Clinical Educators
For the 1970's

Clin Ed papers to PT school 1970
Importance of Clin Ed 1979
Tertiary Clinical Problem Solving 12-22-86 (Hilt, Dayton, Oser)
TEACHING CLINICAL PROBLEM SOLVING; STAGE TWO

by

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TEACHING CLINICAL PROBLEM SOLVING; STAGE TWO

This paper describes the process and the outcome of an experimental learning experience—a course that was taught to 36 junior physical therapy students at the Medical College of Virginia—Virginia Commonwealth University—in Richmond, Virginia. The 10 hour course consisted of lecture and laboratory sessions—and is a component of a three-stage "Clinical Problem Solving Course" which is currently continued through the 1st year of the professional program.

The instructors were Dr. Mark Ozer, a Neurologist, and Dr. Otto Payton, Chairman of the
Dept. of Physical Therapy (at the Medical College of Virginia.

It is fairly common knowledge among clinicians that many patients, especially those with long-term chronic and disabling problems, become discouraged with their treatment program—long before they have reached their functional potential. The consequences of this problem can reduce the effectiveness of the total health care system, increase cost of health care, and reduce validity of research efforts attempting to determine the overall effectiveness of treatments.
There is considerable evidence in the literature that patient compliance can be enhanced if the patient's expectations regarding his treatment are met. This, in turn, is more likely to happen if the patient plays an active role in the planning of the treatment program and in the setting of very specific, functional goals which he can reach one at a time.

In order to create an atmosphere in which the patient will be enabled to participate fully in his treatment program, the therapist must, above all, possess highly developed and effective communication skills.
During Stage 1 of the "Clinical Problem-Solving Course" the students are taught specific communication skills which have been found effective in Counseling Psychology, and other health professions, including physical therapy. The essential skills that were taught were selected from Ivey's Taxonomy. In addition to learning specific communication techniques, this approach places emphasis on enabling the learner to carry on a purposeful conversation with a patient by using clear, understandable language—and by becoming an attentive listener.
Stage II of the "Clinical Problem Solving Course", which is the topic of this paper, was taught as a cooperative effort between Dr. Ozer and Dr. Payton.

Dr. Ozer worked as a neurologist for over 10 years with children who had learning and behavioral problems— as well as various physical disabilities. He developed a unique approach toward treating these children, called the "Ozer Method". This method is based on the principle that patients participate in the total process of planning their treatment program, which was based on their ability to express their concerns. Physicia
Therapist and patient shared responsibilities for goal-setting and treatment-outcome.

During recent years, Dr. Ozer has been working in an Adult Rehabilitation Center for the severely disabled - Spinal Cord Injured, Hemiplegics and Amputees. In working with these patients he found that the basic principles of the "Ozer Method" which had worked successfully with young children, were also effective with these severely disabled adult patients.

In cooperation with Dr. Payton, Dr. Ozer developed a course that could be taught to the lst
year physical therapy students and would at the same time serve as an experimental model for a research project. This course is addressing the problem of how to make the rehabilitation process a process of shared effort between patient and therapist. This means a way must be found that would bring about a more effective and ongoing collaboration in planning and goal-setting between the patient and the therapist.

The immediate goal of the research reported here was to validate a curriculum for teaching physical therapy students a systematic procedure that would enable the
them

students to involve patients in the management of

their own treatment plan.

The specific research question was: Can 10 hours

of instruction through lecture, discussion, and

laboratory work enable the students to bring about a

more effective collaboration in planning and setting

goals between patient and therapist?

The Ozer portion of the course was taught in the

fall of 1986 to 36 junior students and consisted of 4

hours of lecture and 6 hours of laboratory work.

Students received a 16-page manual in which the
objectives and methods of the course were described in
detail—and illustrated with specific examples.

The unique feature of the course was that the
students learned the new approach by going through
three developmental levels.

The first level of the learning process gave the
students the opportunity to apply this Ozer method to
themselves. It involved a self-exploration and self-
evaluation process. Each student had to answer the
question "What are my own concerns about learning how
to interview my patients"? This was a difficult task
for some of the students to handle. Expressing and
sharing in public one's own problems or concerns is not customarily done in our society. Thus the students were placed into a learning situation where through realistic application to themselves, they would learn what later as therapists they would teach to their patients in the clinical setting.

An example of a concern expressed by a student was: "I am worried that I will feel awkward and uncomfortable interviewing a much older person".

Once the student had identified a major personal concern of his own — something that he was really worried about or felt uncomfortable with — he was to
answer a question which would lead him to make a goal statement for himself. He would ask himself:

I "What would I like to see happen," or "What could make me feel that I am making progress in dealing with my concern"?

These questions would then lead to a goal statement from the student, implying, that he is challenging himself to assume responsibility for. 

He has set attaining a goal that he is setting for himself. In order to make his goal statement very specific, the student then had to ask himself—and answer the following 3 specific questions:
II

1. What is it that I want to see happen?

And The Answer Might Be:

"I want to feel comfortable talking with an elderly person".

And Further:

2. Where or when do I want to see it happen?

And The Answer Might Be:

"While shopping in the grocery store".

I will talk to an elderly person.

3. To what degree will I accomplish this?
The answer:

"So that I will feel comfortable."

During the **second level** of learning the Ozer method, the student was asked to **take** what he had learned about himself and **apply it to peers, friends, or relatives**. His friend would **represent** the **client** while the student is now the **interviewer**. The task was made more meaningful by expecting the student to create a conversation with his friend **based on real existing personal experiences**—rather than on role playing. The student was expected to listen intently to the content of the conversation in terms of the **concerns** and **specific, attainable goals**.
The content of the conversation had to be handed to the instructor in writing—and was judged for adequacy of procedure.

This second level was a significant learning experience for the student for two reasons. First, he had an opportunity to become more fully aware of what he had already learned about himself. Second, this experience with friends gave him an opportunity to practice his future role as a therapist. It served to further his awareness that the process of exploring concerns and selecting attainable goals is an ongoing process in practicing his chosen profession—and that
through practice this process can be refined and become increasingly effective.

The Third level in preparing the student for an interview with a patient in a clinical setting was a showing of videotapes in the laboratory.

Students viewed 3 tapes of unrehearsed interviews with 3 adult patients who were being treated in the Rehabilitation Hospital. On forms provided, the students were to identify, with check marks in the appropriate spaces, the degree to which the patient actively participated in the interview, which was
The interview was designed to explore the patient's concerns or problems.

The highest level of patient participation was the state of his ability to come forth with his concerns without any specific suggestions from the therapist-interviewer.

The 2nd highest level was the ability to select one significant concern when three suggestions were made by the therapist-interviewer.

On the 3rd level, the patient would agree or not agree to one specific concern suggested by the therapist.
The lowest—or 4th level—is represented by a patient who could only respond to being told what to do.

The students were given the opportunity to review these tapes in the media library and to practice their proper skills of identifying the level of patient participation during the interview.

Finally, the outcome of these learning experiences were measured by giving the students two practical tests:

The first practical test consisted of presenting to the students a video tape similar to those they had
viewed and evaluated previously. The student was again expected to check the form provided, indicating the degree to which the patient actively participated in the exploration of his or her concerns or problems.

The setting of the second practical test was in the clinic of the Rehabilitation Hospital—where each student would interview a patient with one instructor present. The expectation was that the student would be able to promote the highest possible level of patient participation while seeking a specific goal statement appropriate for this patient. The student had been taught to proceed down the four levels of patient
participation—one at a time—as necessary, in order to obtain a response from the patient.

The overall results of the testing procedures of the students' accomplishments were encouraging: all students met the criteria for this research study, even though levels of accomplishment of individual students varied.

In summary, we demonstrated that we could teach a class of 36 students a process of interaction between therapist and patient that had been developed by Dr. Ozer while working with young patients with learning and behavioral disabilities. We were able to do this in 10 Hrs. of instruction and all Junior Students were
able to learn the process at a satisfactory level. The test results showed that the students had learned to involve a patient as much as possible in stating his or her own concerns and in developing a specific and realistic goal for dealing with the problem.
Our own long range goal now is to attempt to improve patient care by giving the student new tools that will promote patient compliance—and that will be based on a treatment plan that was generated by the patient himself.
CLINICAL EDUCATION FOR THE 1970's
Susanne Hirt

I welcome this opportunity to talk to you this morning about some of our urgent needs in regard to clinical education in the coming decade. My intentions this morning are primarily to get us started on meaningful discussions concerning the future and to help prepare the background for these discussions by:

1.) Briefly reviewing for you some of the major elements which shaped physical therapy education in general in the past;

2.) Alert you to some of the rather extensive literature on this topic of professional education for the future which is found in our own journal as well as in others; and

3.) To venture into expressing some of my own old as well as new thoughts on the subject.

By no means do I intend to tell you what to do, but I do want to urgently invite you to think and talk about what education for physical therapy is now, what we must do in the future, and how we can fulfill our professional obligations for the coming decade.

There is a great deal going on around us these days that we tend to ignore or to brush aside—not because we judge it as unimportant or false but because we do not understand it fully. This is one of the dangers inherent in a rapidly changing society. What we do

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not understand, we tend to reject and, by the law of averages, one-half of the time we tend to reject the wrong things.

I would like to quote a statement of the 19th century American author and philosopher, Henry David Thoreau, who wrote in 1860:

"A man receives only what he is ready to receive—whether physically, intellectually, or morally. We hear and comprehend only what we already half know. If there is something which does not concern me, which is out of my line, which by experience or by association my attention is not drawn to, however novel and remarkable it may be, if it is spoken, we hear it not. If it is written, we read it not—or if we read it, it does not detain us."

For a good long time now we have heard that the role of the physical therapist is changing. When focusing our thoughts on clinical education for the next decade, surely we are focusing on nothing less than the total role of the physical therapist or the role of physical therapy as a profession during the next decade.

One of the earliest documents in our professional literature attempting to identify in specific terms the nature of the changing role and how to prepare for it was the manual entitled "Cooperative Planning for Clinical Experience in Physical Therapy" by Callahan, Dickenson & Scully which was published early in 1963. The authors stated, "Physical therapy education must prepare the student for his present role and prepare him for work and responsibilities not yet
delineated, nor even in existence. "The role of the physical therapist is changing rapidly and it is impossible to know what it will be in the future." -- This was said in 1962.

Ever since we have been preoccupied with this concept of a changing role with an ever-increasing sense of urgency. When concepts are ill-understood, they tend to become slogans, and slogans cannot be responded to in a meaningful manner. In general our physical therapy educators have not responded very meaningfully to the many slogans now filling the air and the professional journals.

I therefore suggest that we must first review and understand the basic role of the physical therapist as we see it at present before we can attempt to change it, if that is what we must do. Miss Callahan stated in her manual—and I quote freely—"in the early development of our profession—when it was 'procedure centered'—it was possible to teach most procedures in the classroom—with practice in patient care afterwards." In the beginning our professional efforts were perhaps not as much procedure oriented in this country as elsewhere. We started with the physical educators who, as mature professional persons, frequently possessed remarkable insight into and understanding for the total life situation of the patient, including the personal, psychological, and socio-economic aspects.

However, some of these professional skills were lost or could no longer be taken for granted when, following World War II, we began to increase the number of our schools and enrollment of students, and young college students became the typical physical therapy trainee.
For almost ten more years the majority of schools attempted to provide all of the professional education within a 12-month period to young people with two or three years of college preparation. Beginning in the early fifties our schools gradually moved into the academic setting, becoming affiliated with established universities and centers of medical education.

Besides developing baccalaureate degree programs, perhaps the most far-reaching change which resulted from this integration into the university setting was the fact that we moved the academic teacher to the campus of the university and left the clinical teacher behind in the community hospital.

Early in 1965 the American Physical Therapy Association, in conjunction with the Council of Physical Therapy School Directors, launched its first comprehensive study of basic physical therapy education under the most capable leadership of Dr. Catherine Worthingham. In the January, 1968, issue, Dr. Worthingham reports that in 1965, out of 42 schools, 35 awarded baccalaureate degrees and four additional schools offered degrees through affiliating institutions. Dr. Worthingham further reported that in 1965 only 34% of the academic faculty had direct patient contact and only 11% of the clinical educators had one year or more experience in classroom teaching.

Another factor which I believe contributed to changes in the pattern of physical therapy practice was the emergence of a new medical specialty which affected physical therapy practice by shedding some doubt on previously established roles and the sphere of professional
competence and responsibility of the physical therapist.

The atmosphere of academic learning on the university campus, as well as the philosophy and the goals of the academic faculty, differ sharply from the atmosphere, philosophy, and goals of education in the clinical setting. This fact in itself is neither surprising nor detrimental to the accomplishment of the basic goal of these two institutions. However, I believe it has created for us a problem which so far we have been reluctant to face. This has kept us from assuming shared responsibility for providing carefully designed and critically reviewed educational experiences for the physical therapist of the future.

So far, the Worthingham study, which appeared in five issues of our Journal, has not identified what our major role ought to be or will be in the decade to come. The study, however, does identify slowly emerging trends.

Of particular interest are some of the answers given and comments made by the 1961 and 1965 graduates, the two classes studied in this survey.

Of the 1961 graduates, 81% or 520 graduates participated.
Of the 1965 graduates, 80% or 699 participated.

Among other things, these graduates were asked to identify deficiencies in their basic professional preparation both in the academic and clinical setting. The 1961 graduates responded after a minimum of five years of experience, the 1965 graduates after one year of experience in the profession.
Of the 1961 class, 63% expressed deficiencies in their basic education.

Of the 1965 class, 73% did.

Some examples of these expressed deficiencies are:

20-21% noted deficiencies in basic sciences—the major complaint was lack of depth and breadth in anatomy, physiology, neuroanatomy, neurology, and pathology.

Preclinical experiences, that is, physical therapy theory and practice, were found deficient by 50% of the 1961 class, by 71% of the 1965 class.

Major complaints, in order of frequency, were:

Inadequate experience with:

Patient evaluation
Program planning
Therapeutic Exercise, mainly neuromuscular facilitation
Administration and supervision techniques

A further complaint, mainly in the 1965 class, was:

Lack of patient contact, and
Inadequate correlation of theory and practice.

Deficiencies in Clinical Education were noted by:

66% of the 1961 class
96% of the 1965 class.
These complaints were mainly related to:

- Inadequate experience in certain treatment procedures and diagnoses
- Evaluation techniques
- Lack of continuity of treatments
- Administrative and management functions in the clinical setting
- Program planning
- Lack of contact with other professions including physicians.

The quality of clinical supervision was considered inadequate by only 4% in 1961 and 5% in 1965. The stated concerns were related to:

- Poor attitudes of supervisors
- Inadequate discussions with students
- Inadequate preparation of supervisors

Even though the Worthingham study does not outline for us the role of the physical therapist of the future, it does in a remarkable way review for us what is being done today in physical therapy education and, consequently, what our present role is like.

The next question then is how do we prepare for the unknown future?

By quoting from a recent publication in our Journal, I would like to bring to focus some of the messages we are receiving from leaders in our profession.

In February, 1968, Miss Margaret Moore addressed the Florida
Chapter with a talk entitled "The Fallacy of Peaceful Change"--or "Tolerance For Turbulence." I quote:

"You can be sure that the range of problems and concerns with which we will be and should be involved will grow broader as they become more interrelated with education, welfare, government, social structure, civil rights, poverty, and many other issues. Health care will not be pigeonholed into one neat package, and, if we consider physical therapy narrowly defined, we will be lost in the change. If we see ourselves as functioning only in the physical, social, and vocational rehabilitation aspects, then, in my judgment, we have a narrow view of our professional obligations, responsibilities, and opportunities."

In her crystal ball gazing, Miss Moore further says:

"The future of physical therapy depends in great part on the manner in which we become trained, educated, and skilled in management techniques and supervisory skills in order to meet the rapidly changing needs for services."

In the January, 1969, issue of the APTA Journal, Dr. Anne Pascasio also is discussing the physical therapist of the future. She says:

"There may not be all new tasks in the future--the major difference between now and then may be in the increased or decreased emphasis on certain tasks in the degree of depth
and complexity. The physical therapy practitioner of the latter years of the 20th Century will continue to need clinical proficiency in patient care. But he will also need competence for teaching, for supervisory and administrative tasks and for interpersonal relations."

On October 30, 1969, the American Association of Medical Colleges opened its 30th Annual Meeting in Cincinnati with a conference theme: "The Health Care Dilemma--New Directions for Medical Education."

A Plenary Session was held the first day on the topic: "Dimensions of the Problem". The papers of this session are reprinted in the February, 1970, issue of The Journal of the Association of American Medical Colleges. The first paper in this session given by Alan Pifer, President of the Carnegie Corporation and called

"A New Climate"

we thought you might find relevant and meaningful and therefore handed it out to you. In his closing remarks, I believe Mr. Pifer is expressing in a few words the essence of the problem of changing roles and how to prepare students in medicine for it--and I believe he is giving us a clue for our own professional education.

"The doctor", Mr. Pifer said, "will not his central mission always be to maintain health and prevent disease, to diagnose illness, treat it, reduce preventable mortality, and ease pain?"

"Is not the question now, how to do all these things for the entire population as well as for the individual?"
"It is important, therefore, to be clear that medical students are not being trained to be economists, anthropologists, or sociologists, but to understand the insight the social sciences can bring to bear on the phenomenon of social change."

I would like to draw a parallel and say that it is my opinion that the physical therapist as long as he wishes to call himself that--should not his foremost concern be with the total process of physical restoration and with the procedures necessary to allow the patient to live as gratifying a life as possible? To provide this service to the entire population as well as to the individual, we indeed need help--and the assistants may merely be the beginning.

I believe it is also important that we state clearly that undergraduate physical therapy students are not to be trained as administrators, managers, or public health workers. But they also must understand "the insight the social sciences can bring to bear on the phenomenon of social change."

What then should clinical education for the 70's be like--how should it differ from what we are doing now?

The following are some of my thoughts at this time--and they may be subject to modification. First, a few general principles I believe in:

I. Because of the changing pattern of patient care and the broadening demands made on all health professions--the student needs more depth in understanding, more
breadth in exposure, and more skill in complex procedures.

II. We must make the learning of the beginning student more meaningful. We must show him the connection between the patient—his total needs—and the theoretical knowledge necessary to develop skills and understanding needed to identify problems and to find solutions. It means that we must bring the beginning student and the patient together in real life situations. I believe that this approach will tend to enhance learning, save time, and promote depth. It also means that we need faculty who has access to patient care, is familiar with the patient, his pertinent problems as well as his care. This faculty also must be familiar with—if not participate in—the theoretical background being presented to the student at that time.

III. Further, I believe that experiences with patient contact should be continuous and woven throughout the entire two years of professional education, but should be carefully designed and planned to permit gradation of degrees of responsibility to be assumed by the student. I can envision three basic stages:

The first stage is represented by early contact of the student with the patient. It must be in a highly structured and carefully prepared setting.
There should be gentle but unfailing correction of all faulty student behavior and errors and constant insistence on high standards.

Throughout the three stages the example of the clinical teacher will foster the habit of self-education and stimulate the inquisitiveness of the student.

I believe that one of the most effective ways of improving the professional competency of the physical therapy practitioner—in whatever environment he may be functioning—and regardless of whether he is personally treating or teaching the patient, whether he is functioning in a supervisory or other indirect role—is to provide the student with more carefully planned clinical teaching and learning opportunities and more critical supervision. I believe that, on the whole, students tend to be left too much on their own devices too early. This may be the case even in the physical presence of a supervisor. One of the most frequent statements made to us by students is "I was told to go ahead and do this—but I have never seen it done before." I never understood precisely the value of this educational approach, and I do not believe that it is necessarily an effective approach to problem solving.

It is during these early clinical settings that the student is receptive to learning not only skills but also attitudes and habits. At this time, more than at any time later on, does he learn the undesirable as quickly as the desirable. But, once he has learned undesirable attitudes or habits, it becomes difficult to change them later.
During the early stages of professional clinical experiences the student needs above all "instructor-models" after which he can pattern his behavior. The beginning student is not interested in the "interesting" patient, but wants to hear how the professional physical therapist talks to the patient and demonstrates his skills in treating or teaching the patient.

One may raise the question why the students, or rather recent graduates, in the Worthingham survey did not indicate significant dissatisfaction with clinical supervision though they expressed considerable discontent in most other areas. I am willing to risk myself and venture my own speculation, but I am also willing to withdraw it if proven to be wrong. These students are indeed most of the time satisfied with the kind of clinical supervision they receive, which means they are getting it when they want it or ask for it and are left alone—when they do not. This, however, is neither structured nor planned clinical teaching. I would further speculate that relatively few students ever experience truly excellent clinical teaching. Consequently, what one has never experienced, one does not miss or criticize.

I further believe that good clinical teaching is contagious and transmitted from generation to generation. An excellent clinical teacher is preparing a generation of potentially excellent clinical teachers. In contrast—the classroom teacher may stimulate some, please others, or entertain the rest, but he does not necessarily breed a generation of good classroom teachers.
I believe we need good clinical teaching in the 70's more than anything else because the role of the physical therapist will be above all teaching--teaching to a great many, and many different kinds of people.
THE IMPORTANCE OF CLINICAL EDUCATION

If clinical education were not important we would not be locked up here—"interviewed" together for a whole week to think and talk about nothing but clinical education. If clinical education is important it must be meaningful to those who are being educated. What does it mean to the student? This was a question our staff was curious to find out and so we went ahead and asked the students. We were aware that as soon as one uses words to describe learnings or experiences rather than observation one may lose something. However, as professional people we have to learn to communicate on all levels, in all settings and under all circumstances. Consequently, we had our junior students relate to us their summer experiences which consisted of 6 weeks clinical affiliation in a variety of institutions. The results were gratifying to us for a number of reasons. First, the students obviously—after a few minutes of warm up—enjoyed the interview situation with the entire staff, which was something new to them.
Secondly, we received information of interest to us and thirdly,
we felt it was a positive learning situation for all. The students
by trying to recall, relate, justify and explain, reached moments
where they became aware of learnings that they had not been aware
of—or recognized opportunities for learning, they had not availed
themselves of. It served we thought, and hoped, as an incentive
to enter the next phase of clinical education, the senior year,
with their eyes opened wider and their ears sharpened. Since
these were junior students we attempted to withhold judgement both
as to the learning situation described by the students, as well as
in regard to the actual learning accomplished.

Just because my curiosity was aroused I continued to have
individual interview sessions with an unselected group of beginning
senior students in the form of: "Tell me what did you do and learn
in the clinic yesterday, that was interesting to you?" Pretty soon—as
an old-fashioned teacher—I stopped withholding judgement and
decided either the students did not know how to relate their clini-
cal learnings or they did not learn anything worthwhile.

A typical interview session would produce something like this:
"Nothing really very exciting happened—pause—"well, what did you
learn?" — long silence—then: "Oh yes, I had not used the whirl-
pool since we had it last year and yesterday I had an opportunity
to use it again." After this, both of us would smile with overt
enthusiasm. "All right," I would say, "anything else?" "Well,
now let's see ... (strong folds of concentration showing on student's
forehead) then: "I had never used hot packs in the clinic before,
and I had an opportunity to use them twice yesterday afternoon."

"O.K., fine." Then both of our enthusiasm waning somewhat, "anything
else?" "not really except I watched a hubbard tank." At this point
the student considered his mission accomplished and motioned to leave.
But I wouldn't let him and usually burst out (I am afraid) with some-
thing like: "Tell me, are there any patients in the clinic?"

Later on, in private, we referred to these interviews as "the
students' inventory of physical therapy equipment."

It was this "inventory" that got us started on a new idea and a
little experiment with the senior class. Since we, the staff, knew —
all along in secret—that there were patients in our clinics, we were
determined to find out from the students 1. why the patients were
there, 2. in what capacity the students related themselves to the
patients and 3. what as a result of this combination happened both
to the patient and the student. We discussed our project with our
clinical teachers and came to the agreement that anything that might
help the student to either make his clinical learning more meaning-
ful or to help him to express himself more easily—or both—may be
worthwhile trying.

The project consisted merely of asking the senior students that
each time they thought they had learned something important to write
it down in plain English on a sheet of paper and hand it in. This
was neither meant to be a patient's medical history nor an official
progress report. It was not to be graded or held against them in
any form. However, it would be read by a sympathetic faculty and
discussed with the student from time to time.

There is evidence that this experiment—which is still in pro-
gress—has contributed to make clinical education more meaningful
to these senior students and also has helped to point out to us some
unidentified problems. To show you briefly what happened to the
piece of equipment "called whirlpool", a student wrote: (all quo-
tations are verbatim—unedited—and unfaked) "While giving a man a
whirlpool, I felt the difference the whirlpool made in some muscular tightness. The gastrocnemius was not as tight after his whirlpool as it had been before. He had had his leg out of a cast for two days and the skin on his foot was dry and scaly before the whirlpool and afterwards there was hyperemia and the skin was more moist with some of the dry skin off of it."

This, in my way of thinking—and judging—is excellent observation—with limited language facilities. But here is an example of the reverse: (1) an example of a problem so far unidentified: "I saw what co-operation and a member of the working team means. I saw book terminology come to life and meaning. Hydrocephalic, microcephalic, encephalitis, polio, cerebral palsy, paralysis, are not just words to me now, they are pictures, they are real. I found that everyday you learn something new, you are always learning....." This student found a new way of reporting an inventory.

I believe that some of the more intangible objectives of an institute like this might include the opportunity for doing two things one rarely finds possible within the familiar stressful home atmosphere. One is, to stand back and gain perspective—
and the other one to come very close to get a microscopic view of clinical education. The perspective is needed so we will not lose sight of the broad issues involved nor to lose sight of the fact that each one of us and each institution is merely a small particle of the whole—and to keep the whole intact—the small particles must somehow fit together. The microscopic view is needed to find out what it actually is, that we are looking at and talking about, so that perhaps eventually we can describe it in very small words.

I would like to make an attempt, with the help of our students, and the material that they supplied for us (and with their permission) to take an almost microscopic view of one ingredient of our topic—clinical education.—"The student". When we look at the individual student, rather than impressions or results of questionnaires—we may look at the atypical, rather than the typical situation, but then the typical situation probably is put together by atypical incidents. But above all we will be looking at the seeds which are supposed to take root so we can show them later off as the fruits of our labor.

There are two broad unalterable facts on which all our
thinking is based, one is that education for physical therapy is
education for a profession and the other one, that physical therapy
is a profession which belongs into the realm of medicine.

Based on this last fact we can readily draw parallels between
education for physical therapy and education for other professions
within the realm of medicine, including medicine itself. The report
of the papers and discussions of the First Institute on Clinical
Teaching, sponsored by the Association of the American Medical
Colleges and published in the J. of Medical Education, October
1957 crystallizes for us the fundamental and unique feature common
to all professions dealing with patient contact in a therapeutic
relationship. In higher education elsewhere, teaching requires
classrooms and laboratories. But in clinical education "The place
where patients are given care is the laboratory in which the student
learns." It is here where professional care and professional teach-
ing merge into one.

Putting the student into this position has changed for him the
familiar two-way student-teacher relationship into a three-way patient—
student—teacher relationship. Likewise, putting the teacher into
this position changes for him the two-way patient—therapist rela-
relationship into a three-way patient—student—therapist relationship.

Making the hospital the student’s laboratory is at the same time
making the student a member of the total hospital population. His
very existence in the hospital sets up a chain reaction of concerns
from the elevator man to the top administrator. What type of con-
cern you see—depends on whose eyes you use. Looking through the
eyes of a student—he sees himself all of a sudden no longer in a
familiar classroom with charts and skeletons—a chair to sit in and
a clock to watch—but in a large institution where hundreds of people
hustle about, everybody knowing exactly where he is going and what
he is going to do when he gets there. The student, however, feels
out of place in a peculiar way, slightly frightened and awe inspired,
thinking perhaps of the last time he was in a hospital—when he had
his tonsils out. He feels out of place—if it were not for his
starched uniform and perhaps an identification on his sleeve remind-
ing him who he is and what he is there for. And when for the first
time—armed with book knowledge, classroom practice and—an armful
of towels, grease and gadgets he walks into the treatment room to
meet his first patient—he finds to his horror that the patient is
a living human being of adult size, complaining of a painful condi-


tion. This is the "first day of clinical education". The student, when questioned later by a well meaning teacher why he forgot the second layer of towels, or to give the patient a call bell — or why he treated the wrong leg, may simply murmur, "I don't know" — or with a more sophisticated approach to life's problems he may say: "I didn't have time to read the whole chart". Just as the first day of school may remain a life long memory, the first experience in the role of a therapist is a crucial one. In the clinical setting there are many first days for the beginner. Those, when he treats the very young, or the very old, the male or the female, the severely disfigured or the one in severe pain and so forth. These are first days emotionally, clinically and academically. No classroom preparation or correlation can adequately prepare the student for the most significant lesson to learn—to step out of the familiar role of a young college student into the unfamiliar one of a therapist. This metamorphosis is a process, a slow and gradual one which one can observe and guide step by step. Recently I saw a quiz paper of a junior student in which the physician—asked for a definition of "polyuria" and the student wrote: "a condition which requires one to go to the bathroom very frequently." In red pencil the physician
wrote: "And precisely, what would one do there?"

Precisely—what is this new role one has to step into to become a physical therapist? Theoretically and systematically the student might ask himself the following questions: First: who am I, who is my patient, and what role will my teacher play? Secondly: I wonder what is expected of me?, can I do it?, what will happen if I try?, and Thirdly: Have I done it? to the patient’s satisfaction? — to the teacher’s satisfaction? — and how do I feel about it? With all these questions on one’s mind—anyone can treat the wrong leg... Looking at the situation even more closely, the patient—if an adult—represents three obstacles to the student. First, the fact that he is an adult—in years older and more mature—and the young student is, perhaps for the first time, placed into a position where he is supposed to ask quite personal questions as well as do something that will help an older person, while up to this time an older person usually has been the one to help him. Secondly—the adult patient represents public expectations; in the eyes of the public, generally speaking, all those connected with the broad field of Medicine are learned and dedicated people—and so must be this young student in
the eyes of the patient. Lastly—the patient is not only alive, which means vulnerable—but he has a reason for being in the hospital which implies to the student, he is fragile and one can do harm. To carry out a treatment procedure under these circumstances in a calm, cool and orderly fashion requires a little time.

Learning in the clinical setting—at the bedside of a patient—or in any environment where treatments are given—is different from any other learning situation. It is different because in addition to the learner and the task to be learned—a third variable is present—the patient—who by the nature of his role automatically becomes the most important concern. Treating the wrong leg—forgetting safety measures—or reporting the clinical learnings in terms of an inventory of equipment—are all expressions of the same calamity the beginning student finds himself in. The student finds himself playing a dual role as "student-therapist". Being a student, he could not learn—if he did not make mistakes. As a therapist, how many and what type of mistakes can he afford to make—or can his teacher afford to let him make?
To keep errors of treatment procedure within the limits of safety is the most crucial and most critical responsibility placed into the hands of the clinical teacher. It is obviously critical for the patient's sake but it also represents a crucial problem in regard to student teaching. The student in order to learn his role as therapist must have the opportunity to practice it—which means be given responsibility. Clinical teachers have a difficult task in striking the proper balance between giving the student responsibility and protecting the patient from the student's errors. He cannot hope to achieve this balance by merely counting the number of hours a student has spent in preparatory class practice. There is a compelling suggestion—if one may use this phrase—in some of the student's reports that verbalizing and explaining one's actions and thoughts as they happened in a real situation can significantly affect one's ability to understand and properly carry out responsibility.

One student writes: "In nearly every one of our classes we have been told to be aware of the patient's tolerance to heat—that everybody has a different level of tolerance. Wednesday in clinic was the first time I really experienced this.
The patient had a ruptured rotator cuff. His treatment was hot packs followed by active exercise. I was told that the patient could not tolerate a whole lot of heat, so I put an extra three towel thickness under the hot packs. In about five minutes he said it was too warm and I added another towel thickness. The area under the hot packs was a bright pink and felt very warm to my hand, but there was very little sign of perspiration.

It was interesting to compare these results with the results of another patient who had lumbo-sacral strain. She had to have only one extra towel thickness under her hot packs. The area under her hot pack was a bright pink, felt warm on my hand, and was wet from perspiration.

This and the following report, I believe, illustrate how classroom learnings and clinical experiences can merge and how sometimes to the beginning student it may represent something like an entirely unexpected coincidence, that what one has learned in class—really does happen...

In the words of the student: "I was performing a muscle test on a young woman with poliomyelitis still in the respirator. One of the muscles I tried to test was the ant. deltid. I
showed her the movement and she completed straight flexion for almost the complete range. She was supine—almost up to 90 degrees. Immediately she stated this felt different than on the other arm. I then palpated the ant. deltoid the next attempt. I felt no contraction at all. I was amazed that she could perform such apparently "true" flexion and yet I could feel no contraction whatsoever. I then watched carefully for substitution. I found she was using her pectoralis major and middle deltoid to flex at the shoulder. Although I always try to watch for substitution, I was amazed to see substitution that looked so much at first like true flexion. This "true" flexion was occurring without a trace anterior deltoid. I had never realized before how substitution could be performed so efficiently. I learned from this experience to always palpate and always uncover the part, so you can see substitution patterns. Yes, we had studied this in muscle testing, but yesterday I learned it...

Here, perhaps, Tennyson's famous quotation is not out of place: "Knowledge comes—but wisdom lingers..."
I believe that these two samples of students' learnings reveal to us some of the intrinsic mechanisms at work in a situation where a student is given a responsibility and yet no one—least of all the student—could have predicted ahead of time the outcome. Neither in regard to the adequacy or safety of the treatment nor in regard to the opportunity for turning knowledge into wisdom—or in more common terms—turning the "we studied this" into "I understand this now—and will never forget it". Does not the concept of assuming responsibility imply more than knowing one can perform a task which one has performed before? Does it not, perhaps quite consciously, imply that one is equipped to approach the task with a typical problem solving attitude? We might also call it somewhat presumptuously the application of the "scientific method". And is this not the only safe and valid approach in any therapeutical relationship? Once the student understands the true meaning of the scientific method can we not consider him a "safe" therapist, though not necessarily altogether competent? Given responsibility then means to the student being presented with a problem—which by definition—always contains a certain
number of unknowns—and therefore one has to search for and
test the adequacy of ones solutions—which in turn means dis-
tinguishing the good solutions from the bad ones. And another
example of this type: "While walking behind a paraplegic as
he walked with crutches I was thinking of anything that might
help him or improve his gait. He kept his head down while he
was walking so I was going to be real helpful and improve his
walking posture by asking him to hold his head. Then, before
I said anything I remembered he didn’t have touch sensation
in his feet and legs so if he held his head up then he wouldn’t
know where his feet were and would have a lot of trouble staying
up."

And another example of this type: "One of my patients
was a brain injured man, who had had an upper motor neuron lesion,
involving all four extremities. Because of a tracheostomy tube
and possibly also because of the lesion he was unable to talk.
I was somewhat surprised by how much meaning and emphasis he
could convey and how clearly he could do it, without making a
sound. It’s not that I’ve been oblivious to the importance of
facial expression—though he had little, but this was done in an entirely different way, which was one I'd never had occasion to see before. As he was mentally alert, it wasn't long before we had a system of signals worked out—for pain, for what he thought I should exercise again, and for anything he tried to say. If I could not comprehend what he was trying to say, we worked it by my asking questions and his winking "yes". I even tried a few facilitation techniques and was able to understand his reaction to it, his understanding of what I wanted, and his co-operation. It was really quite an experience to work with a patient of this type, and a real challenge.

Another student working with the same patient added this as her last sentence—"I also realized a little of how important it becomes to the patient to not be able to express himself when he wants to and tries to so badly."

In one of our group sessions, discussing these clinical experiences with the students we were in the process of identifying learning— and how they came about. We tried to assemble them from experiences these students had had in the clinical setting. Finally we arrived at the item which the students
identified as "Self-confidence". We did not stop here, but insisted on an identification of the meaning and implications expressed in this term. All of us here are familiar with the phrase "with more experience and self-confidence the student will make an excellent therapist". As often as we use this phrase, it must express an important goal the clinical teacher is hoping to develop in the student, as well as a need the student hopes to see fulfilled in himself. The questions that were raised were: how is it developed, how long does it take, how is it measured, how much should one have, and if one has it, is it there for good....

The students soon recognized that the kind of self-confidence needed in a physical therapist is not merely an expression of one's confidence in carrying out technical applications but of one's ability to adopt the problem solving attitude, so that a new or bewildering situation need not necessarily be solved with confidence but that one has the confidence in oneself to be able to recognize it as such and be able to proceed according to a realistic evaluation of one's
own competence and extent of responsibilities. The students then drew a further conclusion that every new discovery one makes in regard to one's ability to solve problems is providing one with a building block toward self-confidence, that the building itself however is never finished. In other words, self-confidence becomes judicious self-appraisal which grows as the person grows and eventually may be referred to as "professional judgement"—and thus—one may give the outward appearance of "self-confidence".

Self-confidence is built up through a variety of experiences. From the limited number of experiences related to us so far, one may be tempted to draw hasty conclusions and make generalisations—which we will carefully try to avoid. However, one can always speculate—with safety. Here is a report, though entirely different in nature from the previous ones, still contains a common denominator:

"One of the most important experiences of the day, the student writes, was the fact that the supervisor deliberately scheduled patients together so that we were compelled to have our fingers in many pies. This was wonderful experience and excellent training for situations I'm sure I'll run into again. To further complicate
the picture, patients weren't arriving on schedule, so instead of having two at the same time as planned, it was three at a time. That is really the only way to learn proper timing, what to start when, and where to put the patient, and how to get everything accomplished with limited time—still keeping the schedule, but not depriving the patient of any benefits or considerations. — It was a rat-race, but I loved every minute of it.

Certainly one basic principle of education seems to have been satisfied here: "Have fun—will learn..."

This "common denominator" I believe is contained in those experiences in which the student's self-image becomes that of a full-fledged therapist—minus the student as appendix.

And these appear to be the experiences most highly valued by the students. As was pointed out earlier, to have to play the dual role of student-therapist is the big dilemma in which the student finds himself in the clinical setting. To avoid a possible misunderstanding I like to point out that we are dealing here with very personal, professional experiences which become satisfying learnings and in turn make the student feel that he is on the way of becoming a therapist. It is not implied that it is
necessary or desirable that the student status as such is mini-
mized or covered up—nor that the student is prematurely placed
into situations meant to give him the feeling of therapist status.

The clinical teacher is no less burdened with his dual role
which requires that he retain final responsibility for the student
as well as
and the patient. The student, however, eventually ceases to be
Therefore
a student. One of the objectives of the teaching—learning process
these should involve a judicious grading of responsibilities, so
that at any one stage the student can feel that his particular
responsibility—as limited as it might be in the beginning, has
been carried out to everyone's satisfaction, while more advanced
responsibilities are being shared for the time being.

Finally, these reports gave us an opportunity to look into
the most private aspect of physical therapy, the human relation-
ship between the student—therapist and his patient. The satis-
faction gained from motivating the patient and establishing
successful rapport with him has been described in a large
number of these reports. If the students were surprised and
amazed at the many discoveries they made while treating their
patients, so were we at the unexpected large number and large
variety of examples given in regard to the interpersonal relationship between the student and his patient. "This adult male patient," a student writes: "had a herniated nucleus pulposus—a muscle test was ordered. The patient was co-operative—but wanted to go home—this was imperative to him as his girl friend is pregnant and he felt he must marry her—he was definitely not interested in putting forth an effort for muscle testing. I saw that a patient's motivation could make the difference in let's say between a fair and a good plus muscle—By talking to him and encouraging him constantly, it was possible to grade his maximum effort—I enjoyed it and so did he—a P.T. must have a pretty good "flaw of speech" after a few years in the clinic..." Or another: "I have often heard that children sometimes respond more readily to music than a regular spoken voice. I was having some difficulty in obtaining the attention of a little three year old for more than a few seconds at a time. Then I sang to her, using her name and some action for the words. She responded much better than she ever had before. I shall be interested in trying this method again."
And another: "With this patient I saw evidence of a feeling of satisfaction when he accomplished a task he didn’t know he could do. This serves as motivation to attempt things he previously refused to try". (hemiplegic)

Still another: (Dupuytren’s contracture) "I was impressed again by the need to encourage and compliment the patient’s efforts, also the need to let the patient talk when the mood strikes him."

And this one: "I began talking to Mr. H. (Post-pneumonectomy) to get acquainted. I sensed he was very uncomfortable and yet seemed to be pleased that it was time for his treatment. By conversing with him further, I learned that he was suffering from a "crick" in his neck and a tightness of the musculature of his right shoulder. From my briefing previously by my supervisor I remembered that tension in the upper trapezius was common due to the traumatic experience of surgery that they had undergone. By palpating, I felt tightness on the right and slight tightness on the left. With this information in mind I began my massage.

Because the patient was so uncomfortable in mind I began my massage. Because the patient was so uncomfortable I gave him a deep thorough massage to the tight neck muscles. Upon the end of
the treatment he was definitely relaxed and more at ease. This
is a small incidence, yet it proves that a physical therapist
must be interested in the patient as a whole individual and not
as a part."

And another student writes: "I don't know how to express it,
but would like to call a clinical experience a feeling. It's a
feeling of pride in a patient when you see him progress from a
bed, to a tilt table, to walking. It is the most wonderful
feeling to see him walk maybe with a staggering gait at first
until he becomes more and more steady and you can let go of the
belt around his waist and watch him walk by himself. It makes
it all so worthwhile."

Motivation—in the therapist's vocabulary is a two-way
street. In the student's words: "He enjoyed it and so did I."
And equally a two-way street, I believe, is the discovery that
one gets better results if one treats the patient as a whole
human being. How and when does one make the profound discovery
that the part to be treated is merely a symbol of the whole
man? Here is what the student has to say: "I was so afraid of
doing things wrong—I could not concentrate on the important things in the treatment. "To me it used to be terrible if I made mistakes in the clinic—"These are words spoken by the bewildered student-therapist, who is hanging on to the old familiar formula that every mistake one makes is subtracted from the total correct answers, the end result being a fixed—our— mathematical unit. The student then goes on "but it doesn't seem to me that way any more. I don't like to do things wrong but it doesn't bother me as much as it used to because I have found out you learn a lot through mistakes or admitting you do not know rather than try to fake." Here I believe we see—in slow motion—winding up in front of us the process of metamorphosis from the student status to the therapist status. Because, if I am no longer afraid of doing things wrong then I can concentrate on the important things in the treatment. And when I concentrate on the important things, then I am putting my whole self into the situation—all of me. And as soon as all of me is functioning in the situation, as a whole human being equipped with skills, with reasoning power and with feelings—
then all of a sudden the part that I am treating is transformed into all of the patient—the whole human being.

Once this metamorphosis has been accomplished, that is the "all of me" is treating "all of the patient". I am no longer afraid of doing things wrong—as a student is—but I welcome the opportunity to be able to learn when I recognize my mistakes—as a therapist does.

And as long as we continue to welcome the learnings from our mistakes we will learn and we will grow—wonderfully self perpetuating process.

To be able to put all of one's self into all therapeutic situations — or be able to play the "ping-pong" game of "he enjoyed it and so did I", takes more than knowledge, skills and personality. It takes a gift for putting these things together. Anyone who has this gift and puts it to use is truly practicing the science and the art of physical therapy.

One of the participants in the "Institute of Clinical Teaching" in medicine (Dr. Dana Atchley) while discussing the most important characteristics of a really effective teacher listed
besides intellectual quality, enthusiasm and inspiration. To propagate these fine qualities he suggested, that medical schools should study the "Epidemiology of Inspiration" in relation to their faculties. I would like to make the suggestion to our faculties assembled here, that one good way to study the "epidemiology of inspiration", is to be very quiet - and listen to the students.
THE IMPORTANCE OF CLINICAL EDUCATION

[What does clinical education mean?]

This was a question our staff was curious to explore and so we took
this question to the students. We were aware that words can only partly
describe learnings or experiences; however, as professional people we
have to learn to communicate for our own and other people's benefit. We
asked our junior students to relate to us clinical experiences of last
summer which consisted of six weeks of affiliation in a variety of institu-
tions. The information we received was gratifying to us for a number
of reasons. One was, the students obviously, after a few minutes of
warm up, enjoyed the interview situation with the entire staff, an experi-
ence new to them. Further, we obtained information that was revealing
new and as yet unexplored aspects of clinical training. We felt it was
a learning situation for all concerned. The students, by trying to recall,
relate, justify and explain, experienced moments where they suddenly be-
came aware of learnings that they had not recognised as such or became
aware of potential opportunities for learnings, they had not availed them-
selves of. It served, we thought and hoped, to allow the students to enter
the next phase of clinical education, the senior year, with improved
ability for observation and listening. Since these were our junior
students we attempted to withhold judgement both as to the learning
situation as described by the students, as well as to the actual learn-
ing accomplished.

However, since my curiosity was aroused I continued to have
individual interview sessions with an unselected group of beginning
senior students, which ran somewhat like this: I might begin by saying:

Question: "Tell me, what did you do and learn yesterday in the
clinic that was interesting to you?" While listening to the student's
I soon began to make judgements, and decided that either the students did
not know how to relate their clinical learnings or they were not learning
anything worthwhile.

A typical interview session would produce something like this: The
students: "Nothing really very exciting happened" — pause — Then I
would say:

Question: "Well, what did you learn?" — long silence — then:

Answer: The student: "Oh yes, I had not used the whirlpool since
we had it last year and yesterday I had an opportunity to use it again." After this, both of us would smile with overt enthusiasm. Then I would say:

Question: "All right, anything else?"

Answer: The student: "Well, now let's see" (with signs of intense concentration), then: "I had never used hot packs in the clinic before, and I had an opportunity to use them twice yesterday afternoon."

Question: "All right, anything else?"

Answer: The student: "Not really, except I watched a hubbard tank."

At this point the student usually would consider his mission accomplished and motion to leave. However, I would prevent this by asking:

Question: "Tell me, are there any patients in the clinic?"

Later on, in private, the staff referred to these interviews as "the students' inventory of physical therapy equipment." It was this "inventory" on the continuation of kee's that started us on an experiment with the senior class.

Since we, the staff, knew — all-along — that there were patients in our clinics, we were determined to find out from the students:

(1) Why the patients were there?
(2) In what capacity the students related themselves to the patients, and

(3) What as a result of this combination happened — both to the patient and the student.

[We discussed our project with our clinical teachers and came to the agreement that anything that might help the student either to make his clinical learning more meaningful or to help him to express himself more easily — or both — may be worthwhile trying.]

The project consisted of asking the senior students that each time they thought they had learned something important to write it down in plain English on a sheet of paper and hand it in to us. This was meant neither to be a complete medical history of a patient nor an official progress report. It was not to be graded or held against the student in any form. However, it would be read(b) by a sympathetic faculty and discussed with the student from time to time.

There is evidence that this experiment, which is still in progress, has helped to make clinical education more meaningful to these students and at the same time has pointed out to us some previously
provided me some new learning.

I was interested in the student's description of equipment "called whirlpool," as quoted by one of the students who wrote the report. (All quotations are verbatim, unedited and unaltered.)

"While giving a man a whirlpool, I felt the difference the whirlpool made in some muscular tightness. The gastrocnemius was not as tight after his whirlpool as it had been before. He had had his leg out of a cast for two days and the skin on his feet was dry and scaly before the whirlpool and afterwards there was hyperemia and the skin was more moist with some of the dry skin off of it."

This, in my way of thinking, is excellent observation—expressed with limited language facilities. An example of the reverse language facilities is this student's report:

"I saw what 'co-operation' and a member of the working team means. I saw book terminology come to life and meaning. Hydrocephalic, microcephalic, encephalitis, polio, cerebral palsy, paralysis are not just words to me now; they are pictures, they are real. I found that every day you learn something new, you are always learning...."

The student invented a new way of reporting a more inventory. This...
clinical education, however, the place where patients are given care is
the laboratory in which the student learns. It is here where professional
care and professional teaching merge into one.

Putting the student into this position has made the familiar two-way
(student-teacher) relationship into a three-way patient-student-teacher
(relationship). Likewise, putting the teacher into this position has made
him the two-way patient-therapist relationship into a three-way patient-
student-therapist relationship. Making the hospital the student’s
laboratory is making the student a member of the total hospital popula-
tion. His very existence in the hospital sets up a chain reaction of
concerns from the elevator men to the top administrator. What type of
care you see will depend on whose eyes you use. Looking through the
eyes of a student, he sees himself as a sudden no longer in a familiar
classroom with charts and skeletons — a chair to sit in and a clock to
watch — but in a large institution where hundreds of people hustle about,
everybody knowing exactly where he is going and what he is going to
do when he gets there. The student, however, feels out of place in a pecul-
lar way, slightly frightened and awe inspired, thinking perhaps of the
last time he was in a hospital — when he had his tonsils out. He feels
out of place — if it were not for his starched uniform and perhaps an identification on his sleeve reminding him who he is and what he is there for. And when for the first time — equipped with book knowledge, classroom practice and — an armful of towels, gowns and gadgets, he walks into the treatment room to meet his first patient — he finds to his horror that the patient is a living human being of adult size, complaining of a painful condition. This is the "first day of clinical education."

The student, when questioned later by a wizened teacher why he forgot the second layer of towels, or to give the patient a call bell — or why he treated the wrong leg, may simply answer,

"I don't know" — or with a more sophisticated approach to life's problems he may say:

"I didn't have time to read the whole chart."

Just as the first day of school may remain a life long memory, the first experience in the role of a therapist is a crucial one. In the clinical setting there are many first days for the beginner. Those, when he treats the very young; or the very old, the male or the female, the severely disfigured or the one in severe pain and so forth. These are first days emotionally, clinically and academically. No classroom prepara-
tion or correlation can adequately prepare the student for the most significant lesson to learn — to step out of the familiar role of a young college student into the unfamiliar one of a therapist. This metamorphosis is a process, a slow and gradual one which one can observe and guide step by step. Recently I saw a quiz paper of a junior student in which the physician asked for a definition of "polyuria" and the student wrote: "a condition which requires one to go to the bathroom very frequently." In red pencil the physician wrote: "And precisely, what would one do there?"

Precisely then — what is this new role one has to step into to become a physical therapist? Theoretically and systematically the student might ask himself the following questions: First: who am I?, who is my patient, and what role will my teacher play? Secondly: I wonder what is expected of me?, can I do it?, what will happen if I try?, and Thirdly: Have I done it? to the patient's satisfaction? — to the teacher's satisfaction? — and how do I feel about it? With all these questions on one's mind — anyone can treat the wrong leg. Looking at the situation even more closely, the patient, if an adult, represents three obstacles to the student. First, the fact that he is an adult, in years
older and wiser nature, while the young student, perhaps for the first time in his life, is placed into a position where he is expected to ask quite personal questions as well as do something to help an older person. Up to this time an older person most likely has been the one to help him.

Secondly, the adult patient represents public expectations. In the eyes of the public, generally speaking, all those connected with the broad field of medicine are learned and dedicated people — and so must be this young student in the eyes of the patient. Lastly — the patient is not only alive, which means vulnerable — but he has a reason for being in the hospital which implies to the student, he is fragile and one can do harm. To carry out a treatment procedure, under these circumstances, in a calm, cool and orderly fashion requires — a little time for practice.

Learning in the clinical setting — at the bedside of a patient — or in any environment where treatments are given — is different from any other learning situation. It is different because in addition to the learner and the task to be learned — there is a third variable present, the patient, who by the very nature of his role becomes automatically the most important concern. Treating the wrong leg — forgetting safety measures — or reporting the clinical learnings in terms of an inventory
of equipment — are all expressions of the same calamity in which the 
beginning student finds himself. The student finds himself playing a 
dual role as "student-therapist." Being a student, he could not learn — 
if he did not make mistakes. As a therapist, how easy and what type of 
mistakes can he afford to make or can his teacher afford to let him make?

To keep errors of treatment procedure made by students within the 
limits of safety for the patient is the most crucial and most critical 
responsibility placed into the hands of the clinical teacher. It is 
obviously critical for the patient's sake, but it also represents a 
crucial problem in regard to student teaching and learning. The student, 
in order to learn his role as therapist, must have the opportunity to 
practice this role. He must be given responsibility. It is a difficult 
task for the clinical teacher to achieve the proper balance between 
giving the student responsibility and protecting the patient from the 
student's errors. One cannot hope to achieve this balance by merely 
counting the number of hours a student has spent in preparatory class 
practice.

There is a compelling suggestion — in some of the student's reports, 
that opportunity to verbalize and explain one's actions and thoughts as
they happened in a real situation can significantly affect one's ability to understand and more adequately carry out responsibility.

For example: One student writes: "In nearly every one of our classes we have been told to be aware of the patient's tolerance to heat — that everybody has a different level of tolerance. Wednesday in clinic was the first time I really experienced this. The patient had a ruptured rotator cuff. His treatment was hot packs followed by active exercise. I was told that the patient could not tolerate a whole lot of heat, so I put an extra three towel thickness under the hot packs. In about five minutes he said it was too warm and I added another towel thickness. The area under the hot packs was a bright pink and felt very warm to my hand, but there was very little sign of perspiration. It was interesting to compare these results with the results of another patient who had lumbar-sacral strain. She had to have only one extra towel thickness under her hot packs. The area under her hot pack was a bright pink, felt warm on my hand, and was wet from perspiration."

This and the following report, I believe, illustrate how classroom learnings and clinical experiences can merge and how sometimes to the beginning student it may represent something like an "entirely unexpected
coincidence," that what one has learned in class really does happen.

In the words of another student: "I was performing a muscle test on a young woman with poliomyelitis still in the respirator. One of the muscles I tried to test was the anterior deltoid. I showed her the movement and she completed straight flexion for almost the complete range. She was supine — almost up to ninety degrees. Immediately she stated this felt different than on the other arm. I then palpated the anterior deltoid the next attempt. I felt no contraction at all. I was amazed that she could perform such apparently "true" flexion and yet I could feel no contraction whatsoever. I then watched carefully for substitution. I found she was using her pectoralis major and middle deltoid to flex at the shoulder. Although I always try to watch for substitution, I was amazed to see substitution that looked so much at first like true flexion. This "true" flexion was occurring without a trace anterior deltoid. I had never realised before how substitution could be performed so efficiently. I learned from this experience to always palpate and always uncover the part, so you can see substitution patterns. Yes, we had studied this in muscle testing, but yesterday I learned it..."

Here, perhaps, Tennyson's famous quotation is not out of place:

"Tennyson"
Before coming to the gym, I had not done very much gait training. I entered the gym with a lot of apprehension. I wasn't at ease nor sure of myself with any of the gait training patients. I had always thought of my height and weight as being a disadvantage. Gradually through working with these patients, I began to look more objectively at the treatment. I began to try the tasks they were to perform and to figure out what was necessary for them to do the treatment safely with their disability. This all began when I was told to walk a patient with crutches upstairs who had a poor quadriceps. I was very scared while he did this.

Then one day in class, soon after this, I spoke about this patient, and I was told to try this and see how much quadriceps I needed to go up and down stairs with crutches. I tried this and saw that he could use his hip extensors plus the fact that much of his weight should be carried on his hands on the crutches. The next Wednesday, I had this patient again, and this time I didn't dread to have him walk--I began to try this idea with other patients. I began to think, "How can this patient perform this task with what he's got to work with." Then I tried it myself. It really worked. I began to enjoy these types of patients instead of looking so hesitantly toward them. I also became sure of what I could do by my position to the patient and my hold of him with the belt around the waist. I came to realize that most patients will be very cautious themselves in what they do to help prevent a fall. I think I will always be somewhat uneasy when I walk someone of a greater size or height than I am, but now I will first look objectively at the treatment before I would say I was afraid.
"Knowledge comes -- but wisdom lingers..."

I believe that these two maxims of students' learnings reveal to us some of the intrinsic mechanisms that are at work when a student is given responsibility and yet no one, least of all the student himself, can predict ahead of time the outcome in regard to adequacy of the treatment but even less in regard to the opportunity for turning "knowledge into wisdom," or in more common terms, turning the "I knew this because we studied it" into "I understand this now, because I have seen it and will never forget it."

Does not the concept of assuming responsibility imply more than knowing one can perform a task which one has performed before? Does it not, perhaps quite consciously, imply that one is equipped to approach the task with a typical problem-solving attitude? We might also call it, though somewhat presumptuously, the application of the "scientific method."

And is this not the only safe and valid approach in any therapeutic relationship? Once the student understands the true meaning of the scientific method as it applies to every treatment situation, we can consider him a "safe" therapist, though not necessarily an altogether competent one.

To be given responsibility will then mean to the student being presented with a problem, which by definition, always
contains a number of unknown factors. Consequently one has to
search for and test the adequacy of one's solutions, which in turn
means one has to learn to distinguish the good solutions from the bad
ones. Here is an example of this type—a student writes: "While walk-
ing behind a paraplegia patient as he walked with crutches I was think-
ing of something that might help him or improve his gait. He kept his
head down while he was walking so I was going to be real helpful and
improve his walking posture by asking him to hold his head up. Then,
before I said anything I remembered he didn't have touch sensation in
his feet and legs, so if he held his head up then he wouldn't know where
his feet were and would have a lot of trouble staying up." And another
example of this type: "One of my patients was a brain injured man, who
had had an upper motor neuron lesion, involving all four extremities.
Because of a tracheostomy tube and possibly also because of the lesion he
was unable to talk. I was somewhat surprised by how much meaning and
emphasis he could convey and how clearly he could do it, without making
a sound. It's not that I've been oblivious to the importance of facial
expression, though he had little, but this was done in an entirely
different way, which was one I'd never had occasion to see before. As
he was mentally alert, it wasn't long before we had a system of signals
worked out, signals for pain, for what he thought I should exercise again,
and for anything he tried to say. If I could not comprehend what he was
trying to say, we worked it out by my asking questions and his winking "yes."
I even tried a few facilitation techniques and was able to understand his
reaction to it, his understanding of what I wanted, and his co-operation.
It was really quite an experience to work with a patient of this type,
and a real challenge...

Another student working with the same patient added this as her last
sentence -- "I also realized a little of how important it becomes to the
patient to not be able to express himself when he wants to and tries to
so badly."

In one of our group sessions, discussing these clinical experiences
with the students we were attempting to identify "learnings" and how they
came about. We tried to assemble them from the experiences these students
had in the clinical setting. Before the hour was over we arrived at an
item which the students identified as "Self-confidence." We did not stop
here, but insisted on an identification of the meaning and implications
expressed in this term. All of us here are familiar with the phrase
"with more experience and self-confidence the student will make an
excellent therapist." The frequent use of this phrase is striking.

Evidently, self-confidence is considered as one of the major goals of
clinical teaching. It is probably safe to assume that it is also a need
the student hopes to see fulfilled in himself. The questions that were
raised by the students were: how does one develop it, how long does it
take, how is it measured, how much should one have, and if one has it,
is it there for good?

The students soon recognized that the kind of self-confidence needed
in a physical therapist is not merely an expression of one's confidence in
carrying out technical applications, but of one's ability to develop a
problem solving attitude, so that when facing a new or bewildering situation
one need not necessarily be able to solve a problem with confidence—but that
one has the confidence in oneself to be able to recognize the problem as
such, and be able to proceed according to a realistic evaluation of one's
own competence. The students then proceeded to draw some conclusions.

"Discoveries are made and understanding is gained on the basis of one's
ability to solve problems." These in turn provide a person with building

Prime ingredients
of Learning?
blocks toward self-confidence." The building process, however, is never
finished. In other words, self-confidence grows out of utilizing judicious
self-appraisal which in turn gains in strength as the person grows per-
sonally and professionally. Eventually it may be referred to as: "Pro-
Finally:
Fessional judgment." Recognizing one's ability to utilize professional
judgment may give the outward appearance of "self-confidence."

Self-confidence may be built up through a variety of experiences.

From the limited number related to us so far, one may be tempted to draw
hasty conclusions. However, one can identify in these spontaneous expressions
of the students' common denominators which allow us to have
a glimpse at the process of building one's own self-confidence through
satisfying experiences. "One of the most important experiences of the day,"
the student writes, "was the fact that the supervisor deliberately scheduled
patients together so that we were compelled to have our fingers in many
places. This was wonderful experience and excellent training for situations
I'm sure I'll run into again. To further complicate the picture, patients
weren't arriving on schedule, so instead of having two at the same time
as planned, it was three at a time. That is really the only way to learn
proper timing, what to start when, and where to put the patient, and how
to get everything accomplished with limited time — still keeping the
schedule, but not depriving the patient of any benefits or considerations.
It was a rat-race, but I loved every minute of it."**

Certainly one basic principle of education seems to have been satis-
**Add: Shirley, M.S. patient**

This "common denominator" I believe lies within those experiences in
which the student's self-image becomes that of a full-fledged therapist —
minus the "student appendix." These appear to be the experiences most
highly valued by the students. As was pointed out earlier, to have to
play the dual role of student-therapist is the big dilemma in which the
student finds himself in the clinical setting. To avoid a possible mis-
understanding I like to point out that we are dealing here with very
personal, professional experiences which become satisfying learnings and
in turn give the student the feeling that he is on the way of becoming a
therapist. It is not implied that it is necessary or even desirable that
the "student status" as such is minimized or covered up — nor that the
student is prematurely placed into situations which are designed to give
him the feeling of a "therapist status."
One of my patients in the out-patient department, a possible multiple sclerotic, was very apprehensive about treatment and the other therapists told me that she frequently screamed and cried as they did her exercises. With me, she had whimpered and muttered unintelligibly on occasion. Her treatment consisted of assistive range of motion exercises to all extremities. It was very difficult to get her to cooperate and she would tend to fight against the desired movement. I think a lot of this was due to the pain she feared was coming. One day I decided to try a new approach. She started whimpering when I came in. I put my hands behind my back and promised her that I wouldn't even touch her for a while if she would show me what she could do by herself. Much to my delight, she did show me what she could do actively which was more than I had expected. She seemed to calm down and actually enjoy showing me what she could do. Following this, she permitted me to help her and we achieved better results that day than ever before. I'm sure this approach wouldn't work with every patient. However, I feel we are sometimes overly quick to rush in and start "doing things" to the patient without giving him time to get over his apprehensions and without showing a sincere desire to avoid causing him pain.
The clinical teacher is no less burdened with his own dual role which requires that he retain final responsibility for the student as well as the patient. The student, however, eventually comes to play this dual role. Therefore, one of the objectives of the teaching-learning process should involve a judicious grading of responsibilities, so that at any one stage the student can feel that his particular responsibility, as limited as it may be in the beginning, has been fulfilled to everyone's satisfaction, while more advanced responsibilities can be shared for the time being.

Finally, these reports gave us an opportunity to look into the most private aspect of physical therapy, the human relationship between the student-therapist and his patient. The satisfaction gained from motivating the patient and establishing successful rapport with him has been described in a large number of these reports. If the students were surprised and amused at the many discoveries they made while treating their patients, so were we at the unexpected large number and large variety of examples given in regard to the interpersonal relationship between the student and his patient. "This adult male patient," a student writes, "had a herniated nucleus pulposus — a muscle test was ordered. The patient
was co-operative but wanted to go home. This was imperative to him as his girl friend is pregnant and he felt he must marry her. He was definitely not interested in putting forth an effort for muscle testing. I saw that a patient's motivation could make the difference in let's say between a fair and a good plus muscle. By talking to him and encouraging him constantly, it was possible to grade his maximum effort. I enjoyed it and so did he. A physical therapist must have a pretty good flow of speech after a few years in the clinic." Another student writes: "I have often heard that children sometimes respond more readily to music than a regular spoken voice. I was having some difficulty in obtaining the attention of a little three year old for more than a few seconds at a time. Then I sang to her, using her name and some action for the words. She responded much better than she ever had before. I shall be interested in trying this method again."

And another one writes: "With this hemiplegic patient I saw evidence of a feeling of satisfaction when he accomplished a task he didn't know he could do. This serves as motivation to attempt things he previously refused to try."

Still another: "I was impressed again by the need to encourage and
compliment the patient's efforts, also the need to let the patient talk when the mood strikes him."

And this one: "I began talking to Mr. N. to get acquainted. I sensed he was very uncomfortable and yet seemed to be pleased that it was time for his treatment. By conversing with him further, I learned that he was suffering from a "cric" in his neck and a tightness of the muscles of his right shoulder. From my briefings previously by my supervisor I remembered that tension in the upper trapezius was quite common after a pneumonectomy due to the traumatic experience of surgery that they had undergone. By palpating, I felt tightness on the right and slight tightness on the left. With this information in mind I began my massage. Because the patient was so uncomfortable I gave him a deep thorough massage to the tight neck muscles. Upon the end of the treatment he was definitely relaxed and more at ease. This is a small incidence, yet it proves that a physical therapist must be interested in the patient as a whole individual and not as a part."

And finally a student writes: "I don't know how to express it, but would like to call a clinical experience a feeling. It's a feeling of pride in a patient when you see him progress from a bed, to a tilt table,
to walking. It is the most wonderful feeling to see him walk maybe
with a staggering gait at first until he becomes more and more steady and
you can let go of the belt around his waist and watch his walk by himself.
It makes it all so worthwhile."

Motivation, in the therapist's vocabulary is a two-way street. In
the student's words it is: "He enjoyed it and so did I." And equally a
two-way street, I believe, is the discovery that one gets better results
if one treats the patient as a whole human being. Now and when does a
student make the profound discovery that the part to be treated is merely
a symbol of the whole man? Here is what a student has to say: "I was so
afraid of doing things wrong — I could not concentrate on the important
things in the treatment." "To me it used to be terrible if I made mistakes
in the clinic." These are words spoken by the bewildered student-therapist,
who is clinging to the old familiar formula that every mistake one makes
is subtracted from the total correct answers, the end result being a fixed
mathematical unit. Our student, however, goes on saying: "but it doesn't
seem to me that way any more. I don't like to do things wrong, but it
doesn't bother me as much as it used to because I have found out you learn
a lot through mistakes or admitting you do not know rather than try to
false." Here I believe we see — in slow motion — winding up in front
of us the process of metamorphosis from the student status to the therape-
ust status. Because in the student's words: "If I am no longer afraid
of doing things wrong then I can concentrate on the important things in
the treatment." And when I concentrate on the important things, then I
am putting my whole self into the situation — all of me. And as soon as
all of me is functioning in the situation, as a whole human being, equipped
with skills, with reasoning power and with feelings, then all of a sudden
the part that I am treating becomes transformed into all of the patient's
the whole human being."

Once this metamorphosis has been accomplished, that is the "all of
me" is treating "all of the patient." One is no longer afraid of doing
things wrong, but welcomes the opportunity to be able to learn from re-
ognizing mistakes one has made, and this means one has passed from a
student status into the therapist status.

And as long as one continues to balance the learnings from one's own
mistakes, one will continue to learn and grow, a wonderfully self-perpet-
ating process.

To be able to put all of one's self into all therapeutic situations,
or be able to play the "ping-pong" game of "he enjoyed it and so did I", requires more than knowledge, skills and personality. It requires a gift for putting these things together. Anyone who possesses this gift and puts it to proper use is truly practicing the science and the art of physical therapy.

One of the participants in the "Institute of Clinical Teaching" in medicine (Dr. Dunn Atchley) while discussing the most important characteristics of a really effective teacher listed besides intellectual quality, and enthusiasm and inspiration, "to propagate these fine qualities he suggested, that medical schools should study the "Epidemiology of Inspiration" in regard to their teaching faculties." I would like to suggest (to our teaching faculties assembled here) that a very profitable way of studying the "epidemiology of inspiration," is to be very quiet — and listen to the students.
One of the most extraordinary set-ups for learning in the higher education is the medical ward and clinic.

As a stimulus and an opportunity to accumulate information, understand, skills, and attitude, clinical work is inapplicable—and for this reason generally regarded as the key heart of clinical education.

The incomparable advantage of clinical work is the setup: the hospital wards and clinics that provide for the student real and immediate problems that require solution.

The educational experience is the more vivid because of their direct connection with the ultimate goal. It is far different from the Make-believe world of the class-room, and the impact of this reality cannot be overestimated.
Challenge the reader —
in words like “what do we
need all this stuff for anyway?
I can’t see it.”

There is no way little the
classroom teacher can get this
do to teaching. As long as he and the
student are traveling on different orbits.
The teacher can just try
to use thinking and doing
from his personal clinical
experience — he sees
a patient in front of him,
a patient at a clinical
situation which demanded
knowledge and understanding
related to the subject
matter he discussed.

The question does not...
We wanted to know — almost desperately:
What happens to the student
in the clinical arena?
How can we find out from
our “elevator” position?
What the student is daily learning
and how he does it?
We proposed the first solution -- that came to mind -- 
let's ask the student and we did.

Soon we may have a fine curriculum eventually -- a splendid methodology 
and a valid evaluation form, 
but the final outcome will depend on how the people involved -- the 
student and the teacher --

The student must learn to learn -- and the teacher 
must learn how the 
student learns -- so he can truly teach -- which means 
helpship to learn. 
Whether we want to know 
how one learns depends on how current data we are 
about this question. Our
degree of curiosity may vary—according to our own personal needs and frustrations—how often we ask ourselves: "Why hasn't he done— or at least try the way I want him to?"

It may be worth our while to spend a little time investigating ourselves about: Why do I wish to learn and how do we learn?