cost	Participation	Acceptance	Side effects	Total
Instructor	?	+	?	+	+	+	+	+5
Observer	+	+	+	?	?	?	+	+4
Student	+	+	+	+	+	?	?	+5
Peer	+	+	?	+	?	?	?	+3

(+:Definite advantage, ?: Both advantages and limitations, Source: Harris, 1986)

Information from the students is based on experience, providing important data on teaching effectiveness and assisting other students in deciding which instructions to take and which instructors to learn from. Because students both receive direct input from and are direct observers of the instruction, they are the most informed about their instructors and are accordingly able to provide the most accurate evaluations. Additionally, because instruction evaluations by students evaluate teacher instruction, they stimulate the students' thoughts regarding education, and induce responsibility and motivation within them regarding educational achievements.

Harris (1986) suggests the advantages and limitations of each evaluator group in <Table 1> .

As seen in <Table 1>, instruction evaluations by instructors and students themselves have the most advantages.

Though many scholars suggest the employment of various methods such as peer review or self-evaluation by instructors, they maintain that students' opinions must be included as a core aspect of instructor evaluation(Abbott, Wulff, Nyquist, Ropp & Hess 1990). Instructor evaluations by students provide not only evaluations of results but evaluations of processes as well, and become an important and unique path of communication between instructors and students(Marsh, 1984).

#### Legitimacy, validity, reliability, and usefulness of student evaluation

Instruction evaluations by students can be limited in their reliability and validity due to such reasons as students' friendly or unfriendly attitudes toward certain instructors, evaluation tendencies proportional to their grade expectations, and lack of understanding of the core factors involved in effective instruction. However, the precise and reliable data provided by student evaluations allow direct evaluation of instructors' teaching abilities, and they must be taken into account ahead of such limitations.

Many studies maintain that students, who are the direct beneficiaries of instruction, can be the most accurate evaluators, and they are more qualified than peers or school administrators in doing university instruction evaluations (Centra, 1993; Marsh, 1987; Tuckman, 1985; Wachtel, 1998). Feedback from students is the most realistic diagnosis of instruction because students are able to observe the instructor's teaching activities at all times and, therefore, have an advantageous position. When student opinions on teaching effectiveness are collected as data for decisions pertaining to promotions or reappointments of instructors, data collection at the end of term is the most effective, but in cases when such data is collected for improving teaching methods, mid-term data collection is the most effective. According to Abbott, Wulff, et al. (1990), students are more satisfied with mid-term evaluations than end-of-term evaluations, and support the use of their opinions regarding the class as important data on the evaluation of teaching effectiveness. The reason for the preference of mid-term evaluations was their expectation that instructors would change as a result of their feedback.

Aleamoni (1981) provides the following justification for instruction evaluation. First, the most precise and objective data on the accomplishment of instructional objectives, the formation of instructor and student relationships, the communication and personal problems with instructors in the instruction environment, all these can be provided by students who took the class. Secondly, because all aspects of teaching activities are ultimately geared toward inducing desirable changes in students, they can provide the most sensitive evaluation of teaching activities and accomplishments. Third, by providing the students with an important opportunity to communicate their opinions, the instruction evaluations by students can make them and the instructors concentrate on teaching activities and enhance the overall quality of instruction. Fourth, instruction evaluations by students can be used by other students as reference material in selecting their own instructions, and can become an important stimulus for instructors to improve the quality of their instruction.

Researches on the reliability of instruction evaluations by students showed that student responses were intrinsically consistent and stable over time (Centra, 1973; Kulik & McKeachie, 1975; Goodwin & Stevens, 1993). According to the studies by Cohen (1981, 1991), instructors with high student evaluations scored higher learning achievement than those with low student evaluation scores, signifying the validity of those scores as a standard demonstrating teaching effectiveness. Also, the feedback resulting from instruction evaluation does not have a huge effect, but it does have a notably positive

influence on improving of college instruction. That is, instructors perform assessments of their instruction during the term, apply student input to their situation as much as possible, and as a result, receive higher scores on the end-of-term evaluations. According to those studies, the positive effects of student instruction evaluations are increased if the evaluation results are provided with professional comments on ways to improve instruction, rather than simply notifying instructors of the results.

As not all evaluations by students are valid or useful, it is important to seriously ponder, before the evaluations are carried out, on what can be gained from student evaluations. Additionally, to apply those results to the qualitative enhancement of instruction, both instructor and students must develop a trust for such evaluations. Most instructors consider student evaluations to be useless, as the planning of such evaluations lacks instructors' participation. If instructors could themselves design the feedback material which would be most useful for them, the results of which they can readily accommodate, instructors will develop a tendency to want to qualitatively improve their instruction through student feedback.

#### Limitations of current instruction evaluation

The limitations of instruction evaluations practiced at most universities are as follows:

First, the limitation is related to the timing of evaluation and utilization of results. That is, because evaluations are performed uniformly at the end of each term, there is no time for the evaluation results to be applied to improving instruction. Although the findings can be used as reference for instruction in the following term, the current timing of instruction evaluations and student feedback is too late to cause meaningful changes to instruction because instruction circumstances and students become different in the following term.

Second, because there is a lack of clear goal for evaluation and insufficient basis for evaluation framework, there is no clear standard that can be provided for limiting the scope of teaching evaluation. For example, the classroom environment or the number of students is out of the instructor's authority, and it is difficult to see those as providing useful information for qualitatively improving instruction by being included in the questions.

Third, the evaluation tools lack structure because they have not passed through a systematic development process. Thus, the evaluation items tend to be heavily concentrated

in a small number of areas.

Fourth, because most criteria contained in the evaluation consist of single items, they are unable to provide accurate diagnosis of teaching activities. Moreover, this goes against the assertion made by Marsh (1984) that teaching is a multi-dimensional phenomenon. Accordingly, more precise evaluation standards need to be developed from various perspectives.

Fifth, the most common error in evaluation is the simultaneous presentation of several evaluation items. Accordingly, more detailed information for reforming and qualitatively enhancing instruction is required, together with solutions to provide various useful data rather than quantitative point-total analysis.

### Improving teaching through formative evaluation: the NVHM model

Formative evaluation does not always lead to improvement in teaching. In fact, truly significant improvement is likely to take place only if the evaluation fulfills four conditions (Centra, 1993). These conditions constitute a model for improving teaching through formative evaluation. The four conditions can be named (1) new knowledge, (2) value, (3) how to change, and (4) motivation, or NVHM. Through formative evaluation the instructors must first learn something new about their teaching performance (new knowledge). Second, they must value the information; this generally means they must have confidence in the source and in the evaluation process (value). Third, instructors must understand how to make the changes called for (how to change). And finally, instructors must be motivated to make the changes (motivation).

## **Study Method and Procedure**

### Subject and design

The research subjects consisted of 3 instructors and 256 undergraduate students attending their classes at Y University in Seoul. Each instructor was in charge of two classes of the same subject, and before-after tests were conducted to verify the effectiveness of instruction diagnosis. The experiment was constructed as shown in <Table. 2>.

Table 2. Design of experiment

Name of instruction	Treatment for each class	Time
Man and health	A Class: preliminary diagnosis, secondary diagnosis	Preliminary diagnosis: 5 weeks after beginning of class
	B Class: secondary diagnosis only	Secondary diagnosis: 1 week before end of class
Christianity and the Bible	A Class: preliminary diagnosis followed by professional counseling, secondary diagnosis	Preliminary diagnosis: 5 weeks after beginning of class
	B Class: preliminary diagnosis without professional counseling, secondary diagnosis	Secondary diagnosis: 1 week before end of class
Writing	Basic Class: preliminary and secondary diagnoses	Preliminary diagnosis: 5 weeks after beginning of class
	Advanced Class: preliminary and secondary diagnoses	Secondary diagnosis: 1 week before end of class

## Tools

### *Development of instruction diagnosis item pool*

The instruction diagnosis item pool consists of a total of 8 areas, including 5 that deal with instruction factors and evaluation contents: instructor, student, instruction planning and execution, assignments, and instruction type, and 3 that deal with overall instruction satisfaction: general assessment, open-ended question section, and sample diagnosis sheet. The detailed questions for all the subordinate categories of each area were 677 questions in total. They were developed by education scholars and education development specialists to fit the Korean university environment, based on precedents from overseas universities' case and related researches.

### *Procedure for using online instruction diagnosis item pool*

According to the research results indicating the likelihood of higher scores in cases where evaluators are identifiable (Marsh & Dunkin, 1992) and the instructor remains in the classroom during the evaluation (Marsh & Dunkin, 1992), the study uses an online system that guarantees anonymity and is free from instructor's control.

Table 3. Composition of instruction diagnosis item pool

Category	Subordinate category
I . General Assessment	25 items
II . Instructor	Preparation, teaching methods, presentation style, respect and rapport, interaction, counseling, instructor self-diagnosis (99 items)
III. Student	Knowledge, interest and value, self concept, critical reasoning, student self-evaluation (49 items)
IV. Instruction planning and implementation	Instruction objectives, organization, usefulness and pertinence of instruction contents, instruction level and speed, tests and evaluation, provision of feedback, instruction environment (88 items)
V . Assignments	General, group, reading, writing, computer assignments (56 items)
VI. Instruction type	Lecture-based, discussion-based, presentation-based, experiment-based, performance arts and physical education instruction, clinical/field training, team teaching, online instruction, invitational lecture, graduate seminar, experiments and projects, English instruction, instruction on using media (225 items)
VII. Open-ended questions	15 items
VIII. Sample diagnosis	119 items

Online instruction diagnosis procedure is connect to network --> instructor selects items from instruction diagnosis item pool --> save --> selected items presented to students --> diagnosis performed --> analysis of diagnosis results and consulting --> application to class.

#### ***Which items to select?***

Because the usefulness of information gathered through diagnosis is decided by the items that compose the diagnosis sheet, much care must be taken in the selection of evaluation questions. Items that ask general questions or are not pertinent to the diagnosis objective are of little use in deciding the area of reform. Items that are able to provide detailed and diagnostic information are the most useful questions.

First, objective-focused questions: when asking for students' opinions, it is important that the answer received satisfies the objective of the question posed. To obtain various data, each question pertaining to each data must be different.

Second, detailed questions: when asking questions without set answers, care must be

taken to make sure question content does not become ambiguous. To avoid this, items concerning the detailed characteristics of students' classes and specific abilities of the instructor should be selected.

Third, questions regarding the experience of students: questions must induce students to evaluate the instructor's teaching methods based on their direct experiences.

Fourth, question of various forms: various types of questions such as open-ended questions and questions using the Likert scale should be adequately mixed into the diagnosis sheet.

#### ***Instruction diagnosis item pool characteristics***

The instruction diagnosis item pool includes all the components of instruction, and is thus useful in collecting feedback contents of specific contexts and information that can enhance instruction.

First, the usefulness of diagnosis items: because instructors can select items that fit class characteristics and that they want to use for students' feedback, practical information for improving and reforming instruction can be collected.

Second, active responses from students: students who would in cases of hand-written evaluations be weary of being identified by their handwriting are induced to provide active and honest feedback by being provided a safe, anonymous environment.

Third, utilization of diagnosis results: instructors can decide the time of instruction diagnosis, and diagnosis results become available immediately.

Fourth, guaranteed secrecy of results: since the diagnosis is performed according to unofficial and voluntary participation, the results of the diagnosis are available only to the instructors themselves, guaranteeing the secrecy of results.

Fifth, voluntary diagnosis according to need: instructors can perform the diagnosis whenever they desire during the term and acquire detailed feedback regarding their classes.

Sixth, a bi-directional communication path between instructors and students: students participating in the instruction and the instructor in charge of the curriculum can exchange their opinions through the feedback system and share information.

#### ***Utilization strategies of the instruction diagnosis item pool***

Effective utilization strategies for the instruction diagnosis item pool are suggested in stages as follows:

#### Carrying out the diagnosis

First, select items that fit the occasion of the diagnosis and its objective. Second, provide detailed explanations to students regarding the reasons for diagnosis and the use of diagnosis results. Third, in order to acquire quality feedback, induce students to respond in a detailed and constructive manner. Fourth, do not misuse the diagnosis. Using it once or twice per term is most effective.

#### Analyzing the results

First, examine the results as soon as possible after the diagnosis is completed. Second, analyze students' responses with the objectives of the diagnosis in mind. Third, when analyzing student responses, focus on consistency, direction, and intensity rather than numerical values such as averages. Fourth, focus on positive responses rather than negative comments. Fifth, record comments or concerns not directly related to questions for later reference.

#### Responding to students

First, announce following the diagnosis that the results have been examined. Second, mention student concerns that the instructor can improve upon. Third, mention all positive responses, without exception. Fourth, mention student demands that cannot be met, and provide clear explanations as to why.

#### Utilizing diagnosis results

First, decide which parts should be changed. Second, exchange and debate opinions with students based on the feedback results, and apply them to improving instruction. Third, disregard criticism and negative responses from students. Fourth, request analysis of evaluation results or counseling from peer instructors or consultants.

#### Data Processing and Analysis

The results of instruction diagnosis were analyzed using the results of existing online statistics and frequency analysis system as a basis, and basic statistical and frequency analyses were performed using the SPSS 12.0 program for user survey results regarding the online instruction diagnosis system in order to analyze the overall trends of the data.

## Results and Discussion

### Results

The analysis of effectiveness for the three courses after administering different treatments for each showed the following results:

Table 4. Course: Man and health

Questions	A Class average (87 students)	B Class average (82 students)
The instructor used detailed examples to explain things.	Preliminary 4.31 Secondary 4.23	Secondary 4.28
The instructor's voice is easy to understand.	Preliminary 4.31 Secondary 4.30	Secondary 4.26
The use of video and audio media was useful in understanding class material.	Preliminary 4.37 Secondary 3.93	Secondary 3.96
I am generally satisfied with the instruction.	Preliminary 4.12 Secondary 3.97	Preliminary 3.99

Table 5. Course: Christianity and the Bible

Questions	A Class average (26 students)	B Class average (28 students)
The instructor spoke at an adequate pace.	Preliminary 3.87 Secondary 4.21	Preliminary 4.10 Secondary 3.89
The instructor provided feedback to students when needed.	Preliminary 3.40 Secondary 3.61	Preliminary 3.30 Secondary 3.32
Group assignments were useful for learning.	Preliminary 3.33 Secondary 3.35	Preliminary 3.40 Secondary 3.38
The instructor induced student participation with frequent questions.	Preliminary 3.80 Secondary 4.17	Preliminary 3.00 Secondary 3.16
I am generally satisfied with the instruction.	Preliminary 3.73 Secondary 3.98	Preliminary 4.00 Secondary 3.79

Table 6. Course: Writing

Questions	Basic class average (17 students)	Advanced class Average (16 students)
The instruction was appropriate to the students' level.		Preliminary 3.33 Secondary 3.42
There was easy interaction between the instructor and students.	Preliminary 3.63 Secondary 3.65	Preliminary 3.67 Secondary 3.88
The instructor encouraged student participation.	Preliminary 4.04 Secondary 4.21	Preliminary 3.83 Secondary 4.16
The instructor induced intellectual curiosity among students.	Preliminary 2.92 Secondary 2.91	Preliminary 3.62 Secondary 3.97
I am generally satisfied with the instruction.	Preliminary 3.33 Secondary 3.42	Preliminary 4.00 Secondary 4.36

Table 7. Online instruction diagnosis item pool system survey results

Questions	Very True	True	Undecided	Not true	Very not true
Instruction diagnosis procedures were convenient.	18.2%	42.7%	29.7%	5.8%	3.6%
There were changes in instruction after instruction diagnosis.	10.7%	31.4%	46.2%	7.4%	4.3%
I participated more sincerely in class after instruction diagnosis.	8.6%	37.4%	50.3%	2.4%	1.3%
Instruction diagnosis is useful for instruction evaluation.	9.3%	52.8%	32.4%	3.6%	1.9%
Most effective time for instruction Diagnosis.	Beginning of term 10.9%	After midterms 58.6%	Just before final exams 26.7%	During final exams 3.8%	

## Discussion

This study carried out an experiment using as subjects six classes to verify the effect of student feedback on enhancing instruction. Discussion matters based on the results are as follows:

First, there was no notable difference in the average score between the group in which instruction diagnosis was performed at the beginning of term and one in which no diagnosis was performed. The result of the analysis made through consultation with the instructors in charge showed that there were no efforts to make any significant changes after the preliminary diagnosis.

Second, it was found that for the group that attempted instruction reforms through consultations with education development specialists based on the results of preliminary diagnosis, their satisfaction with instruction increased in the secondary diagnosis. Differences in satisfaction were also found between groups that had received consulting and those that had not. This signifies that the consultation of specialists is more effective in class reform than simply notifying the instructor of diagnosis results.

Third, comparison of the instruction evaluation results of basic and advanced classes shows that the advanced class showed higher satisfaction with instruction in most items compared to the basic class. Also, the preliminary and secondary diagnoses show higher satisfaction with instruction in the advanced class. This is in accordance with existing studies that show higher-level students give higher instruction evaluation points.

Fourth, the results of survey concerning the utilization of online instruction diagnosis item pool system show that over 60% of students were satisfied with the use of the diagnosis system. It was shown that students participated more diligently in instruction after the diagnosis, indicating heightened responsibility among students. Also, positive responses regarding the usefulness of the instruction diagnosis system in instruction evaluation suggests the potential value of the system as a tool for future instruction reform and quality enhancement.

## **Conclusion**

The analysis of student response to instruction is a part of academic procedure, and is necessary for the qualitative enhancement of instruction. Although it is clear that the existing instruction evaluations in most universities ultimately aim for instruction reforms, they are nevertheless limited in their usefulness. Accordingly, this paper carried out an experiment on the effectiveness of the online instruction diagnosis item pool, developed as a diagnostic system to provide practical assistance to instruction reform.

Compared to the obligatory instruction evaluations conducted at the end of each term, the online instruction diagnosis item pool has the advantages of more variety of items, appropriate timing, voluntary actions of instructors, the encouragement of active responses from students, the possibility of immediate changes following feedback results, and the guaranteed confidentiality of diagnosis results. Above all, instructors are furnished with the convenience of selecting items most appropriate for their instruction or items for which the instructors desire feedback, and the ability to administer diagnoses whenever they desire.

The expected benefits of the application of the online instruction diagnosis item pool system based on such results from the perspectives of the instructor, student and university are as follows:

First, from the students' point of view, students participate in instruction diagnosis and experience the convergence of their individual opinions. Through this, the enhancement of students' participation in instruction, academic responsibility, and academic motivation can be expected, together with heightened enthusiasm and interest in instruction. Additionally, students will be able to learn in an academic environment tailored to their own opinions.

Second, from the instructor's perspective, instructors are provided the chance to reflect on their teaching methods through detailed student feedback and self-diagnosis, and, stimulated to reform their teaching methods, are furnished the opportunity to study and develop more effective teaching methods.

Third, from the school's perspective, instructors enhance instruction quality through student feedback and self-diagnosis, while students are infused with heightened academic responsibility. At the same time, the school is provided with higher quality education, academic achievement is improved, and the further qualitative enhancement in education can be devised.

For feedback from students, the utilization of their methods, procedures and results is very important. As demonstrated by the results of the experiment, if one hopes to gain realistic changes and enhancements in instruction through feedback from students, then it will be effective to continually form plans to change one's instruction through counseling or consulting with education development specialists. Additionally, requesting cooperation and advice from instructors who are experienced in the relevant courses or sharing information through teaching communities with peers will also contribute to the enhancement of instruction quality.

## References

- Abbott, R. D., Wulff, D. H. Nyquist, J. D. Ropp, V. A., and Hess, C. W. (1990). Satisfaction With Processes of Collecting Student Opinions About Instruction : The Student Perspective, *Journal of Educational Psychology*, Vol. 82(2), 201-206.
- Alearnoni, L. M. (1981). Student Ratings of Instruction. In Millman, J.(ed). Handbook of Teacher Evaluation. Sage Publications, 110-145.
- Braskamp, L. A., and Ory, J. C. (1994). Assessing faculty work. San Francisco: Jossey-Bass Publishers.
- Braskamp, L. A., Brandenburg, D. C., and Ory, J. A. (1984). Evaluating teaching effectiveness: A practical guide. Beverly Hills, CA: Sage.
- Centra, J. A. (1993). Reflective faculty evaluation. San Francisco, CA: Jossey-Bass.
- Cohen, P. A. (1991). Effectiveness of student rating feedback and consultation for improving instruction in dental schools. *Journal of Dental Education*, 55(2), 145-150.
- Fink, L. D. (1999). Evaluating your own teaching, In P. Seldin (1999), Improving College Teaching(<http://www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/>)
- Goodwin, L. D., and Stevens, E. A. (1993). The Influence of Gender on University Faculty Members' Perceptions of "Good" Teaching. *Journal of Higher Education*, 64(2), 166-185.
- Harris, B. M. (1986). Developmental teacher Evaluation. Allyn & Bacon, Inc.
- Kulik, J. A., and McKeachie, W. J. (1975). The evaluation of teachers in higher education. *Review of Research in Education*, 3, 210-240.
- Marsh, H. W. (1984). Students' Evaluations of University Teaching: Dimensionality, Reliability, Validity, Potential Biases, and Utility. *Journal of Educational Psychology*, 76(5), 707-754.
- Marsh, H. W. (1987). Students' Evaluations of University Teaching: Research findings, methodological issues, and directions for future research. *International Journal of Educational Research*, 11, 253-388.
- McKeachie, W. J. (1999). Student Ratings of Faculty: A Reprise, Academic.
- Tuckman, B. W. (1985). Evaluating instructional programs (2nd ed.). Boston, MA: Allyn and Bacon.
- Wachtel, H. K. (1998). Student evaluation of college teaching effectiveness: A brief review. *Assessment & Evaluation in Higher Education*, 23(2), 191-212.



**Mi-Ja SHIM**

Senior Researcher, Center for Teaching and Learning, Yonsei University

Interests: Instructional Design, Instructional Strategy, Teaching Portfolio,  
Media Education, and Teaching and Learning Method

E-mail: [mjshim@yonsei.ac.kr](mailto:mjshim@yonsei.ac.kr)