What Do We Know About Microteaching?

GIVEN the wealth of variables which compose the microteaching process and the speed with which research has been translated into practice, it becomes difficult to keep up with exactly what is known about microteaching.

Although most of the material written about microteaching has been experiential, this article will report empirical studies that have been done on microteaching since its inception in 1963. We have not made any attempt to analyze the methodology, statistical treatments, or evaluation instruments and techniques, but are simply reporting the findings of the studies. We hope that educators who have or have not incorporated microteaching as part of their teacher education program will find this summary both illuminating and useful.

Microteaching is a teaching situation scaled down in terms of both time and number of students taught. This has usually meant a five- to twenty-minute lesson involving three to ten students. The reason for this reduction is to eliminate some of the complexities of the teaching act, thereby allowing the teacher to focus on a selected teaching skill.

When a trainee participates in the microteaching process, he undergoes a number of experiences. First, it is likely that he will see a filmed, taped, or live model of a teacher demonstrating a specific teaching skill (the perceptual model). He may also read a written description of the specific skill (the symbolic model). He then teaches, for a short period of time, a small number of students, concentrating on that specific skill. Following the lesson, feedback is provided by a supervisor and/or students, peers, and, if available, a videotape or audiotape recorder. The teacher then reteaches the lesson incorporating the feedback he has received.

Research Findings

Exactly what effect does microteaching have on teacher behavior? The empirical studies cited in the following section address themselves to this question.

1. When microteaching was compared to student teaching, the former appeared to result in greater awareness of the following: (a) specific personal habits and mannerisms (Goodkind, 1968); (b) specific teaching acts and techniques and their application (Young and Young, 1969), particularly nonverbal
(Goodkind, 1968); (c) the activity and interrelationships of children within the classroom (Goodkind, 1968); (d) the problems of structuring and pacing in the instructional program (Goodkind, 1968). Microteaching appeared to result also in effective acquisition of alternative teaching patterns (Young and Young, 1969). One study with elementary school teachers did not provide any evidence that microteaching is either superior or inferior to conventional student teaching programs in terms of ratings of teacher effectiveness on the Stanford Teacher Competence Appraisal Guide, although the microteaching took only one-fifth the time that the regular student teaching program did (Kallenbach and Gall, 1969).

2. When microteaching was compared with participation in discussion groups on teaching, microteaching students demonstrated expanded verbal behaviors, asked fewer convergent and more divergent and probing questions, informed less, clarified more, and uttered fewer procedural, nonsubstantive units. Pupils also initiated and responded more (Davis and Smoot, 1969).

3. When microteaching was used as a laboratory experience for an educational psychology course and was compared with discussion sections of the same course, the microteaching students did not do worse in content knowledge and found the course more pertinent to their ultimate and immediate goals (Van Mondfrans et al., 1969).

4. When microteaching was compared with lectures related to various aspects of education, microteaching students performed better in terms of teacher competence in a final microteaching session as measured by rating instruments (Reed et al., 1970; Chavers et al., 1970).

5. The minicourse, a modification of the microteaching approach using instructional films, handbooks, and evaluation forms without the use of a supervisor, has effectively demonstrated its ability to change teachers' behaviors significantly in the desired directions. The behavior modification techniques used in the minicourse have proven successful in several trials, each focusing on different teaching behaviors (Langer, 1969; Langer, 1970; Borg, 1969).

6. Microteaching is an effective technique in changing teacher behavior. A six-week microteaching experience at Stanford University for M.A. candidates with no teaching experience produced significant teacher behavior changes on nine of the first twelve items on the Stanford Teacher Competence Appraisal Guide. The same study indicated that intern acceptance of microteaching was very high, with less than 15 percent reporting that the experience was of little or no value, and more than 60 percent reporting it to be very valuable (Fortune, Cooper, and Allen, 1967).

In addition to the research on microteaching's effectiveness as a teacher education technique, a great deal of research has been conducted on the various elements of the microteaching process. This research is summarized as follows:

1. The effectiveness of a symbolic model (written) as compared with a perceptual model (an actual performance of the skill) on the acquisition of specific teaching skills depends upon the skill to be acquired. Evidence exists that for some skills, probably those most easily described, symbolic descriptions are sufficient. In lieu of more conclusive evidence, however, it would appear wise to continue to use perceptual models on videotape or film (Berliner, 1969).

2. Close trainee matching of the perceptual model by performing the same lesson in the same way results in easier acquisition of the skill, at least with regard to the use of higher order questions (Berliner, 1969).

3. Skill acquisition appears to be easiest when positive instances of the desired behavior, rather than mixed or negative instances, are demonstrated in the model (Berliner, 1969).

4. There is some evidence that one teach-reateach cycle is not enough to obtain significant teacher behavior change when the time interval between lessons is only 15 min-
utes. The teacher's behavior in the reteach lesson is perceived by students to be very similar to that demonstrated in the original lesson (Cooper and Stroud, 1966).

5. Teaching real students as compared with teaching peers does not result in significant differences in terms of teacher behavior change (Doty, 1970; Hoerner, 1969).

6. Teachers expect their microteaching supervisor to be qualified to render technical assistance but want him to allow opportunity for the teacher to find his own teaching style (Johnson and Knaupp, 1970).

7. There is conflicting evidence regarding the most effective form of supervision. In one study, critiques by self, another student, fellow instructor, and supervisor were all judged to be effective in terms of improving teacher competence (Harrington, 1970). On the other hand, another study found that feedback from colleagues, as compared with feedback from a supervisor alone, results in the acquisition of a greater number of teaching behaviors (Young, 1970). The minicourses of the Far West Regional Educational Laboratory have demonstrated that with the use of highly structured instructional materials, significant behavior change can result from teacher self-critiques (Langer, 1969). It should be noted that the minicourses have been used with experienced teachers, who may possess greater skill in analyzing and changing their own behaviors. Finally, as compared with three other supervisory techniques, teachers who viewed a videotape of their lesson with an experimenter who gave help in recognizing and providing reinforcement were most effective in increasing their competence in the skills of reinforcement and asking probing questions (McDonald and Allen, 1967).

8. Supervision which emphasizes reinforcement of the skill and discrimination training is most powerful and has the greatest impact during the viewing of the perceptual model, rather than during the trainee's viewing of his own performance (Claus, 1968).

9. While the technical skills studies conducted at Stanford indicated that the video playback of a teacher's performance is an effective feedback device and, when combined with supervisory aid, becomes even more effective, two other studies found no significant difference between videotaped feedback and feedback without videotape in terms of teacher competence (Doty, 1970; Hoerner, 1969). In fact, one study found audiotape feedback to be more effective than videotape (Shively et al., 1970). (It would appear to the authors that the effectiveness of the type of feedback employed would greatly depend on the kind of skill being practiced. For example, while questioning skills might be learned very well through the use of audiotape feedback, nonverbal communication or stimulus variation would necessitate the use of videotape or film feedback.)

10. The three following variations of videotape feedback appear to have no differential effects on students' ability to evaluate teacher performance using the Stanford Teacher Competence Appraisal Guide: (a) the camera focused on the teacher only; (b) the camera focused on the students only; and (c) the camera focused on both the teacher and students (Waimon and Ramseyer, 1970).

11. Despite most studies of animal and human learning, immediacy of feedback is not crucial to the acquisition of some behavior when videotape feedback is used (McDonald and Allen, 1967). It would appear that the videotape playback reinstates the trainee's performance for him so that the factor of immediacy is no longer relevant.

**Research Needs**

An excellent statement of research which should be done on microteaching was made by Berliner (1969). With some additional suggestions, his recommendations present a comprehensive picture of the research needs.

1. Previous research suggests that microteaching is an effective teacher training tool. However, further research and replica-
tion of previous studies are needed. Follow-up studies to analyze the long-term effects of microteaching are of particular importance.

2. The validity of the teaching skills must be established. More information is also needed regarding how these behaviors affect students. As Rosenshine states (1971, p. 39), "the relationship between the teacher behaviors advocated by educational experts and the consequent learning by students has not been thoroughly investigated."

3. A systematic method for identifying teaching skills must be developed. In addition, skills should be developed for new teaching situations, for example, the open classroom and humanistic education based on affective characteristics.

4. An effort must be made to determine the transferability of a skill mastered in a microteaching setting to an actual classroom setting.

5. Research is needed to ascertain the optimal learning sequence for the various skills.

6. Guidelines must be developed regarding the appropriateness and rate of emitting a skill.

7. Research is also needed concerning the following organizational aspects of the microteaching process:
   a. The type of model
   b. Frequency of teach-reteach cycle
   c. Length of the teaching cycle
   d. Number of students in a lesson
   e. Time between teaching lessons
   f. Delay between teaching sessions and feedback
   g. Number of skills to be practiced per training session
   h. Various aspects of the supervisory relationship.

Conclusion

Microteaching has become an established teacher education procedure in many colleges, universities, and school districts. One national survey of student teaching programs indicates that 44 percent of all teacher education programs use some form of microteaching (Johnson, 1968). Like other educational innovations, microteaching has frequently been implemented without regard to the existence of research evidence which validates its use. Considering its age, we have already learned a great deal about this teacher education technique, but much more research evidence is needed. This knowledge can be gained only if institutions using this technique will add their findings to the general fund of knowledge.

In this article we have attempted to consolidate various threads of research to create as complete an empirical picture of microteaching as is currently possible. We have also indicated which elements of this picture need more study. It is our hope that this summary will help teacher educators decide whether they wish to use microteaching and, if so, how best to combine the various microteaching elements to effectively prepare competent teachers.
References


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