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AUTHOR   Bickimer, David A.; Stone, James C.
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ABSTRACT
              A continuum of "Protocols" has been derived. By way
of definition three elements of what might be called an
"instructional performance library" are 1) a collection of "protocol
materials" (audiovisual renderings of behavior that is engaged in by
instructional personnel); 2) a catalog of "protocols" (ways to use
the materials); and 3) a communications network which allows the
library to grow and be self-sustaining. Since the protocols
considered here use protocol materials, the continuum is best viewed
as one of audiovisual protocols. It is helpful to envision the total
teacher training process as a macrocosm in which are embedded
specific protocols or ways of going about training instructional
personnel. The simple continuum of protocols here suggested ranges
from the relatively unstructured to the highly structured: the
illustrated lecture, large group, small group, brainstorming, buzz
groups, standard supervisor-teacher relationship, collegial
supervision, peer teaching, role playing, microteaching,
mini-teaching, and model-making. This continuum is not completed or
all-inclusive. The "structure" dimension is a complex one involving
the amount, quality, and intensity of structure. The continuum also
points up that structure carries concomitant ramifications for
administration, cost, and technical support systems. (Included is
brief description of each of the 12 protocols and their use of
protocol materials.) (JS)

Protocols: A Continuum of Training

and Re-training Formats

by

James C. Stone and David A. Bickimer

Over the years, within and without the profession,

scholars have bombarded us with "breakthrough" teacher

training programs, "breakthrough" training elements, and

"breakthrough" training procedures. In the fifties, it was

the teaching internship concept; in the sixties,

microteaching and videotape feedback. Now, in the

seventies, we seem to be making a long expected, but not

yet achieved "breakthrough" in teacher education [1]

through the notion of protocols. What is a protocol?

A protocol, by one definition at least, is a step-by-

step procedure for training personnel. Examples are buzz

groups, role-playing, microteaching, and the standard

trainee-supervisor relationship. What's new in the notion

of protocols is:

(1) A systems approach-the purposeful use of a number
of protocols in a single training program.

(2) A continuum of protocols-progressing in a training
program from protocols which are less structured
and less complex to those which are more
organized and more complex.

(3) The availability of a wide variety of published or
packaged protocol materials.

(4) The possibility of collections of protocol
materials in a national instructional performance
library-thus providing a communications network
which houses, evaluates and disseminates protocol
materials and also encourages, assists, and
monitors the creation of new protocol materials by
inventive teacher trainers.   [2]

1. James C. Stone, Breakthrough In Teacher Education
   San Francisco: Jossey-Bass, 1969.
2. David A. Bickimer, "An Instructional Performance Library",
   Instructor Development I, 1, Oct.'69 (ERIC Microfiche, #ED 034 708).

The Training Process and Protocols

In Teachers for the Real World, [3] six elements of the
teacher preparation process are identified:

(a) the establishment of the practice situation

(b) specification of behavior

(c) some performance cf the specified behavior

(d) feedback on the performance

(e) modification of behavior in light of the feedback
guaranteeing the inclusion of the process elements.

(f) establishment of a systematic schedule for
elements a-e above.

There are other ways of listing the elements of an
ins .uctional development program. Thus, Harris and Bessent
would list: [4]

(a) participants' active involvement

(b) the simulation of the program

(c) the production of quantifiable data to delineate
the participant's response

(d) feedback to participants to allow comparision of
individual performance to a more universal
performance

(e) discussion and analysis leading to generalizations
and practical implications

(f) structured activity

(g) restricted focus

(h) freedom of response

(i) tension control

3. B. Othanel Smith, et al. Teachers for the Real World,
   Washington, D.C.: AACTE 1969, p. 71.
4. Ben M. Harris & Wailand Bessent in collaboration with
   Kenneth E. McIntyre, In-Service Education: A Guide to
   Better Practice, Englewood Cliffs: Prentice-Hall, Inc.
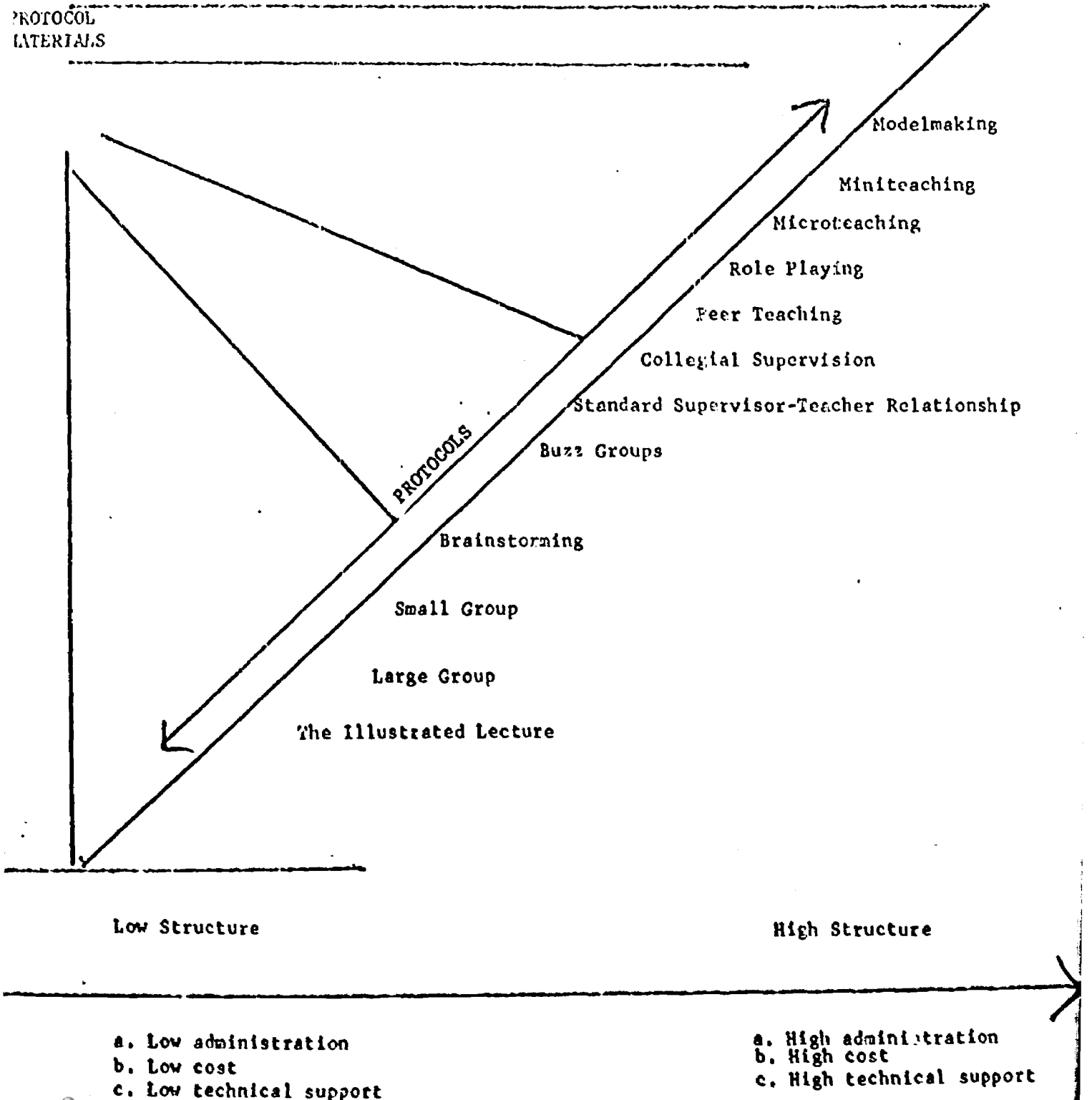   1969, pp. 45-49.

It can be seen, then, that scholars have been at work
clarifying what constitutes the elements of a training
program for teachers. The two lists of elements are notable,
because they are published almost at the same time and their
relationship is interesting. For the relationship between
TFTRW's elements and IE's elements is that of the abstract
to the concrete or, perhaps better, that of the analytical
to the pragmatic. Placing the two lists in the same
context yields a rather thorough view of a macrocosm
called the complete training process in which the staff
developer must dwell.

Only by stretching the term to the point of meaning-
lessness would one call the entire teacher preparation
process a protocol. It is helpful, however, to envision
the training process and its elements as the macrocosm in
which specific protocols find their home. Envisioned
in this way, then, protocols are specific ways of going
about the training of staff, embedded in the more
general process of preparation. Thus, for example, an
internship teacher education program and all its elements
can be viewed as a training process which could include
such protocols as buzz groups, role-playing,
microteaching, etc. Viewed in this way, protocols need
not include all the elements of the training process.
To a significant degree, however, protocols can be
expected to include training process elements since they
necessarily reflect the conditions of the broader milieu in

which they are found, (i.e. the training process).
Protocols, then, will more or less embody the elements
of the training process, i.e. they will be more or less
structured and complex. As such they can be placed on
a continuum moving from the low structure to high
structure. Such a continuum is pictured below and a
discussion of the continuum follows.

A PROTOCOL CONTINUUM

PROTOCOL
MATERIALS

Modelmaking

Miniteaching

Microteaching

Role Playing

Peer Teaching

Collegial Supervision

Standard Supervisor-Teacher Relationship

PROTOCOLS

Buzz Groups

Brainstorming

Small Group

Large Group

The Illustrated Lecture

Low Structure   High Structure

a. Low administration   a. High administration
b. Low cost   b. High cost
c. Low technical support   c. High technical support

Some comments on the above continuum seem in order as are some descriptions appropriate to it.

Sources of the Continuum

First, the continuum is derived largely from ideas suggested by a number of developments and developers who are still contributing to the recent ferment in staff development across the nation. Certainly the debt owed to Smith, Harris, Bessent, and McIntyre is evident. In addition, the work of the Stanford Research and Development Center in Teaching under Bush and Gage and the contribution of the Far West Regional Laboratory under Hemphill are obvious.

It can also be noted that, being multi-media oriented, all the protocols have embedded in them the use of protocol materials defined here as audiovisual renderings of instructional performance. Furthermore, the continuum is not, of course, complete or all inclusive. Anywhere along the line, another protocol might be inserted depending upon the extent and intensity of its structure.

Structure as Complex

It is to be noted that, while the continuum
speaks to the "structuredness" of the protocol,
structure itself is not a simple dimension. It is,rather,
complex and itself admits of at least three elements,
viz. the amount of structure, the quality of structure,
and the intensity of structure. Because of this complexity,
no protocol can be assigned a definite place on the
continuum but rather only a general area. This is to
say that a buzz group, for example, may or may not be
more structured than a brainstorming session. In general,
it would be, but depending on the amount, quality, and
itensity of structure of the one protocol
relative to the other in actual practice, the
positions of the two protocols could be reversed
although both would stay in the same general vicinity
on the continuum.

Structure, Administration, Cost, and Technology

The continuum also points up that structure
carries concomitant ramifications for administration,
cost, and technical support systems. It is clear that
the administration required to effect an illustrated
lecture is considerably less than the
administration required to set up a model making
protocol. It is also clear that lower administration
means, in general, lower cost and higher

administrations means higher cost. This is only to say
that as one progresses up the continuum, the allocation
of space, time facilities, and personnel increases
so that the cost of the protocol generally speaking,
increases.

It is clear that all that is needed by way of
technical support for an illustrated lecture is a
projector and a blank wall whereas modelmaking requires
a complete videotape/film support system ranging from
recorder to monitor and including a camera or two, not
to mention the technical support services and personnel
which can be called into play in the ideal situation.
Obviously, however, audiovisual feedback equipment
can be brought into play anywhere along the continuum.

Drawbacks of the Continuum

By way of final commentary on the continuum as
herein presented, two of its drawbacks need explication.
First of all the continuum does not speak to that
which gives substance to any educational venture, viz.
the purposes of the venture. Thus, it is all well
and good to wax long and eloquently on miniteaching,
or large group discussion and all the subtleties
involved therein, but it is quite another to realize
the sobering truth that no protocol is worth its
salt until it is given meaning with a sound,
respectable, well thought out purpose. And just

as protocol materials may be appropriate to any
number of different protocols, so too may a specific
educational purpose be served in any number of
protocols. And it is humbling to note that linking
certain protocols with certain purposes is a task for
the future.

The second drawback of the continuum (and of the
descriptions of protocols which follow) is the phenomenon
which Whitehead termed the "fallacy of misplaced
concreteness" wherein concepts are reified to the
detriment of scientific progress. In the specific case
of the protocol continuum it is tempting to pick one or
two protocols and forget they are but an element in a
macrocosm called the training process. It is also
tempting to choose one protocol like one chooses a horse
and ride it to death or to ultimate victory- over what
or whom one is never sure. All of us know, for example,
programs in which microteaching and minicourses have
flourished into God-like panaceas. Thus, a protocol
like the standard teacher-supervisor process can be
reified, as it were, into a thing whose proportions
simply do not match the facts of the case. The same
could be said for the "reification" of "sexier"
protocols like peerteaching or microteaching. The
danger is that by their very placement on a
continuum and by their very description they thereby
become the reality. Caution, then, is called for

to see the macrocosm of the training process as the
reality and protocols as aspects and parts thereof which,
far from standing alone, are intimately interrelated and
mutually self-supporting.

Protocol Descriptions

There remains for purposes of this discussion to
delineate in some small way some characteristics of the
protocols which appear on the continuum.

The Illustrated Lecture

There is no sense in taking the risk of articulating
the obvious-- to describe an illustrated lecture may be
taking such a risk. Nevertheless, if this protocol is
all that obvious, why is it not used more frequently?
The inclusion of published, packaged, or individually
created protocol materials into a standard lecture can
put flesh on dry theoretical bones. And so, a five
minute vignette of a "Mr. Novak" in action with an
irate parent might very well tip the balance from ennui
to interest in a lecture presenting a role-conflict
model such as that of Getzels as it is applied to
school setting.

Large and Small Groups

Do we articulate the obvious again here? Perhaps,
but too few training programs use large and small groups

in a deliberately planned, sequential way. In most

programs, grouping for teaching purposes is happenstance.

An example of deliberate structure is evident in the

implemention of "the spiral curriculum". [5] In this

curriculum, trainees are assigned into small, heterogeneous

(subject-matterwise) groups. These small groups are

"nuts" and bolts" seminars in which the materials for

discussion are the teaching problems drawn from the trainees'

teaching experience. They are systematically preceded and

followed by large group seminars which pump in new concepts,

principles, and theoretical considerations.

To complete the system, homogeneous small groups are

intermingled to consider curriculum problems in specific

teaching and subject fields. Such systematically

programmed large and small group activities really enter

the twentieth century when these activities are enhanced

with audiovisual protocol materials.

Brainstorming

A small group activity, brainstorming is often

construed as being more structured than just discussion

because parameters of time are imposed and greater

urgency is added to the situation by the challenge of

getting all the ideas out in the open. Protocol

materials in such a protocol trigger greater, more

salient ideas in such sessions.

5. James C. Stone & Clark N. Robinson, The Graduate
   Internship Program in Teacher Education:
   Berkeley Calif. The University of California
   Press 1965.

Buzz Groups

As construed here, a buzz group is a small group
activity with temporal parameters and with the added
structure of specific questions (usually four or five)
inserted into the protocol. The questions can be asked
many ways but certainly one way to ask them would be
through the embedding of protocol materials into the
step-by-step process. For example, a five minute clip
of a teaching technique such as role playing will make
more meaningful and viable such "buzz" questions as:

       a. Is role playing at home equally
          in elementary and secondary schools?

       b. Is role playing more effective with
          middle class or lower class students?

       c. Can role playing be utilized in
          mathematics as well as in social
          studies?

       d. Is role playing a technique more
          appropriate for comprehension rather
          than appreciation?

Supervisor-Teacher

In this protocol the supervisor usually observes
the teacher, critiques the teacher and provides feedback
to him. Around this general step-by-step process, there
can be arranged a great number of other steps. In this
protocol, protocol materials can be effectively used for a
variety of purposes. Among the purposes to be served are

a) the focusing of a teacher's (and supervisor's)
attention on a specific aspect of the instructional
act,   b) the positing of a model for emulation or a
model to be excelled and   c) the introducing an
"objective third" between supervisor and teacher to
remove some aspects of the " subjective" side of this
protocol which can hinder communication.

Collegial Supervision

Much the same can be said about collegial
supervision as an audiovisual protocol as was said
about the standard supervisor teacher relationship
above. In this case, however, one person as supervisor
is replaced by two or more of the teacher's fellow
colleagues. The meaning of the whole situation is
similarly transfigured by the protocol materials.

Peer Teaching

In this protocol, the teacher instructs his own
peers in an effort to improve his own teaching. Thus
a department meeting can be "taught" by one of its
members with special attention given to improving some
aspect of the performance which aspect can be"boned-up"
through the use of protocol materials. Or several
weeks of an organized preservice or inservice
training program can be built on peerteaching, using
protocol materials as models. Thus, for example,
a five minute training clip on a particular

questioning skill is viewed, discussed and analyzed
by teachers. Each trainee is assigned to prepare a
lesson of his choice involving the use of the skill.
In the subsequent training session the teachers are
divided into groups of five and he teaches his lesson
and has it critiqued by his peers. The protocol
material can be reviewed again for summation or
for additional practice or the group can move on to
another skill, using another set of protocol materials.

Role Playing

In this protocol, one teacher instructs while
her peers play the role of students. Protocol
materials are easily and meaningfully inserted at
sensible places in the step-by-step process. This
protocol can effectively be combined with peer teaching
and the same protocol materials described above can be
used.

Microteaching

Three definitions of microteaching are evident.
One is the very broad definition which amounts simply
to using a videotape system usually for feedback. A
second definition of microteaching alludes to it as
the analysis of the teaching act into its component
parts -- usually but not necessarily instructional
skills. The definition used here is, however, that of
the early researchers at Stanford University.

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Briefly, microteaching is a reduced amount of teaching

concentrating on some aspect of the teaching performance

which is studied, attempted, critiqued and performed

again until a satisfactory performance level is

achieved. The practice situation calls for five

different students each time the attempt is made. A

supervisor is also present. Obviously protocol materials

can make this protocol more significant with their

insertion into the study-steps of the protocol or

with their inclusion as models.

Miniteaching

An outgrowth of Stanford's microteaching, miniteaching

replaces the supervisor with a videotape feedback system

and protocol materials are used as models. The

teacher evaluates her own performance by comparing

the protocol model to video feedback. In one type of

minicourse, teachers view a model tape-- usually of

20-30 minute duration-- and then sign up to work in

groups of 4-5. Each is given technical instruction in

how to video tape and set of equipment is given to

each group. Next, the teachers try out the technique

or strategy illustrated by the audiovisual

protocol material on a small group of students, and

each one teaches his own class using the special

skill or strategy, videotaping himself at the same

time. He then views his own tape, and depending on

how he feels about the results, he may re-examine

the protocol model, retape himself, invite his peers to view his original or subsequent tape or ask them to observe his reteaching act. The ideal end is attained when the teacher produces a tape that her peers evaluate as worthy of export thus raising it to the level of new protocol material.

Modelmaking

At the end of the continuum (and therefore the most structured protocol), modelmaking is actually a training format which aims to create more protocol materials, like the end-product possible in the mini-teaching example described above. Thus, original protocol materials are introduced as models to be emulated or excelled and the trainee is encouraged to make his own audiovisual rendition of the performance aspect in question. This trainee-produced rendition can be compared to the protocol materials. This "new" model itself can then, in another instance of the same protocol, become protocol material. Assumed here is a definition of protocol material as being audiovisual material inserted into protocols that is not produced within the specific "occasion" of the protocol.

Conclusion

Three elements of what might be called an Instructional Performance Library are: a) the protocol materials or audiovisual materials which are in the "collection", b) a "catalogue" of ways to use the

materials which ways are dubbed protocols, and c) a communications network which allows the library to grow and to be self-sustaining. This discussion has looked more closely at the "catalogue" of ways to use protocol materials and has suggested a continuum of protocols ranging from the relatively unstructured to the highly structured. Arrayed in this light, protocols can be seen to abound. With further thought along these lines, the continuum can hopefully be expanded, thus offering staff development personnel more and more alternatives as they go about their task of upgrading the quality of instruction in schools.

In addition, the continuum might become the object of some hypothesizing. For example, are certain educational purposes served more effectively by more or less structure? At which end of the continuum would one expect to find purposes served which speak to goals such as self-knowledge or attitude change in the trainee: where would one look for skills acquisition? Further, where, along the continuum, would one start work with his own staff? If these questions are meaningful, then, perhaps, the continuum has meaning.