

그룹시간에 있어서의 한국 유치원 교사들의 질문양식과 유치원 아동들의 반응양식에 관한 연구*

Korean Kindergarten Teachers' Verbal Questions and Children's Verbal Responses during Group Time

윤 혜 진**

Yoon, Hae Jean

국 문 초 록

본 연구는 그룹시간 동안의 한국 유치원 교사들의 질문양식과 유치원 아동들의 반응양식을 조사한 것이다.

본 연구를 위해서 12명의 유치원 교사와 중산층 가정에서 온 아동들이 12집단(남아 : 211명, 여아 : 176명) 참가했다.

비디오를 통해서 12명의 교사들의 질문양식과 각 집단의 아동들의 반응양식이 각각 3번씩 그룹시간의 처음 15분동안 녹음되었다.

본 연구의 측정도구로서는 Aschner-Gallagher의 분류법이 사용되었고 통계분석방법은 Chi-square tests가 사용되었다. 또 교사들과 아동들의 연령 및 정보 등을 조사하기 위해서 교사들에게 질문지가 주어졌다.

본 연구의 결과는 교사들 사이에서 사용된 질문의 수준은 차이가 있었다는 것을 보여 주었다.

- (1) 교사들이 Cognitive Memory 질문을 가장 많이 사용했고 Evaluative 질문을 가장 적게 사용했다.
- (2) Cognitive Memory 질문을 가장 많이 사용한 교사들이 있는 반면에 Routine 질문을 가장 많이 사용한 교사들이 있었다.
- (3) Convergent 질문을 많이 사용한 교사들과 거의 사용하지 않은 교사들이 있었다.
- (4) Evaluative 질문 또는 Divergent 질문을 전혀 사용하지 않은 교사들이 있었다.

Questioning has been recognized as one of the most influential teaching behaviors (Willen, 1984). The use of questions has been one of the major means by which a teacher stimulates thinking and elicits higher order mental processes, such as critical judg-

ment. Moreover, the use of teachers' effective questioning may play an important role in children's creative thinking development and their learning (Barnes, 1979).

For the last two decades, considerable research has been done in the United States

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** 동국대학교 불교아동학과 조교수

on such areas of teacher questioning and student responding as teacher questioning frequency, the levels of teacher questions and student responses, and the gender variable. The majority of studies on the various levels of teacher questioning indicates that most teacher questions require lower-level, fact-recall answers regardless of subject, grade level, and instruction (Gallagher & Aschner, 1963; Barnes, 1983; Daines, 1986; Acheson & Gall, 1987; Brady, Taylor, & Hamilton, 1989). Regarding teacher questioning and student responding behavior, most of research has focussed on the numbers and types of questions asked by teachers. Acheson and Gall (1987) reported in their study that high school teachers ask approximately 400 questions in a day. Rogers, Waller and Perrin (1987) reported in their observational study that the majority of preschool and early elementary teachers commonly asked 'known-answer' questions requiring only one or two word replies. The type of questions teachers asked also influenced the type and length of students' answers. They found that four-year-old children working with a teacher who used an 'information seeking' questioning strategy instead of using 'known-answer' had many opportunities to talk and had control over the conversation in both subject matter and direction.

Teacher questioning has been the means for stimulating the inquiries of children and the development of intellectual potential.

Turner and Durrett (1975) reported that the problem solving abilities of even three and four year olds could be improved by carefully structuring questions. In their experimental study, Cliatt, Shaw, and Sherwood (1980) reported that due to the effects of the use of teachers' divergent questioning, very young children as well as school-aged children increased their creative thinking abilities. In addition to research concerning the type of questions, there have been studies on the relationship between gender and questioning and responding behavior. Sucher's (1975) study showed that gender affected the teacher's questioning process. For example, male students tried to respond eight times more frequently than female students. Teachers, however, called on female students ten times more frequently than they called on male students. Honig and Wittmer's (1982) observational study showed that male toddlers responding to divergent questions tended to show more instrumental and referential-objective roles, while female toddlers revealed more expressive and nurturing roles with routine and safe answers.

Tobin, Wu, & Davidson (1989) found that the values of different cultures impact teaching of preschool children. This indicates a need in Korea to study the influence of cultural values in the interaction between preschool teachers and their students. The purpose of this study is to provide Korean teachers with information on how Korean kindergarten students interact verbally with

their teachers' questions. This study investigated individual differences in the level of questions used by Korean kindergarten teachers, and student gender difference in questioning and responding behavior.

Methodology

Subjects

Subjects were 12 Korean female teachers and 12 groups of middle SES kindergarten students (Male: 211; Female: 176). 25% of the teachers had no previous teaching experience and 8% had one year experience. 83% of the teachers had less than 6 years experience. 9 teachers out of 12 had four years college education, whereas 3 teachers had two years college education. The age of the teachers ranged from twenty-four to thirty-four. The age of the students ranged from four and half to six and half years.

Design and Procedures

The pilot study was conducted in a kindergarten class in the United States. For the pilot work, one group of kindergarten students with their teacher was observed during 3 sessions of Group Time activities. Prior to the pilot study, the experimenter trained another researcher in the use of the Aschner and Gallagher system. Results of this study showed positive inter-rater agreement. 85% agreement was achieved. For the actual study in Korea, the experimenter also trained another rater to insure agreement.

At the completion of the training period inter-rater agreement was 86%. Data was based on Korean kindergarten teachers' questions and their students' responses videotaped during 36 sessions of Group Time activities. For each observation, the first fifteen minutes of Group Time was recorded. Before recording, the teachers were given a questionnaire concerning the characteristics of the teachers and students. The videotapes were analyzed according to Aschner and Gallagher system in order to determine the level of teachers' questioning and students' responding behavior. These classification were compared by this experimenter and another researcher. Cohen's kappa (Cohen, 1960) was used to obtain inter-rater agreement.

The inter-rater agreement was 84%. The level of teacher questions (Routine, Cognitive-Memory, Convergent, Evaluative, and Divergent), student responses (Routine, Recall, Reasoning, Decision-Making, and Creative), and the gender of students were coded. Whether the teachers called on an individual student or not was also coded.

Analysis of Data

The analysis of the data was done by SPSS PROGRAM. Chi-square tests were used to test the null hypotheses in the analysis of the data. Alpha was set at the 0.05 level.

Results

Statistical analyses of the data showed that the proportion of questions asked in each level differed among the teachers. Data examining whether the teachers ask the same proportion of questions and the levels of questions of male and female students showed that there was no gender discrimination--neither in the proportion of teacher questions addressed to male and female students nor in the levels of questions addressed to male and female students. Data con-

cerning response level and gender difference showed that there were not great frequency differences between response levels and gender. Male students responded more frequently on the Reasoning (60.3%) and Creative (46.6%) level than female students.

The first research question in this study stated: Does the level of questions most frequently used by Korean kindergarten teachers differ between individual teachers? Table 1 shows that since the Chi-square value (213.783) was greater than the critical value, the null hypothesis was rejected.

Table 1 Comparison of Teacher Question Levels among Teachers.

R: Routine, CM: Cognitive Memory, CT: Convergent, E: Evaluative, D: Divergent

Teacher Number	R	CM	CT	E	D	Row Total	Percent
1	26	40	25	0	16	107	8.8
2	35	57	11	1	28	132	10.9
3	36	59	13	1	5	114	9.4
4	46	39	3	5	17	110	9.1
5	44	52	21	11	10	138	11.4
6	43	47	23	0	5	118	9.7
7	19	32	2	7	11	71	5.8
8	36	25	12	11	3	87	7.2
9	29	28	18	4	12	91	7.5
10	34	43	7	0	0	84	6.9
11	49	16	2	0	20	87	7.2
12	18	40	12	4	2	76	6.3
Column Total	415	478	149	44	129	1215	100.0
Chi-square				D. F.	Significance		
213.78292				44	.0000		

Therefore, a significant difference occurs in the proportion of questions asked in each level of Aschner-Gallagher system among the teachers.

Descriptive information indicated that compared to the teachers having four years college education, the teachers having two years college education asked less Evaluative level questions.

Regarding teacher experience, there was no relationship between the level of questions asked and teaching experience of the teachers asking those questions. In fact, all three teachers having no teaching experience used Evaluative and Divergent levels of

questions, whereas two of the nine experienced teachers used no Evaluative level questions at all.

The second research question stated: Do Korean kindergarten teachers ask the same proportion of questions of male and female students? Table 2 reports whether Korean kindergarten teachers asked the same proportion of questions of male and female students. According to Table 2, the Chi-square value (1.361) did not exceed critical value, the null hypothesis was accepted. A significant difference did not occur in the proportion of questions asked of male and female students.

Table 2 Proportion of Questions to Male and Female Students

Category	Frequency of Questions	% of Total Questions
Male (N=211)	208	51.5
Female (N=176)	196	48.5
Column Total	404	100.0
Chi-square	D. F	Significance
1.361	1	.1027

The third research question stated: Do Korean teachers ask the same level of questions when addressing male or female students? Table 3 shows whether Korean teachers asked the same levels of questions when addressing male or female students.

Since Chi-square value (5.00903) was not greater than the critical value, the null

hypothesis was accepted. Therefore, a significant difference did not occur in the levels of questions given to male and female students.

The fourth research question: Does the level of responses given by male students differ from that given by female students? Table 4 indicates whether the level of re-

Table 3 Level of Questions directed to Specific Students by Gender

Question Level	Male (N=211)	Female (N=176)	Row Total	% of Total Questions
Routine	65	62	127	31.4
Cognitive-Memory	63	62	125	30.9
Convergent	31	16	47	11.6
Evaluative	15	18	33	8.2
Divergent	34	38	72	17.8
Column Total	208	196	404	100.0
% of Total Questions	51.5	48.5	100.0	
Chi-square		D. F.		Significance
5.00903		4		.2864

sponses given by male students differed from that given by female students. Since the Chi-square value (5.757) did not exceed the critical value, the null hypothesis was

accepted. A significant difference did not occur between the level of male and female students' responses.

Table 4 Frequency of Response Level by Gender

Response Level	Male (N=211)	Female (N=176)	Row Total	% of Total of Male and Female Combined
Routine(Routine)	30	24	54	6.8
Recall(Cognitive-Memory)	183	159	342	43.1
Reasoning(Convergent)	101	63	164	20.7
Decision-Making (Evaluative)	25	29	54	6.8
Creative(Divergent)	107	73	180	22.6
Column Total	446	348	794	100.0
% of All Responses	56.2	43.8	100.0	

() represents the level of question matching each level of response

Chi-square	D. F.	Significance
5.75692	4	.2181

Discussion

The results of this study showed that the most frequently used level of question was Cognitive-Memory. The next highest frequency was that of the Routine level of questions. The most common type of Routine question asked by all teachers was the teacher asking the whole class, "Anybody else?", "Another idea?" in order to elicit a variety of responses to the same question. It was observed that Routine type questions were used nine times more often than Evaluative type questions which were least frequently used. This finding was in contrast to that of Ozgener's (1970) finding on American kindergarten teachers. American teachers (6.7%) asked almost twice as many Evaluative level questions as Korean kindergarten teachers (3.6%), whereas Korean kindergarten teachers (34.2%) asked more than twice as many Routine level questions as American teachers (15.6%). These results imply that Korean teachers emphasize social cohesion rather than the development of each child's values of judgments during teacher-student verbal interaction.

This outcome was similar to the case study of Tobin et al. (1989) of Japanese teachers which revealed a greater teacher concern for the development of groupism and social behavior than for the development of self-expression and individualism. This finding contrasts with the other case study of Tobin et al. (1989) in which Amer-

ican teachers viewed language as a medium for developing individuality, autonomy and thinking abilities; that is, the means for problem solving. It was observed that there was no relationship between teaching experience and the level of teacher questions.

While two of the nine experienced teachers used no Evaluative level questions at all, three teachers having no teaching experience used high levels of questions such as Evaluative and Divergent questions.

This finding might be explained by the fact that Korea does not implement preservice and inservice programs in which teachers may reflect on their teaching behavior.

When Korean kindergarten teachers asked questions, there seemed to be no gender discrimination--neither in the proportion of teacher questions addressed to male and female students nor in the levels of questions addressed to male and female students. This finding was in contrast to that of Sucher's (1975) study.

Her study showed that although teachers called on female students ten times more frequently than they called on male students, male students tended to respond eight times more frequently than female students. Even though there were no significant differences in the proportion of questions and the levels of questions, Korean kindergarten teachers addressed more male students (51.5%) than female students (48.5%). While Korean kindergarten teachers asked almost the same

proportion on four levels (Routine, Cognitive-Memory, Evaluative, and Divergent), they asked male students twice as many convergent level question as female students. The male students (56.2%) responded more frequently in general than female students (43.8%). Specifically, the male students responded more frequently on the Reasoning (60.3%) and Creative (46.6%) levels than female students.

Recommendations

Many studies support the theory that a teacher's verbal behavior can produce a positive change in student critical thinking. If the question-response exchanges between teachers and students occur in high levels of thinking, these exchanges can develop the level of thinking in the classrooms. The results of this study indicate that teachers need to change their questioning practices to ask fewer low level questions such as Routine and Cognitive-Memory and more high level questions such as Evaluative and Divergent. This is very important factor in helping students promote their thinking ability.

Some recommendations to improve Korean teachers' questioning skills are: (1) Korean educators and policy makers should be aware of the importance of questioning, which can be one of the means to develop thinking skills. An attempt to continue research on questioning behavior should be

made. There is a need to establish a coherent policy of questioning strategies which can be established in Korean kindergarten classes. (2) By analyzing and applying research on questioning, Korean educators should continue to develop standards of good practice in questioning. (3) Korean educators should implement a systematic way to observe and codify teacher questioning in the classroom. They need to develop various classification systems for both groups and individual students. (4) Korean teachers can learn to improve their questioning behavior through teacher education. An in-depth teacher training program in questioning-asking skills should be available to all teachers so that Korean teachers may reflect on their questioning behavior.

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